THE SUSTAINABILITY PLAN

FOR THE CITY OF SAN FRANCISCO

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Drafted by the collaboration of hundreds of San Franciscans, including representatives of City government, business, the advocacy community, universities, and members of the general public.

THE CITY AND COUNTY
OF SAN FRANCISCO

The City and County of San Francisco
Department of the Environment

The City of San Francisco has adopted sustainability as a fundamental goal for policy and practice.

All City departments are urged to review the objectives to be achieved by the Year 2001 set forth in The Sustainability Plan for the City of San Francisco, and to continue to work in collaboration with the Department of the Environment to facilitate achievement of these objectives as feasible.

Future amendments to the San Francisco General Plan will consider and reflect, as appropriate, concepts of sustainability and, to the extent possible, combine the goals and objectives of the Sustainability Plan into the General Plan.

City of San Francisco Board of Supervisors Resolution No. 692-97. Adopted 7/21/97.

OFFICE OF THE MAYOR
SAN FRANCISCO

WILLIE LEWIS BROWN, JR.

October, 1996

Fellow San Franciscans:

This new Sustainability Plan will be a landmark for San Francisco's future.

All of us have the responsibility to improve our community's quality of life and ensure a beautiful, healthy and prosperous city for the generations that follow. To achieve this goal, planning must take a three-fold approach, addressing economic development, community revitalization and our relationship with the environment. This Plan provides a critical foundation upon which sustainable development and revitalization can occur.

The Economic, Health and Youth summits demonstrated the importance of bringing the community together to establish a common vision for the future. This community process has extended to the Sustainability Plan for San Francisco. It unites our goals and our actions for a better future.

I urge you to join me and the new Department of the Environment in promoting the idea and the reality of sustainability for San Francisco.

Sincerely,

WILLIE L. BROWN, JR.
Mayor

401 VAN NESS AVENUE, ROOM 336, SAN FRANCISCO, CALIFORNIA 94102
(415) 554-6141

COMMISSION ON THE ENVIRONMENT
CITY AND COUNTY OF SAN FRANCISCO

August 8, 1997

Fellow San Franciscans:

With the adoption of the Sustainability Plan by the San Francisco Board of Supervisors, the City joins nearly 2,000 other local authorities around the globe in recognizing that in order for us to leave a healthy legacy for future generations, we must consciously shift away from our current course of environmental degradation and resource depletion. For the first time, the level of human impact on the planet is such that without a change in direction, we may permanently alter the global climate, decimate the earth's natural resources, and destroy our fragile ecosystems. It is our obligation, as a city and community, to act to best of our abilities to forestall this possibility.

The Sustainability Plan provides a blueprint for San Francisco to follow—a specific road map for how to best use, and not abuse, our natural environment. The plan provides clear directions to follow, and a path of simple actions that can bring us to a clean and livable future. Each piece of the Sustainability Plan can be used by every sector of society to further our common goals of preserving the beauty and uniqueness of San Francisco.

The Commission on the Environment is committed to creating a sustainable San Francisco. We will work closely with elected officials, agencies of city government, non-governmental groups, the business community, and individuals to reach the objectives set forth in the Sustainability Plan.

Our success will be measured by our ability to maintain the extraordinary quality of life San Francisco provides us.

Please join me and the Commission in our commitment to working with the whole community to make San Francisco a leader in sustainable environmental policies and practices, and a model for other cities in living lightly on the earth.

Yours truly,

Francesca Vietor

Francesca Vietor
President

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INTRODUCTION

Sustainability is a word you have to spell to people over the phone. How can a community plan be based on a word that is not in common use? While the word itself has not yet become popular, the idea it represents encompasses an urgent need, recognized by a growing number of people around the globe, to ensure a positive common future. This sustainability plan has come into being because many people in San Francisco are convinced that there is both a self-interested and an ethical obligation to live in a way that considers the rights to livelihood of future generations and of the other living beings on this planet.

Sustainability: A Definition

For simplicity, this planning process has used a definition of sustainability similar to that used by the UN:

> A sustainable society meets the needs of the present without sacrificing the ability of future generations and non-human forms of life to meet their own needs.

Certainly, there's a good deal to be inferred here. Nonetheless, it was felt that there would be a pretty good consensus among San Franciscans about the direction in which it is important to move without getting hung up on the definition's details. The community process, that developed this plan was focused on producing a plan for action, not debating the fine points of the definition.

A sustainable society
meets the needs of the present
without sacrificing the ability of future generations
and non-human forms of life
to meet their own needs.

Sustainability: An Explanation

There are some hard facts underlying the ability of civilization to perpetuate itself indefinitely into the future. For life as we know it to survive here:

1. The physical resources and systems that support life must be maintained:
   - ✓ They can't be used up so that there is nothing left; and
   - ✓ They can't be made unusable through degradation.
2. The health of plant and animal populations, whether they are considered as the human food chain or as a highly complex system that interacts with physical life-support systems (such as the atmosphere) in ways that aren't well understood, must be insured.
3. A social structure must be created that will be *capable* of achieving the preceding two requirements. This means equitable distribution of resources; high quality of life in cities (which, by their density, are conducive to reduced environmental impact); education and affluence that lead to population control; social justice to eliminate disruptive social upheaval; public education that gives people the tools to improve their interaction with the natural world, and a myriad other social considerations. Social systems without these attributes are unstable and cannot maintain a proper balance with the natural world.

Human Activity in the Closed System of Planet Earth

The natural systems of the planet have their own rules. Previous to human development, the biosphere evolved so that all its parts were in balance, with waste products of one creature used as building blocks of another.

All human activity interacts with the natural systems of the planet. These activities may not have a negative effect on nature if the quantities of pollutants generated do not exceed the quantities that can be absorbed by natural systems. Habitat modification can be accommodated by animals and plants if it is slow and slight, allowing them to adjust or move elsewhere.

However, the volume of chemicals introduced into the environment today far exceeds the assimilation capabilities of natural systems. This has caused global warming, acidification of forests and chronic human-health problems, among many other ills.

The reduction of numbers of non-human creatures and destruction of their habitats has exceeded the levels their populations can accommodate. This has resulted in Canada's eastern seaboard fisheries closing, massive extinction of species, and the reduction of genetic diversity in many surviving species.

If human activities even slightly exceed the levels acceptable to natural systems, those systems will degrade, sometimes slowly, sometimes—once a critical point has been

reached—catastrophically. For almost all systems, the level of disruption that triggers catastrophic decline is unknown.

The obvious, inescapable result of many of our current life practices is the degradation of the systems that support them, even if the effects aren't immediately apparent.

Integrating Environmental, Economic and Social Concerns

A balanced and sustainable social system is not possible without addressing the economic and community-development needs of the City's residents. Wealth in the economy will enable the City to make the long-term capital investments necessary to create and maintain an environmentally sensitive and esthetically pleasing place to live. An equitable distribution of the community's wealth will enable all residents to participate in civic life and will maximize the City's human-resource potential. Sustained economic growth and expansion of markets for the City's goods and services can be achieved in ways that are environmentally benign and socially just.

Society cannot be stable unless the basic human needs of all its members are met. Increased local self-reliance and equity, educational opportunity, and a guarantee of participation and accountability in civic discourse create a strong population of people who have the leisure to plan for their own and society's best interests in the long run, rather than being forced to continually focus on the most short-term human needs. Social and cultural diversity, attention to environmental justice, and an understanding of the integral connections between humans and the natural world, will create a vibrant community base on which to build a successful long-term culture. Children and youth, representing the "future generations" that form part of the core of the definition of sustainability, obviously must be better nurtured and prepared to be full participants in a future society where appropriate technology and civic participation play a central role.

Steps Toward a Solution

This is all very theoretical, and it is often easy to be overwhelmed by the size of the problem. However, there is a clear connection between today's everyday activities and the quality of life that will be possible for future generations. To construct a sustainable society, one that can provide for the physical and other needs of local residents while reversing the trends of increased pollution and environmental degradation now threatening the quality of urban life and the health of the earth's other life forms, it is necessary to start changing the conventions of society. Sustainability can be divided into manageable sections, specific strategies can be proposed, and action can begin.

It is important to emphasize that the sustainability plan is a *means*, not an *end*. The plan is only a tool for future action. However, to proceed in a sensible way to change long-standing practices, it's necessary to come up with some goals, actions, and objectives to be achieved.

Introduction

To begin to fulfill our responsibility to our own futures and that of our children is the aim of this sustainability plan.

> A journey of a thousand miles begins with a single step.
>
> *Lao Tsu*

However, you must keep moving in approximately the same direction.

Common Sense

The Plan's Sponsors

The sustainability plan, now a City document, was drafted by a community collaboration in which City staff contributed on equal footing with members of other sectors of the community.

In 1993, the San Francisco Board of Supervisors established a Commission on San Francisco's Environment, charged among other things, with drafting and implementing a plan for San Francisco's long-term environmental sustainability. Knowing they could not produce a plan that would actually be implemented without working with a broad cross-section of the community, several commissioners and others in the community formed Sustainable San Francisco: an *ad hoc* steering committee of city agencies, including The City Planning Department, the Bureau of Energy Conservation, the Recreation and Park Department, and the Solid Waste Management Program, and others; businesses; environmental organizations; elected officials; and concerned individuals, to develop a plan for the city's future.

Nearly 400 people, from every walk of life, volunteered their time to produce this plan. Sustainable San Francisco structured the drafting process so that people with expertise on the issues covered in the plan could produce a draft in a fairly short time-frame.

This has been an enormous undertaking, with thousands of hours of time committed to discussions, drafts, revisions, and meeting management. The hope was to produce a draft that was comprehensive enough to make a very solid foundation upon which a wider public could make suggestions for improvement. With this broad base of support, the finalized plan has the best chance of being effective.

Structure of the Plan

Volunteers spent the early part of 1995 researching sustainability plans from around the world and created a format with the best chance of producing a plan that would really be implemented. This plan uses a "general goals / specific objectives / actions" approach

modeled on the European Community's Agenda 21* Implementation Plan (for the United Kingdom). A supplemental section of indicators, which give a measurable sense of whether the city is moving in the right direction, is based on work done by Sustainable Seattle.

For each topic, the plan sets out:

- Broad, long-term social goals, meant to be very general, that speak to the basic human and ecosystem needs that are to be addressed.
- Long-term objectives to achieve a sustainable society, describing the state of the City when it reaches sustainability.
- Objectives for the year 2002, describing the proposed state of the City within five years. These objectives are quantified and meant to be feasible within a five-year time-frame. They include objectives for businesses and individual residents as well as for city programs.
- Specific actions to be taken to achieve the objectives. They include actions for all sectors: government, business, the non-profit community and individuals. Some are suggested for specific entities; most are not. These proposed actions are just that—proposals. The City of San Francisco has endorsed the goals and objectives of the plan, and will consider the specific actions in the future as more fleshed-out proposals on which the public have had further opportunity to comment are brought before the Board or the various City Commissions.

A separate section lists indicators for all topic areas. The indicators were designed to be numerical measurements that:

- Are obvious in what is being measured,
- Can be found at low cost given the current information-gathering machinery,
- Clearly indicate a trend toward or away from sustainability,
- Are understandable to everyone and easily presented in the media.

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* Agenda 21 is the United Nations action strategy for sustainable development.

Topics Addressed in the Plan

Section I
Specific Environmental Topics

Air Quality
Biodiversity
Energy, Climate Change and Ozone Depletion
Food and Agriculture
Hazardous Materials
Human Health
Parks, Open Spaces and Streetscapes
Solid Waste
Transportation
Water and Wastewater

Section II
Topics that Span Many Issues

Economy and Economic Development
Environmental Justice
Municipal Expenditures
Public Information and Education
Risk Management
(Activities of High Environmental Risk)

Clearly, several topics are overlapping. While, for instance, nearly every environmental section addresses public education, environmental justice, and the other topics from Section II, special groups were formed to focus exclusively on these topics, in order to ensure that they were addressed in depth.

Topics not Addressed in the Plan

Sustainability planning includes equal parts environmental, economic and community planning. The primary focus of this version of San Francisco's sustainability plan is the environmental component, with a section on sustainable economic development, and one on the social issue of environmental justice. Over the coming months, the mayor's office will work to broaden the economic and community aspects of the plan.

Even with a focus primarily on the environmental component, some limits had to be set to address an issue as broad as environmental sustainability. This plan addresses primarily the physical systems of the planet that often get short shrift from planners, and the social systems that have a direct impact on them.

Land-use is a vital issue that does not have a separate section; there are land-use implications to almost every section's proposed actions. It is addressed to the greatest extent in the *Transportation*, *Economy and Economic Development, Food and Agriculture,* and *Parks* sections.

Differing Structures in Different Sections

Anyone reading this plan straight through will notice that different sections have slightly different numbering systems and different ways of addressing each topic. The numbering

systems follow the approach that each drafting group took to its proposals, and could not be made uniform without violating the logical structures put forward. The numbering differences reflect the collaborative nature of the planning process, and is irrelevant to the content of the sections.

What's the Baseline?

In 1994, the Commission on San Francisco's Environment published a baseline study of San Francisco's current environmental situation, the **Environmental State of the City Report.** (As of this writing, it is out of print.) It provides a baseline for many of the issues covered in the plan. However, some of the topics listed above were not covered in the **State of the City** report. This sustainability planning effort has been evolving over time, and the topic list has expanded since the report was done. More research will be needed.

Baseline data for the indicators section has yet to be compiled.

The Plan Drafters

In order to produce a draft reasonably quickly, people were recruited for the various topics who already knew a lot about the issues. Volunteers came primarily from the environmental advocacy communities, city agencies, businesses, and the academic community. Members of the general public who contacted Sustainable San Francisco in time to attend all the meetings also participated. Everyone volunteered their time.

Although there was remarkable unanimity among the plan drafters about the basic attributes of a sustainable society, as would be expected in any exercise of this size and scope, participants didn't always agree on the best strategy for achieving it. Some feel strongly that the plan does not go far enough and contains too many compromises; others feel that it has gone too far and is unrealistic. That it is incomplete is beyond doubt. The plan would be incomplete at twice its length, and aspects of it will loose their timeliness as circumstances change every day after its publication. Nonetheless, while not aspiring to be a perfect treatise, the document can provide the rough game-plan that is necessary for a concerted effort to achieve a sustainable society, an effort that has been orchestrated by as broad a cross-section of the community as has been gathered in many years for a common purpose.

The only goal of producing this plan is to begin implementing it.

As large as the drafting group is, it represents only a tiny fraction of the public in San Francisco who must make the plan part of their personal agendas for it to succeed. This draft represents an invitation to all San Franciscans to think about a common future, and an opportunity to make a choice of the routes to that end.

Public Comment

Public comments were solicited in four day-long public hearings in June, 1996, and were accepted in writing throughout the summer. Comments were distributed to all participants in the drafting groups, who finalized this draft in September of 1996. Further opportunities for public comment occurred during consideration of this plan by the advisory Commission on San Francisco's Environment (October, 1996), the new charter Commission on the Environment (November, 1996) and by the San Francisco Board of Supervisors (July, 1997).

Endorsement of the Plan

The Sustainability Plan became policy of the City and County of San Francisco in July, 1997.

City Planning Department staff are currently working a several-year strategy to update and revise the City's General Plan. Work will continue to appropriately combine the two documents.

Implementing the Plan

The plan is meant to be a blueprint, but because of its comprehensive nature, implementation of the various actions within it will take a great deal of (choose one or more) formal environmental review, advocacy before the commissions responsible for implementation of that area, legislation, regulation, finding new money, securing public support, and so forth.

A new Department of the Environment, the first in San Francisco's history, was formed over the winter of 1996-7. One of the main responsibilities of this new agency is to begin implementing the sustainability plan. This central focus within the structure of the city itself will go a long way toward ensuring that the plan is more than a community writing exercise.

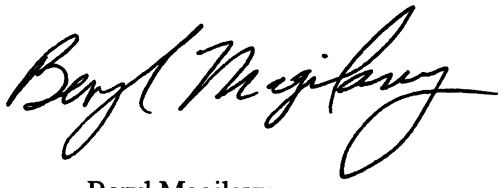
The fact that a new agency has been created, however, should not minimize the importance of the work of the City's older environmental agencies, many of which participated in the drafting process. They are already implementing of some of the actions proposed here, and plans for more are in the works. Several of the City's agencies are on the cutting edge of environmental program leadership, and it is hoped that the focus on sustainability provided by this plan will help secure them the resources and support they need to move forward even more aggressively on an agenda for San Francisco's future, and will make them role models for agencies that have been slower to share this common vision.

A number of the plan's actions are suggested for the private sector and individuals. Implementation of these actions will be essential for a fundamental change in the way San Francisco interacts with the natural world, and the various advocacy groups, city agencies, and activist individuals involved in drafting the plan will work with the Department of the Environment to ensure that these changes move forward.

Many of the actions suggested in this plan will go nowhere without new sources of funding. It is up to the creativity of our City leadership, including business and the non-profit community, to find this funding through new money and more efficient use of current resources.

Changes of law and regulation must be addressed one at a time, and will take more concerted drafting and public discussion than has been possible in this preliminary drafting process. They will take time and persistence.

This plan is a first step in the long process of changing attitudes that separate humans from the rest of the natural world and ignore the long-term results of human behavior. It is a process of developing the wealth of the community, and strengthening the health and capacities of all the City's residents. Through vision, persistence, and a plan of action, San Franciscans will be able to create a healthy society that respects the needs of all its members, and the needs of the natural systems of which they are a part.



Beryl Magilavy
Director
Department of the Environment

Acknowledgments

Acknowledgments for an effort as large as this one are by necessity woefully incomplete. We greatly appreciate the support and participation of everyone who donated their time to this effort.

This effort was made possible by the financial support of the City and County of San Francisco, Bureau of Energy Conservation; Columbia Foundation; The Fred Gellert Foundation; San Francisco Foundation; and True North Foundation.

Sustainable San Francisco's Web page was created and maintained as donations by Nick McBurney and Z Smith.

We thank Felicia Marcus, regional administrator of the US Environmental Protection Agency, Region IX, for encouraging so many of her staff to participate in this process.

We cannot begin to thank all the individuals and institutions who have donated time and expertise to this community effort. However, we would like to specifically mention Sustainable San Francisco's steering-committee members (who planned out this effort), coordinators (who recruited the drafting-group participants, kept the meetings together, and often did most of the group's drafting), facilitators (who were responsible for the meetings running smoothly and for work product being produced), and recorders (who took notes at the meetings and some of whom did most of the group's drafting):

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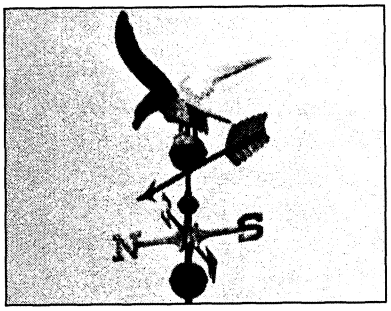

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Introduction

Achieving and maintaining good air quality is crucial to the public health and economic vitality of San Francisco. As a leader in developing and implementing policies to support good air quality, San Francisco should aim to provide its residents and visitors with the benefits of clean air and a healthy environment at home, at work and at play. By setting standards that further the achievement of global sustainability, the City of San Francisco stands to become a model of a responsible global city.

The surrounding air, both outdoors and indoors, has the potential to affect human health, attitudes, productivity, and people's ability to enjoy their lives. It is important to maintain the quality of the outdoor air since all life forms depend on it, and since the quality of indoor air is dependent on that of the outdoors. In addition, a recent study reveals that Americans spend 90% of their lives indoors, with the result that there is now an increased awareness of the importance of the quality of the indoor air.

Outdoor Air Quality

Automobiles are the major source of air pollution in California, and measures must be taken to reduce public dependence on gasoline-fueled personal vehicles as a primary means of transportation. Advances are being made in the design of alternatively fueled vehicles, which reduce tail-pipe emissions, and there are many accommodations that San Francisco could make to encourage less-polluting modes of transportation.

Air Quality

In addition, environmental tobacco smoke, fireplaces, barbecues, construction practices, improper building ventilation and many industrial activities have a negative impact on the quality of the air in San Francisco. Notable examples of stationary sources of pollution in the City of San Francisco include roof tar, power-transmitting stations, dry cleaning establishments (which emit perchlorethylene), and asphalt paving.

The economic health of the City of San Francisco and the surrounding Bay Area is dependent on good air quality. Acids from air pollution corrode metals, building exteriors, and painted surfaces. As an esthetic matter, clear air is crucial for tourism as well as for attracting and keeping other employment centers in the Bay Area. Creating and maintaining superior air-quality conditions provides a high quality of life and makes good business sense.

Although pollution from point sources in the City of San Francisco is less harmful than in many major urban areas, there are regions of the City that are more prone to pollution. In a 1996 study of emissions from all permitted point sources issued by the Bay Area Air Quality Management District, Bayview/Hunters Point had the 19th highest relative cancer risk in the region and the highest San Francisco. Thus it should be a priority to reduce emissions of volatile organic compounds and heavy metals which have an impact on the air in this area.

In addition, nitrogen oxides from combustion-related air pollution make up a surprisingly large one-third of total sources of ocean pollution. The presence of excess nitrogen in standing bodies of water leads to runaway growth of algae, which blocks sunlight and suffocates fish. In addition, a growing opinion in the scientific community blam es airborne chemicals for the increasingly violent and unpredictable weather being experienced around the world, leading to undefined, but potentially enormous costs. The international insurance industry has recognized this risk to its livelihood by establishing an emergency task force on global climate change.

Indoor Air Quality

Many complex and interrelated factors affect indoor air quality. These factors involve the emission of odors, particulates, volatile organic compounds (VOCs), microbial volatile organic compounds (MVOCs), and radon into the air. Examples of such factors include the outdoor air quality; emissions from construction, building materials, indoor occupant activities, building maintenance products, cleaning products, personal care products, and equipment (computers, copy machines, etc.); molds and mildew; building ventilation systems; radon emissions from below-grade rock; and environmental tobacco smoke.

Research is increasingly showing links between these factors and human health. Particulates, VOCs, MVOCs and radon can have a negative impact on human health. Some of these impacts have short-term and reversible health effects, while others cause more serious, long-lasting and even life-threatening health effects. Health problems that may result from indoor air quality are classified as follows:

• *Sick Building Syndrome* describes a collection of symptoms experienced by building occupants that are generally short-term and disappear after the individual has left the building. Examples of such symptoms include sore throat, fatigue, lethargy, dizziness, lack of concentration, respiratory tract irritation, headache, eye irritation and other cold- and allergy-like symptoms.

• *Building-Related Illnesses* are more serious than sick building condition ailments and are clinically verifiable diseases that can be attributed to a specific source or pollutant within a building. Examples of such conditions include cancer, Legionnaire's disease, and carbon monoxide poisoning.

• *Multiple Chemical Sensitivities*. While much more research is needed to understand multiple chemical sensitivities, it appears that for some people, exposure to low levels of a variety of chemicals can produce many diverse symptoms in more than one body-organ system.

Unacceptable indoor air quality also carries an economic impact. Costs due to lost productivity when employees are affected by sick building syndrome are significant to local companies. Furthermore, when building occupants experience sick building syndrome or building-related illness, the building owners and responsible design professionals may be exposed to increased liability. Moreover, when poor air quality has a negative impact on the health of residents, there are increased demands on the health care system, which ultimately translates into increased health care costs for all businesses and residents.

Finally, when cities begin to implement standards for good indoor air quality, the global effect will be to reduce ozone depletion and to minimize climate changes. These effects are difficult to quantify, but are ultimately some of the more important goals of a sustainable world.

This section of the sustainability plan outlines measures that will make San Francisco a model for sustainable air quality and assure that air-quality concerns are an integral part of the decision-making process and social consciousness. The matrix below suggests modifications of practices and procedures for individuals, government entities and businesses that will have a positive impact on air quality. Fundamental to the success of any initiative is the quality of information available on appropriate actions and the availability of this information to the target audience. For San Francisco to improve the quality of the air in indoor and outdoor environments, it is crucial to have a designated "air quality coordinator" in the city government to monitor and coordinate the many factors which affect the quality of the air. Although many policies and practices to improve air quality are most effectively handled at the federal level, the City can lobby the federal government to institute regulations to ensure that product prices reflect the environmental costs created by the full life-cycle of the product. In addition, the residents of San Francisco should encourage lawmakers to enact taxes on products that pollute the environment and eliminate subsidies of industries that pollute or otherwise harm the environment. Only through the cooperation of an enlightened San Franciscans will the City become a leading global citizen.

Sustainability Strategy

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. To assure level of air quality that has no negative impact on the health of humans or the ecosystems of the natural environment.	1-A. Means of travel, power production and industrial production that do not cause chemical, heat, or particulate pollution of the atmosphere have been adopted. 1-B. Healthy indoor air quality is pervasive throughout the city. 1-C. The City has air quality standards for: • Procurement programs, • Maintenance practices for buildings and grounds, and • All new construction of municipal buildings and incentives for the private sector to do the same. 1-D. Environmental education is offered at all levels and environmental awareness is incorporated into the social consciousness.	1-1. The environmental health function of the City is staffed at a level that enables it to develop, implement, and monitor air quality objectives. 1-2. City and other key decision-makers include air-quality goals when making policy choices. 1-3. All new municipal building projects meet specifications that incorporate air-quality concerns (including specifications for the use of integrated pest management). 1-4. Five to ten auto-free zones have been developed in San Francisco as model projects. 1-5. Vehicle-miles traveled in private automobiles have been reduced by 10%. 1-6. The City purchases only clean-fueled vehicles for its fleet.	1-a. Develop a participatory process to identify and plan for auto-free zones. 1-b. Increase the use of clean-fueled vehicles. (*Suggested for the private sector and city government*) 1-c. Reduce individual vehicle-miles traveled. (*Suggested for individuals)* 1-d. Adopt a program to phase out conventionally fueled vehicles from the City fleet and investigate possibilities to replace conventionally fueled heavy equipment and public transit vehicles. **INDOOR** 1-e. Design publicly funded buildings with indoor-air-quality design criteria and develop incentives to encourage the private sector to use the criteria.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		1-7. 25% of conventionally fueled (gasoline and diesel) vehicle-miles traveled have been replaced with alternatively fueled vehicle-miles traveled. 1-8. Air quality exceeds federal and state air quality standards on an ongoing basis. 1-9. Indoor air quality standards have been established for all indoor environments. 1-10. Residential and commercial buildings have modified the purchasing specifications for cleaning and maintenance products to minimize airborne toxicity. 1-11. All buildings exceed the current American Society of Heating, Refrigeration, & Air Conditioning Engineers (ASHRAE) standards for indoor air quality on an ongoing basis. 1-12. Engineering, architecture, design and urban planning schools include indoor and	1-f. Establish a budget for and hire an indoor-air-quality coordinator. (*Suggested for the Department of the Environment*) 1-g. Endorse and, as appropriate, adopt technical manuals and standards such as those issued by ASHRAE and the U.S. Green Building Council. (*Suggested for city government*) Use these guidelines and incorporate new codes to assure good indoor air quality. (*Suggested for the Department of Building Inspection*) 1-h. Establish guidelines for purchasing low-emitting products and distribute them widely to city agencies, businesses and consumers. (*Suggested for city government*) 1-i. Institute stronger health-based occupational standards. (*Suggested for city government*)

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		outdoor air-quality programs in their curricula. 1-13. An education syllabus on indoor and outdoor air quality is in use at 100% of the City's public and private schools.	**EDUCATION** 1-j. Establish a resource center to provide public access to information on air quality and the health effects of the ingredients of common products. (*Suggested for the Wallace Stegner Environmental Center at the San Francisco Public Library*)
			1-k. Reduce personal impact on the shared indoor environment by limiting the use of scented personal-care products. (*Suggested for individuals*) 1-l. Implement public education campaigns about: • The importance of air quality and the need for research, • The need to reduce dependence on automobiles, and • Each individual's impact on the shared indoor environment (such as airborne emissions from fragrances and

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			cleaning and maintenance products). 1-m. Create and distribute an education syllabus on indoor and outdoor air quality for use in the schools. 1-n. Implement a city-wide notification program so that the public can be informed in advance of the release of air-borne toxins, such as pesticides and roofing-tar fumes.
2. To maintain a level of air quality that prevents damage to buildings and infrastructure.	2-A. [See Objective 1-A]	2-1. [See Objectives 1-1, 1-2, and 1-4 through 1-8]	2-a. Study research on effective policies to improve air quality in other cities and countries and apply it to local policies and practices. 2-b. [See Actions 1-a through 1-d, 1-l and 1-m]
3. To eliminate human causes of climate change and prevent depletion of natural barriers against ultraviolet rays.	3-A. San Francisco's contribution to greenhouse gases has been minimized and the production and use of stratospheric ozone-depleting gases has been eliminated. 3-B. [See Objective 1-A]	3-1. [See Objectives 1-2 and 1-4 through 1-8]	3-a. [See Actions 1-a through 1-d, 1-m and 2-a]
4. To link air quality and energy issues.	4-A. [See Objectives 1-A and 1-B]	4-1. [See Objectives 1-1, 1-2, 1-11, and 1-12]	4-a. [See Actions 1-e through 1-g, and 1-m]

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
5. To maintain air clarity.	5-A. [See Objective 1-A]	5-1. [See Objectives 1-4 through 1-8]	5-a. [See Actions 1-a through 1-d and 2-a]

BIODIVERSITY

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Words defined in the *Definitions* section following the Biodiversity matrix appear in italics when first used in this section.

Introduction

San Francisco is a heavily urbanized city, which nonetheless has a rich variety of plant and animal communities. Among these are coastal scrub, grassland, oak woodlands, marsh, and stream-sides. Some of these habitats hold species found nowhere outside of California. The City also has landscaped areas designed to resemble plant communities not native to San Francisco, such as conifer plantings in Golden Gate Park. By providing food and shelter for migratory and resident birds, they too play a major role in supporting San Francisco's biodiversity.

Harvard professor and Pulitzer-prize winner Edward O. Wilson defines biodiversity as "the variety of organisms considered at all levels, from genetic variants belonging to the same species through arrays of species to arrays of genera, families, and still higher...levels [of organization]." A sustainability plan for maintaining biodiversity must address genetic diversity, the number and variety of species in the City, the variety and quality of the City's ecosystems, and the ecological and evolutionary processes that sustain biodiversity.

Even in the increasingly urbanized San Francisco environment, there are four primary reasons why protecting and maintaining biodiversity are important. As expressed by Wilson:

- Biodiversity maintains the integrity of life known on earth;

Biodiversity

- Through medicine, agriculture and economics, biodiversity provides a range of genetic, biochemical, and physical properties of plant and animal life that are advantageous to human welfare;
- Biodiversity is worthy of preservation because it represents human kinship through common living organisms; and
- Biodiversity is a source of national heritage, giving historic importance to place, such as the San Francisco bioregion, with its distinctive assemblage of species of plants and animals.

Past and present threats to biodiversity include the introduction of non-native plants that displace indigenous plants; features of urban development that have resulted in loss and fragmentation of habitat; mismanagement of domesticated animals (past grazing practices decimated native grass species and irresponsible pet ownership seriously disturbs habitat integrity); and, more generally, the negative effects of industrial pollution on air, water, and soil.

San Francisco cannot turn back the clock and return to its pre-urban environment, but the City can take actions to preserve its remaining biodiversity and restore some of what has been lost. Fundamental to this mission is promoting public understanding of the City's local plants and animals, and managing San Francisco's natural and landscaped habitats in a way that enhances the City's biodiversity. A strategy for preserving biodiversity is presented in the following matrix. Terms that appear in quotes are defined in the section following the matrix, as are several terms that have appeared in this introduction.

Sustainability Strategy

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. To achieve a greater understanding of biodiversity, its importance, how it is threatened and how to protect and restore it.	1-A. The public, city staff, business community and academic community have become ecologically literate. 1-B. *Biodiversity* is taught throughout the city. 1-C. Ecology, biodiversity, stewardship concepts	1-1. Ecology, biodiversity, stewardship concepts and hands-on activities have been integrated into curricula of all grade levels in San Francisco. 1-2. A curriculum for local biodiversity has	1-a. Create a San Francisco biodiversity event that involves the whole community. 1-b. Educate the public about biodiversity issues: • Disseminate environmental information in parks; • Develop Web-sites; • Create booklets and/or distribute a

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	and hands-on activities have been more thoroughly integrated into the State's educational framework and into the city's curriculum.	been developed. 1-3. A hands-on habitat restoration program for students that uses natural areas as a framework has been developed. 1-4. Teacher-training workshops that introduce ways of integrating local natural areas into curriculum have been made accessible to all San Francisco teachers.	biodiversity newsletter; • Advertise at bus shelters, libraries, and other public locations; and • Use other appropriate advertising media. 1-c. Create public forums for discussing biodiversity issues. 1-d. Develop extension courses, symposia and lectures about local biodiversity. 1-e. Establish volunteer opportunities in which the public, the business community and students can participate. 1-f. Provide hands-on activities, including native plant propagation, ecological monitoring, and invasive-plant removal, for resident stewardship on both private and public lands. 1-g. Create a network of resident community groups that work toward the protection of local biodiversity. 1-h. Expand and publicize a city naturalist program. 1-i. Increase the discreet use of interpretive signs that describe natural features in the City's parks and natural areas. 1-j. Educate and train in biodiversity protection all city workers involved with land management. Revise civil service tests and job descriptions as necessary to assure that those responsible for open space management are qualified to give

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			adequate consideration to biodiversity. 1-k. Develop native plant propagation programs in schools to encourage an early appreciation of native species and their interactions. 1-l. Develop biodiversity activity kits and other aids to biodiversity instruction for the use of teachers. 1-m. Disseminate information about biodiversity-related education opportunities (such as lectures, classes, workshops, plant sales, education packets, and volunteer opportunities) through the development of a comprehensive resource directory.
2. To protect and restore remnant natural ecosystems.	2-A. *Significant natural areas* are sustained by natural process and human stewardship as needed. 2-B. All watershed lands are protected and enhanced. 2-C. All privately owned natural areas within city limits have been publicly acquired or secured by conservation easements. 2-D. San Francisco's efforts to protect natural habitat are coordinated with the policies and practices of related organizations (such as	2-1. Biologists have been hired by the City, and relevant scientific expertise is brought to bear on projects initiated through City departments with jurisdiction over natural areas (such as the Recreation and Park Department, the Department of Public Works, and the Water Department). 2-2. All environmental regulations are strictly enforced.	2-a. Integrate the Recreation and Park Department's Significant Natural Resource Area plans with other appropriate plans, such as those of the Golden Gate National Recreation Area, the water districts and the Department of Public Works. 2-b. Create a bioregional council (including San Mateo County) to coordinate the stewardship of populations of organisms in a larger context. 2-c. Identify and acquire natural-area properties. 2-d. Establish a system of baseline ecological monitoring of the plant and animal species of San Francisco. 2-e. Collect scientifically valid information that will allow staff

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	the Recreation and Parks Department, National Park Service). 2-E. Remnant natural ecosystems are monitored to make sure the appropriate management actions are being implemented for their sustainability.	2-3. The Significant Natural Resource Areas Management Plan has been implemented. 2-4. Regional local stewardship programs for natural areas have been established. 2-5. *Policy 13 of the Recreation and Open Space Element of the Master Plan* has been implemented. 2-6. A framework for monitoring management actions has been developed. 2-7. San Francisco Public Utilities Commission watershed lands are managed to protect natural systems. 2-8. *Invasive plant species* are continually controlled in natural areas. 2-9. All city-owned natural areas are managed by a	biologists to evaluate the effects of management actions on biodiversity. 2-f. Establish sources for the propagation of native plants from local genetic stock, for use in agency lands and for resale to individuals. 2-g. Remove the worst invasive plant species from high-priority natural areas. 2-h. Ban the sale and use of the worst invasive plants, such as French broom and pampas grass. 2-i. Begin to enhance wildlife corridors, with, for example: • Appropriate plantings, • Water, • Removal of barriers, • Installment of grade separations, • Signs such as "Slow - Animal Crossing."

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		single management agency. 2-10. Remnant natural areas have been identified, and necessary work on their management and restoration has been prioritized. 2-11. Wildlife corridors have been identified and plans for their enhancement are in place.	
3. To protect *sensitive species* and their habitats and support their recovery in San Francisco.	3-A. An effective remedial policy for protecting sensitive species has been put in place. 3-B. Sensitive species have achieved viable population levels. 3-C. Some targeted "extirpated" species have been reintroduced. 3-D. Habitat is managed appropriately. City and other actions that may have an impact on sensitive species are continually monitored and negative actions stopped.	3-1. Sensitive species conservation efforts have been coordinated between city and regional groups (including local residents, environmental organizations, schools, universities, and management agencies). 3-2. Sensitive species and their habitats within the city have been identified.	3-a. Develop a plan of action to conserve sensitive species. 3-b. Identify extirpated species and consider possible reintroduction. 3-c. [*See action 1-f*]

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	3-E. Effective mitigation work is done in a sensitive and timely way, so that no habitat destruction is allowed in areas where there are sensitive species.	3-3. Extirpated species that are possible candidates for reintroduction have been identified.	
4. To maximize habitat value in developed and naturalistic areas, both public and private.	4-A. Habitat corridors and water resources are preserved and enhanced. 4-B. Environmental master plans for parks, watershed lands, urban habitat corridors, and various developed urban areas are implemented. 4-C. Public education to protect the biodiversity of aquatic systems has resulted in an end to harmful storm drain and sewage discharges.	4-1. Environmental master plans for parks, watershed lands, urban habitat corridors, and various developed urban areas have been developed. 4-2. Municipal agencies have developed and begun implementing an "integrated pest management" and minimal-herbicide-use policy. 4-3. A network of wildlife corridors that link significant habitat areas with naturalistic areas has been identified and is being developed with appropriate plantings and other measures.	4-a. Adopt land management practices beneficial to biodiversity, such as planting vegetation with wildlife value and incorporating the needs of migrating birds. 4-b. Lobby adoption of land management practices beneficial to biodiversity by state and federal agencies. 4-c. Develop strategies to work with land managers, including private homeowners, to minimize the use of pesticides and herbicides and promote alternative strategies. 4-d. Promote the sale and availability of indigenous plants that are beneficial to wildlife. 4-e. Develop a public-private partnership to expand the availability of indigenous plants. 4-f. Ban the use of invasive plants by city agencies. 4-g. Include sensitivity to biodiversity as part of the planning criteria for landscaping of the City's open spaces.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		4-4. Habitat areas are protected from inappropriate traffic disturbances. 4-5. Wildlife-friendly landscapes are more common on public and private land. 4-6. Sales of plants listed by the City as beneficial to wildlife, particularly those indigenous to San Francisco, have increased. 4-7. A city program has been developed that mitigates the impact of invasive exotic species and domestic and feral animals on indigenous plants and animals.	4-h. Educate the public about spaying, neutering, and keeping pets indoors. 4-i. Provide low-cost neutering. [*Suggested for the City and the SPCA*] 4-j. Take potential impacts of biological control agents into account before their introduction. 4-k. Adopt city policies to require that no pesticides, herbicides, or other materials be used without testing for safety to humans and other animals. 4-l. Eliminate landscape work at times of year in which it might be harmful to nesting birds or other wildlife, or to native-plant reproduction.
5. To collect, organize, develop and utilize current and historic information on habitats and biodiversity.	5-A. All biodiversity information collected is available and accessible. 5-B. All biodiversity information collected is used in an ongoing	5-1. The collection and organization of a biological inventory of the city's natural areas and biodiversity has begun.	5-a. Develop incentives for universities, colleges, and other higher-education groups to conduct research on San Francisco biodiversity. 5-b. Conduct annual biodiversity audits of the City on a region-by-region basis, taking advantage of organizations already collecting such data (*e.g.*, the

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	fashion in management decisions.	5-2. Partnerships between individuals, community groups, city agencies and institutions to share research and expertise have been developed. 5-3. Ecological monitoring has been incorporated into all aspects of biodiversity planning and policy implementation. 5-4. Biodiversity and natural-areas data are available to the public via the Internet and at libraries and resource centers.	Audubon Society and the California Native Plant Society), and including other organizations, such as schools, universities, city departments and resident community groups. 5-c. Establish a mechanism, secure funding and identify a lead agency to ensure that data on the City's natural areas and biodiversity is collected, organized, continually updated and disseminated.

Definitions of Terms Used in The Biodiversity Matrix

Biodiversity. As expressed by Edward O. Wilson:

Biodiversity maintains the integrity of life known on earth;

Through medicine, agriculture and economics, biodiversity provides a range of genetic, biochemical, and physical properties of plant and animal life that are advantageous to human welfare;

Biodiversity is worthy of preservation because it represents human kinship through common living organisms; and

Biodiversity is a source of national heritage, giving historic importance to place, such as the San Francisco bioregion with its distinctive assemblage of species of plants and animals.

Integrated pest management. An scientifically based strategy that incorporates ecological factors, such as natural enemies, weather, and crop management to reduce the amount of chemicals used to control pests.

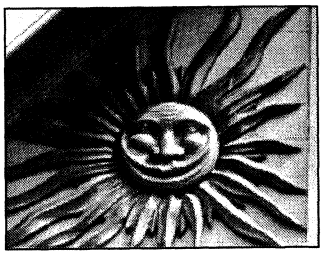
Invasive species. A species that invades natural habitats and reduces biodiversity.

Master Plan Recreation and Open Space Element - Policy 13. A set of objectives and policies in the Open Space Element of the Master Plan of the City and County of San Francisco, which guides current and future city practices and actions. Policy 13 addresses the preservation and protection of significant natural resource areas within the City.

Sensitive species. Plant and animal species or sub-species for which there is a concern for population viability, including plant and animal species that are found on the federal list of threatened and endangered species, the State Department of Fish and Game's list of California listed species, the California Native Plant Society's inventory of plants, species that could become candidates for listing, and locally rare species.

Significant natural areas. Sites that support native species or natural communities, contain high species or habitat richness, are remnants of an original natural landscape, or are adjacent to other natural resource areas.

Significant natural areas management plan. A program adopted by the Recreation and Park Department to protect significant natural areas.



ENERGY, CLIMATE CHANGE AND OZONE DEPLETION

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Introduction

There are two main reasons why today's patterns of energy use cannot be sustained over the long term:

1. Non-renewable energy sources: Most of the energy people use comes from making withdrawals from a "savings account" of fossil fuels which took millions of years to build up, and which will eventually run out.

2. Climate change & toxic buildup: Many of the energy-conversion technologies San Franciscans rely upon generate waste products which may lead to climate change, are toxic, or both. This will leave behind an atmosphere laden with ozone-layer-destroying gasses, and chemical or nuclear waste dumps.

Society will have reached sustainability in energy when it is living on the energy budget set by the natural supply of solar energy (harvested directly as sunlight converted to heat or electricity, or indirectly through wind, water or vegetation converted to fuel).

It might be argued that the first problem, finite fossil fuel resources, can be left to later generations, who will convert to sustainable sources when fossil fuels run out. Yet, even if our reserves of fossil fuels were infinite, the second part of the problem, climate change and toxic releases, would force a move away from fossil fuels and towards sustainable energy resources. Fossil fuels would not be quite so cheap as they are today if the bill for the environmental and health problems they generate were included in the price. While an understanding of the potentially costliest problems of all—global warming, depletion of the ozone layer, and the breakdown of living systems due to the buildup of toxics—are still at an early stage, in the decade it may take to accumulate definitive and accurate ways of assessing the "true costs" of fossil fuel use, irreparable damage may be done.

One way to address the needed change is to increase people's energy bills to pay for more expensive renewable sources. However, there is an alternative. By improving the *efficiency* with which energy is used, energy bills can be held steady or even lowered, even if the *rate* charged for each increment of power goes up. "Energy efficiency" doesn't just mean more efficient *conversion* of energy to use (for example, a new light bulb which gives the same amount of light for half the power input); it also means only using power *where and when it's really needed* (for example, using automated sensors to turn on only the lights that are needed at the time).

While it is often cheaper to increase the pool of available energy through investing in energy efficiency than by building a power plant, to date, the action of the marketplace has not automatically led to this choice. Among the complicating factors:

- Energy cost-accounting conventions are very different between building developers (who make decisions on efficiency of design) and power-plant operators (who produce the power);
- There are few incentives in the commercial building industry for energy efficiency because the firm that builds the building is seldom the one which ultimately pays the utility bills; and
- If pay-back on the cost of a major energy-efficient appliance is more than two or three years, homeowners who anticipate selling their homes run a risk of losing their investments, since the appliance cost has little influence on the sales price.
- Energy use has an impact on air quality, and the use of hydroelectric power has an impact on riparian (streamside) habitat and fish populations.

Overcoming these barriers will create an economic bonus. By investing in energy efficiency rather than energy generating capacity, the energy dollars remain in the San Francisco economy, rather than leaving to pay for power and fuel produced elsewhere. The City has a role to play through incentives and other programs, helping overcome the imperfections in the market that lead to energy waste.

The energy-specific goals set out in the following matrix support several basic principles of sustainable systems which apply to all aspects of our society. Everything living has an important role to play in the balance in which all species thrive. In our society, the energy system has purpose only if the society thrives. Therefore, all members of our culture must be valued. Specifically, this can mean supporting measures which provide everyone a job at a livable wage. Within the context of energy this means

providing affordable energy services for everyone. The energy aspect of that support has been expressed in the following principles:

- Ensure that basic energy services are available to all residents;
- Promote local employment and local economic development;
- Promote local, democratic participation and control of energy policy;
- Pursue approaches that maintain the City's diversity and share the burdens of the energy system fairly among neighbors; and
- Promote an energy system that is reliable in times of natural or man-made disruptions by emphasizing diverse, small-scale energy sources, storage, and distribution methods.

Energy use in San Francisco is divided among commercial buildings, residential buildings, and transportation. Since transportation is addressed in another section of this plan, this section addresses buildings only.

Sustainability Strategy

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. To reduce overall power use through maximizing energy efficiency.	1-A. All those who live or work in San Francisco are educated about energy and climate change issues so that they can make informed choices. Everyone knows that: • Their energy choices have an effect on the environment, • They can take steps to	1-1. Energy and climate change information and educational programs are available in multiple languages through schools, the media, neighborhood organizations, and work places. 1-2. Local research	1-a. Develop outreach programs that use multiple media such as telephone books (an "energy page"), print and broadcast advertisements, and Web sites. 1-b. Establish and maintain a demonstration center for energy efficiency and renewables. 1-c. Set up a training program on principles of energy sustainability (such as Sweden's *Natural Step* program) which can be used in settings such as schools, businesses, public agencies,

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	use energy efficiently, and • They can use renewables. 1-B. An identifiable group of energy-efficiency technology providers is located in San Francisco. 1-C. *Per capita* residential energy use is down 50%. 1-D. Energy use in municipal and commercial buildings has been decreased by 50% through conservation and use of on-site renewables. 1-E. San Francisco has become a model city in developing, implementing, and promoting sustainable energy use and production, as well as conservation. 1-F. "In-fill" development and increased density, which increase use of public transit, are development priorities.	and other activities for energy efficiency products and services are supported and promoted. 1-3. Each building's energy characteristics (such as energy use and insulation) are disclosed when it is listed for sale. 1-4. The City of San Francisco's government design departments have integrated sustainable design concepts into their operations. 1-5. New energy-efficiency requirements that exceed California Title 24 standards by 25% have been enacted into the building code and are being enforced. 1-6. Local tax policies that encourage conservation and discourage pollution and waste (such as a carbon tax) have been	neighborhood and religious organizations, and building-trades groups. 1-d. Develop a course on sustainable energy and the environment to be part of the core curriculum in San Francisco public schools. *(Suggested for schools)* 1-e. Develop an energy efficiency hot line and Web site where people can get general information on: • Insulation, windows, and other building materials; • Efficient lighting; • Efficient appliances and alternatives to appliances; • Efficient design; • Local suppliers and businesses; and • Financing and rebates. 1-f. Develop incentives and recruit manufacturers and suppliers of energy-efficiency technologies and renewable-generation technologies to locate in San Francisco. Support these enterprises by establishing preference pricing for limited periods of time. *(Suggested for city government)* 1-g. Create local or regional competitions for the development of energy efficient products and services (such as the *Golden Carrot* refrigerator design competition).

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		enacted. 1-7. Low-interest financing has been made available for energy efficiency measures in all San Francisco subsidized housing projects. 1-8. All city government energy practices are consistent with the sustainability plan. 1-9. Sustainable energy practices are promoted to San Francisco tourists.	1-h. Facilitate small-business access to loan and rebate programs for energy-efficiency services. *(Suggested for city government)* 1-i. Lobby for state tax laws to discourage waste and encourage efficiency, such as a revenue-neutral carbon tax. 1-j. Lobby for state and federal policies to encourage renewables and energy efficiency. 1-k. Design a program to provide incentives for low energy use. 1-l. Make available for energy-efficiency retrofits one-third of the funds allocated to low-income energy assistance. 1-m. Expand programs for installing individual meters in rental units. 1-n. Establish a pilot program, modeled on that developed by the City of Phoenix, offering: • Prepaid energy-use meters that provide lifeline rates to those who pass a means test, and • Energy education for participants. 1-o. Lobby the federal government to establish a practice of approving funding for low-income housing only if the housing is energy-efficient.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			1-p. Develop a San Francisco building energy certificate, which: • Discloses the previous year's energy bill,
			• Discloses major energy-related construction elements (insulation, window ratings, heating and cooling system efficiency), and • Requires that a copy of the certificate be available whenever a property is shown for sale. *(Suggested for The Department of the Environment)* 1-q. Revive, strengthen and enforce time-of-sale energy efficiency ordinances (the Commercial Energy Conservation Ordinance and the Residential Energy Conservation Ordinance) for existing buildings. 1-r. Create a revenue-neutral transfer tax to provide matching funds for energy-efficiency improvements. 1-s. Change the city building code to require that at least 80% of all permanent lighting fixtures in new construction and remodeling have an efficiency of 20 lumens per watt or greater. 1-t. Initiate a program to increase market demand for high efficiency lighting fixtures and lamps (20 lumens per watt or greater). 1-u. Develop and implement a program of education and incentives to convert

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			household lighting (such as porches, halls, and basements) to high-efficiency lighting. 1-v. Study and take action on issues that relate to heat-island effects. Potential actions include: • Increasing ecologically appropriate vegetation and • Decreasing the amount of asphalt to reduce cooling needs. 1-w. Conduct a global information campaign about San Francisco's energy successes (for instance, through the Convention Bureau and Visitors Center).
			1-x. Perform an energy efficiency audit on all public facilities and develop a plan to improve efficiency. 1-y. Establish a city policy that requires staff in municipal facilities to turn off lights and computers when not in use. 1-z. Create a map of energy-efficient buildings in San Francisco. 1-aa. Create high-visibility demonstration projects. 1-bb. Establish relationships with other local governments and with research institutes for the purpose of adopting and sharing innovations. 1-cc. Create an incentive-based program for managers of city agencies to save energy. (For example, charge PG&E retail rates for all intra-city sales of Hetch

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			Hetchy electricity and designate a premium over Hetch Hetchy costs to energy efficiency technologies and renewable generation technology within the City). 1-dd. Create pools with other local governments for the purchase of energy efficiency and renewable technology products and services. An example is the program developed by the City of Boston. 1-ee. Promote sustainable energy practices in hotels, restaurants, and other businesses, such as via the Green Hotels Association. 1-ff. Highlight, in promotions to tourists, businesses which practice energy sustainability. 1-gg. Encourage building construction that utilizes passive solar technology.
2. To maintain an energy supply based on renewable, environmentally sound resources.	2-A. Every building is a renewable energy provider (that is, it is equipped with domestic hot water and photovoltaic, solar systems). 2-B. All mechanically-cooled buildings have been retrofitted with passive cooling. 2-C. The energy supply system is reliable even in times of natural or economic disaster.	2-1. The permit process has been made easier for renewable-energy-generation plants and harder for non-renewable-energy-generation plants. 2-2. The ratio of renewable energy use to non-renewable energy use has increased. 2-3. A new renewable energy	2-a. Initiate demonstration projects that use solar, wind, ocean and/or biogas as energy sources (i.e., use of methane at a wastewater treatment plant). 2-b. Restore Murphy and Queen Wilhelmina Windmills in Golden Gate Park to wind operation (no motor). 2-c. Investigate the possibilities for wind energy generation at sites in and around San Francisco. 2-d. Initiate a pilot project to convert diesel buses to bio-diesel, biogas, fuel cells or other renewable fuels.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	2-D. All new and replacement power and gas lines are able to withstand 8.0 earthquakes and 100-year storms. 2-E. Photovoltaic, wind and other alternative fuels for back-up of electrical systems have been installed in critical buildings.	plant has been developed. 2-4. Muni is powered by renewable fuels. 2-5. A system that guarantees that no building is without power for more than 24 hours after a disruption has been established.	2-e. Establish incentives for projects that increase energy resources with solar, wind, ocean, and/or biogas energy. 2-f. Establish a simplified permit process for renewable energy systems, such as solar photovoltaics. 2-g. Establish solar enterprise zones in the Mission District and Bay View/ Hunters Point. 2-h. Develop a solar access ordinance. 2-i. Remove disincentives for utility buy-back of renewable energy. 2-j. Increase the amount of renewable energy purchased by power marketers on the wholesale market for sale to the defined groups, such as enterprise zones. (Bulk purchasers require predictable demand to make such purchases.) 2-k. Reduce the use of non-recyclable batteries and encourage the use of rechargeable batteries, where needed. 2-l. Investigate the possibilities for solar energy in San Francisco and on City-owned property.
3. Eliminate climate-changing and ozone-depleting emissions and toxics associated with energy production and use.	3-A. Releases of carbon dioxide, chloro-fluorocarbons (CFC's) and methane to the environment caused by manufacturing products and processes have been eliminated.	3-1. CFC-based cooling and refrigeration equipment in San Francisco has been reduced by 50%.	3-a. Conduct a baseline survey of CFC-based cooling and refrigeration equipment in San Francisco. 3-b. Establish a refrigerant conversion program for refrigerators, chillers, air conditioning systems.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	3-B. The costs of pollution and the economic value of land used in parking which arise from fossil-fueled car use have been shifted to those who choose to drive cars.		3-c. Study the opportunities and implications of a regional carbon tax.
4. To base energy decisions on the goal of creating a sustainable society.	4-A. Basic energy services (such as comfort, light, and cooking) are available and affordable for all residents. 4-B. There is local democratic control of energy policy, where appropriate. 4-C. Local employment and local economic development are promoted through energy policies and programs. 4-D. Social and cultural diversity have been improved and environmental justice has been ensured. 4-E. Levels of air pollution in all districts are within 20% of the city average. [See note 2, following the matrix.]	4-1. Neighborhood panels have been created to decide on neighborhood energy issues. 4-2. Laws encourage work-force diversity in energy industries. 4-3. Energy career paths are available to everyone through training and internships	4-a. Extend low-income rate assistance to individual rental units. 4-b. Subsidize meter installation in units with low-income tenants. 4-c. Maintain the Energy Partnership Program for low-income weatherization and energy-efficient appliance purchase. *(Suggested for PG&E)* 4-d. Train social service agencies to guide clients to energy subsidies and weatherization programs. 4-e. Give priority to hiring San Francisco residents, particularly youth, for energy-related employment. *(Suggested for city government)* 4-f. Train and employ local youth in minor home repair, weatherization and commercial efficiency programs. *(Suggested for organizers of programs in every neighborhood)* 4-g. Convene an energy and economic development conference among neighborhood associations and local business groups. *(Suggested for city government)*

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			4-h. Convene meetings with community development corporations and neighborhood organizations to discuss: • Energy efficiency programs, • Opportunities for combining customers into bulk-purchase groups, and • Choosing "green" energy sources. *(Suggested for city government)* 4-i. Review the municipalization study (which examines shifting control over power delivery to the city) for consistency with sustainability objectives. [See note 1, following the matrix.] 4-j. Dedicate 50% of the utility franchise fee to the promotion of energy efficiency and renewables. 4-k. Change the process of choosing local Public Utilites Commission officials from appointment to election. 4-l. Establish neighborhood energy-planning groups. 4-m. Involve neighborhood groups in the decision-making process. 4-n. Study alternative sources and methods for financing energy efficiency opportunities (such as customer aggregation or municipalization). *(Suggested for city government)* [*See note 1, following the matrix.*] 4-o. Develop a policy to phase out the use of fossil fuels for local electricity generation.

Notes to the Energy, Climate Change and Ozone Depletion Matrix

There were three local issues: municipalization, banning large new power plants (specifically, the proposed co-generation plant in Bayview), and under-grounding of all power lines in the city, on which there were significant differences of opinion within the drafting group. The following outline of the points raised may inform public comment on these issues:

1. Municipalization

Pro

- Municipalization would serve the goal of democratic local control because the City would be accountable to local people (as opposed to stockholders).
- The funds from operating a public power system could be used to support energy efficiency and renewable energy investments.
- The City would be in a position to purchase renewable energy supplies available on the market and not buy power from the Diablo Canyon nuclear plant (which currently supplies 15% of the electricity used in San Francisco).

Con

- Restructuring and competition are happening now. The State Public Utilities Commission says all residents will be able to choose their own supplier by 2003.
- Because the utility has made previous investments, the State is going to allow them to charge an exit-fee to users who choose to purchase their power from someone else.
- The relevance to sustainability of the ownership of the power lines is unclear.
- The decision on municipalization should be left pending the outcome of the official study of that issue.

The actions that were adopted as a result of this discussion appear above as items 4-i and 4-n.

2. Banning new, large power plants

Pro

- Existing power plants are all located in Bayview / Hunters Point, which is suffering an unfair burden.
- Fossil-fuel plants, no matter how efficient, still contribute to global climate change.
- Investments in a fossil-fuel plant, even if it is more efficient, detract from the ability to invest in renewable technologies.

Con

- Granted that the toxics levels in Bayview should be addressed, a universal ban on one type of technology overdoes the attempted remedy.
- Some new large plants, such as a solar-power plant, would be beneficial.
- Cogeneration may be a necessary short-term strategy as a bridge to renewable technologies.
- A ban would not only apply to the proposed cogeneration plant but could apply to many smaller cogeneration facilities located in San Francisco, such as that at General Hospital.
- Stopping all cogeneration now would mean buying more power from less-efficient sources from outside the City, notably the Diablo Canyon nuclear power plant.

The objective that was adopted as a result of this discussion appears above as item 4-E.

A proposal was offered that the City withhold approval of any new large plant (50 megawatts or larger) contingent on a plan to meet environmental and equity goals. This was not accepted because it put the neighborhood in the position of negotiating over mitigations. Instead, it was proposed that the City develop a policy to phase out all fossil-fuel powered electricity generation, including the expansion or re-powering of existing facilities. The last phrase was criticized for not allowing the use of more efficient technologies and was deleted. (See action 4-o.) Essentially, the intent has been conveyed, but the disagreement over the content of such a policy continues and will have to be addressed in the course of developing the phase-out policy.

3. Under-grounding of all utility wires

Pro

- The reliability of the system would be increased by avoiding downed power lines in storms.
- Exposure to electro-magnetic fields would be decreased.
- Neighborhoods that cannot afford the fees would receive the benefits of under-grounding.

Con

- It is reported that under-grounding is proceeding at the same rates in all neighborhoods.
- There may not be any electro-magnetic-field reduction benefit, because the lines are now high in the air and under-grounding would bring them just a few feet below ground; significantly closer to people.

This item was set aside.

FOOD AND AGRICULTURE

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Introduction

Food and agriculture are critical components of a sustainability plan even for a dense, highly urbanized city such as San Francisco. Historically, large urban centers like Paris, Shanghai, and Mexico City have generated much of the food needed by city residents. Many cities in developing countries still continue to produce significant quantities of their own food within a 25-mile circle of the city center. Since most people worldwide will live in cities by the turn of the century, it is imperative, when planning for sustainability, that all cities consider the production, marketing and distribution of food, as well as the recycling of food wastes, within their boundaries and bioregions.

San Francisco has a dramatic influence on regional agriculture. More than 5,000 food-related businesses purchase enormous quantities of fresh food to meet the demand of a discriminating clientele comprised of residents, regional day workers, and visitors. Significant institutional purchasing decisions about food are made at schools, grocery stores, city and non-profit shelters, the city jail, and so on. Using locally grown, organic food instead of shipping over long distances food grown with pesticides and chemical fertilizers will have a major impact on the country's energy budget (the energy used to transport food), regional water quality and wildlife preservation, regional land use, and public health. San Francisco can make city policies that encourage sustainable agriculture, and private institutions and individuals can also make food-related choices that greatly influence many aspects of long-term sustainability.

In addition to food purchases, there are local opportunities for greater food production. There is still a surprisingly large amount of vacant land, both public and private, that could be used even temporarily for food production. Rooftops of new and existing buildings offer a vast amount of potential agriculture space, if necessary structural modifications for food production purposes were made. Even San Francisco's typically postage-stamp-sized back yards could be much more productive if residents increased fruit-tree planting and salad crop production. It will be necessary to re-think ideas of space, gardening techniques, and even growing mediums when it comes to food production in cities.

Access to nutritious food is another important consideration. Significant numbers of San Franciscans, particularly those with low incomes, lack food security. Their access to food which is nutritious, affordable, safe and culturally responsive must be a principal goal of a plan for sustainability. Food access can be improved through better systems of commercial food distribution, better transportation for grocery shopping, more grocery delivery services, more nutritious food in corner stores, more farmers' markets, better utilization of federal food programs, expanded opportunities for cooperative food purchasing, additional community, school and household gardens, and by other means. Improved and increased nutrition education, particularly in schools and senior centers, can contribute to more healthy food choices.

The City cannot live without food. Supporting sustainable agricultural practices will allow for the production of food in an ecologically beneficial manner. San Francisco can be on the road to sustainability by creating an environment in which local and regional agriculture can thrive while ensuring access to safe, affordable food for all San Franciscans.

Sustainability Strategy

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. To increase individual, public and private-sector participation in a sustainable food system.	1-A. Access and resources are provided to all San Francisco residents to grow food, to purchase regionally, sustainably grown food, and to participate in food policy development.	1-A-1. A city-wide database of neighborhood-based sustainable agricultural resources has been established and made available to the public.	1-A-1-a. Create an internship program for volunteers to build a public database of neighborhood-based sustainable agricultural resources.
	1-B. San Francisco food-related establishments primarily buy regionally produced, sustainably	1-B-2. Effective tax and other economic incentive programs for business involvement in	1-B-2-b. Allow a sustainability tax reduction on sales and property taxes for

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	grown food, when available.	sustainable food system activities have been created.	sustainable practices described by the City's Department of the Environment.
	1-C. 100% of San Francisco schools include a sustainable-food/agricultural curriculum component at every grade level.	1-C-1. 25% of San Francisco schools include sustainable-food/agricultural and nutrition curricula at every grade level.	1-C-1-a. Identify existing sustainable food, agriculture and nutrition curricula in San Francisco's school district. 1-C-1-b. Create San Francisco school district policy that implements a food, agriculture and nutrition curricula teaching about regional, seasonal foods in all schools at every grade level. 1-C-1-c. Ensure ongoing implementation of the curricula by the school district.
	1-D. A maximum number of food-related establishments donate excess food.	1-D-1. An infrastructure that allows and encourages all food-related establishments to donate excess food to food programs that assist those in need has been established.	1-D-1-a. Provide additional support (staff and transportation) to organizations that pick up and distribute excess food. 1-D-1-b. Educate and assist food-related establishments in donating food.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
2. To establish and coordinate a community-based policy and educational program to achieve a sustainable food system.	2-A. Sustainable food and nutrition policy is implemented and coordinated by the policy council. 2-B. The public is knowledgeable about seasonality of food crops. 2-C. All food in supermarkets is labeled by country of origin.	2-A-1. A regularly-convened food-policy council that promotes public and private solutions to the barriers to and deficiencies of food access for any group of San Franciscans has been established. 2-B-1. The public is less dependent on out-of-season food crops.	2-A-1-a. Conduct periodic assessments of food access. 2-A-1-b. Establish a community education program on food access issues. 2-A-1-c. Examine other municipal policies, actions and expenditures, such as transit routes, taxes, economic loan funds, zoning, housing development, for their impact on food access. 2-A-1-d. Introduce legislation to create a food policy campaign to promote seasonal flavors at farmers' markets. 2-A-1-e. Use seasonally available produce at food-related institutions. 2-A-1-f. Explore incentives for growers to sell seasonal foods locally. 2-a-1-g. Grant permits for produce street-brokers to sell produce at locations in addition to farmers' markets.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
3. To ensure access by all people at all times to enough nutritious, affordable, safe and culturally diverse food for an active, healthy life.	3-A. Safe, convenient, reliable and nonpolluting transportation is available to points of sale that provide nutritious, affordable, safe and culturally diverse food.	3-A-1. Transportation to points of sale that provide nutritious, affordable, safe and culturally diverse food has improved.	3-A-1-a. Establish better and more fixed-route Muni service to enable shopping to be done with public transportation. 3-A-1-b. Improve Muni and special transit services to enable people with particular transit needs to shop using public transportation. 3-A-1-c. Create paratransit systems for shopping by using: • Idle commuter vans; • Vans owned by social service agencies; and • Supermarket-funded paratransit and shopper shuttles.
	3-B. Food markets are distributed within the City appropriately to the needs of residents.	3-B-1. The number of food markets located in neighborhoods of the City (where market analysis indicates feasibility) where there is a dearth of nutritious, affordable and safe food has increased.	3-B-1-a. Increase community-based participation in the design and operation of food markets by creating a community development corporation or similar entity. 3-B-1-b. Explore mini-food markets in certain districts of the city; develop various market models of providing food.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	3-C. All corner stores carry a wide variety of nutritious, affordable and safe food.	3-C-1. 10% of corner stores provide an adequate level of nutritious, affordable and safe food.	3-C-1-a. Create a system for distribution of wholesale nutritious, affordable and safe food to corner stores which provides financing for inventory, capital items and technical assistance.
	3-D. Programs like Self-Help and Resource Exchange (SHARE), a national food-buying cooperative (in which participants who perform two hours of community service per month receive groceries each month worth approximately twice as much as the participants pay), are easily accessible.	3-D-1. A SHARE-type program is operating and serving 1,000 San Francisco households.	3-D-1-a. Inform all San Francisco neighborhoods about SHARE and similar programs on a "Share Day."
	3-E. Consumer food co-ops are operating in every neighborhood.	3-E-1. Two consumer food co-ops are operating in two San Francisco neighborhoods with the highest need.	3-E-1-a. Secure community development funds for consumer food co-op development.
	3-F. Federal food programs, including Food Stamps, School Lunch and Breakfast, Child Care Food, Summer Food, and the Special Supplemental Food Program for Women, Infants and Children (WIC), are fully utilized.	3-F-1 Participation in Food Stamps, the School Breakfast Program and the Summer Food Program has increased by 25%. 3-G-1 Organic growers provide direct farm-to-buyer service for 5% of produce buyers.	3-F-1-a. Conduct effective outreach and promotion for the federal food programs. 3-F-1-b. Teach eligibility workers in other public and private benefits programs serving low-income people about the federal food programs and

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	3-G Organic growers provide direct farm-to-buyer service for 15% of produce buyers.		how to enroll their clients in them. 3-F-1-c. Open and operate offices at convenient locations across the city where applicants can enroll. 3-F-1-d. Promote the use of volunteers to solicit and counsel applicants for the programs. 3-F-1-e. Speed up the processing of applications. 3-F-1-f. Promote organic delivery services. For example, use posters at all farmers' markets and advertise in phone books.
4. To create, support and promote regional sustainable agriculture.	4-A. There are farmers' or gardeners' markets in every neighborhood.	4-A-1. Three additional certified farmers' markets have been established in locations close to San Francisco residential neighborhoods. The markets enjoy greater participation from local small farmers and gardeners.	4-A-1-a. Through existing venues, such as conferences, encourage more farmers to sell as mobile produce vendors at farmers' markets. 4-A-1-b. Develop workshops for career counselors about the field of organic farming; promote organic farming as a career choice at career fairs, seminars and farmers' markets.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			4-A-1-c. Organize field trips for students to regional and organic farms. 4-A-1-d. Assist land trusts and encourage the local, state and federal governments to set aside agricultural land close to urban fringes. 4-A-1-e. Create exciting and attractive farmers' markets. 4-A-1-f. Ensure that farmers markets accept food stamps. 4-A-1-g. Educate food stamp users to shop at farmers' markets.
	4-B. Produce purchased by government, institutions, schools, restaurants, and all food-related establishments is all organically grown: • 50% regionally produced, and • At least 45% from other California sources.	4-B-1. Produce purchased by government, institutions, schools, restaurants, and all food-related establishments is increasingly regionally, sustainably grown: • 25% from Bay Area sources, and • At least 70% from other California sources.	4-B-1-a. Educate cooking students (future chefs) about organic, regionally produced foods. 4-B-1-b. Establish internships in programs assisting the needy to teach cooking with regionally grown foods. 4-B-1-c. Change purchasing policies of public institutions to prioritize buying regionally and organically grown foods.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			4-B-1-d. Provide restaurants with information to promote the use of regionally grown, organic food. *(Suggested for food marketers)*
	4-C. Community Supported Agriculture programs operate in every neighborhood. 4-C. All San Francisco residents know about local and regional food production and purchase regionally-grown food.	4-C-1. The level of San Francisco-resident participation in Community Supported Agriculture (CSA) programs has doubled.	4-C-1-a. Establish a CSA San Francisco (modeled after CSA West) to help establish links between Community Supported Agriculture farms and San Francisco residents.
5. To maximize food and agricultural production within the City itself.	5-A. Community and rooftop gardens exist in every neighborhood and business district, allowing sufficient access for all residents.	5-A-1. The number of community, school and residential edible-garden training projects has doubled.	5-A-1-a. Develop a collaborative school gardening program between the school district and non-profit organizations and/or volunteers who provide training and on-going supervision. 5-A-1-b. Establish demonstration farms on available land in San Francisco, such as Treasure Island, the Presidio, and any other public land (with sensitivity to the needs of native plants and wildlife).

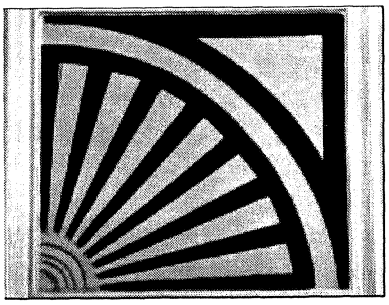
GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	5-B. All new publicly-funded construction has rooftop and/or ground-level gardening space. 5-C. All new private multi-unit residential construction has gardening space.	5-C-1. All new housing projects have a dedicated amount of edible-garden space.	5-C-1-a. Modify city regulations to require green spaces in housing projects.
	5-D. Home food production, including small-animal husbandry, has quadrupled.	5-D-1. Tax and other economic incentives have been established for businesses and home-owners growing food using sustainable practices.	5-D-1-a. Update city laws and regulations to allow for small-scale animal production. 5-D-1-b. Sponsor programs to promote home food production. (*Suggested for commercial garden centers*)
	5-E. City orchards and backyard fruit trees produce a significant proportion of fruit for the City's consumption.	5-E-1. Two city orchards and backyard fruit trees produce fruit for the City's consumption.	5-E-1-a. Initiate a "fruit-tree in every yard" campaign for San Francisco backyards. 5-E-1-b. Initiate a city orchard program with non-profit organizations and schools, which will include the use of appropriate space in public parks and other public land.
	5-F. City bee hives produce 5% of the honey consumed in San Francisco.	5-F-1. The amount of honey consumed that is produced in SF has doubled.	5-F-1-a. Identify appropriate locations and promote beekeeping in large parks and public

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			open-space areas, including San Francisco watershed lands. 5-F-1-b. Ensure greater populations of pollinators by planting appropriate larvae food vegetation where possible and in harmony with the needs of natural areas (in home gardens, public parks, public land).
	5-G. All vacant land has become utilized for appropriate ecological purposes, including food production, wildlife and native plant habitat, or Christmas-tree or other forestry products farms.	5-G-1. 50% of all vacant land not appropriate for biodiversity refuge has become utilized for productive purposes.	5-G-1-a. Identify and make available for edible gardens appropriate vacant space (temporary or permanent). 5-G-1-b. Identify and catalogue all public vacant properties for ecological purposes, including greenhouse and food producing activities. 5-G-1-c. Donate vacant land to non-profit organizations for gardening projects. *(Suggested for corporations)* 5-G-1-d. Amend the City Charter to allow for the discounted sale of unused or other city properties to non-profit organizations for community-based food-related projects.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	5-H. Dynamic public/private partnerships are operating to maintain all public land areas dedicated to food production.	5-H-1. Dynamic public/private partnerships to maintain those public land areas dedicated to food production have been created.	5-H-1-a. Introduce fish and other aqua-culture projects; establish a harvesting program. 5-H-1-b. Identify appropriate crops, such as apples, for city-wide production quotas. 5-H-1-c. Establish a master gardener and home economist food and agriculture program in San Francisco. 5-H-1-d. Establish a Cooperative Extension Office for County of San Francisco.
6. To recycle all organic residuals, eliminate chemical use in agriculture and landscaping and use sustainable practices that enhance natural biological systems throughout the City.	6-A. All agricultural and food organic residuals are composted or recycled, and used as nutrient-value products for soils and agriculture and food production, where appropriate.	6-A-1. 25% of agricultural and food organic residuals are composted or recycled and used as nutrient-value product for agriculture or food production, where appropriate.	6-A-1-a. Establish an infrastructure that allows and encourages all residential, commercial and public organic residual producers to recycle their residuals. 6-A-1-b. Establish a city-wide collection program for food and agricultural residuals and process them into compost or other agricultural products. 6-A-1-c. Enact and enforce building code regulations that require food recycling facilities in

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			all San Francisco food-related establishments. 6-A-1-d. Provide city-generated compost and other organic soil amendments to all city schools and community gardens for food production and garden projects (and to general public if supplies are sufficient).
	6-B. All agricultural and food production and landscaping only use organic amendments.	6-B-1. All city departments use organic amendments in landscaping projects.	6-B-1-a. Evaluate and develop markets for compost and other organic residual products, with a priority of in-city markets. 6-B-1-b. Develop or modify policies, laws and regulations to encourage or require the use of compost and other organic amendments in all public agencies and publicly financed projects. 6-B-1-c. Develop and implement economic and/or tax incentives for the commercial and residential sectors which recycle food residue and/or use compost and other organic amendments. 6-B-1-d. Create a training program assisting food-

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			related establishments in recycling food residue. 6-B-1-e. Establish a tax incentive for businesses that reduce their waste generation by 50%.
	6-C. The use of synthetic chemicals from non-renewable resources has been eliminated and sustainable practices that enhance natural biological systems are used throughout the City.	6-C-1. The use of synthetic chemicals from non-renewable resources has been reduced in all city departments and city-funded projects, substituting sustainable practices that enhance natural biological systems.	6-C-1-a. Modify policies, laws and regulations to require the reduction of synthetic chemical use.



HAZARDOUS MATERIALS

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Introduction

There are currently more than 50,000 different chemicals in common use in the United States. Roughly 1,000 others are added each year. The presence of this enormous variety of hazardous materials in everyday life is a new phenomenon which began only 50 years ago following the technical developments of World War II. Familiar hazardous materials include gasoline, household and industrial cleaners, disinfectants such as pool chlorine, and home and garden pesticides. Hazardous materials fall into one of four categories: products which burn ("ignitable"); products which immediately damage living tissue ("corrosive"); products which can release great energy when combined with water, air or other products ("reactive"); and products which can cause other immediate or long-term health problems ("toxic"). Hazardous *wastes* are unusable or unwanted hazardous materials. Contaminated soil and other materials from cleanup of contaminated sites may also be considered hazardous waste.

Human exposure to once-common hazardous materials such as lead in paint and asbestos in construction fireproofing is now known to be directly linked to poor health and early death. Hazardous material contamination of housing is a significant problem which affects children and other specific population groups. Many other common practices from the past and present continue to have both known and unknown effects on

human health and the environment. In addition, San Francisco has numerous abandoned or underutilized properties in both industrial and residential areas, which have not been redeveloped due to concerns about the perceived cost of environmental clean-up. These properties, recently named "brownfields," are common in older urban areas. The cleanup and restoration of contaminated "brownfield" sites will enable new economic development at the same time that exposure to hazardous materials from these sites is eliminated.

Exposure to hazardous materials is not a risk that occurs in a social vacuum. Many of the items in the following matrix reflect a recognition of the need to prioritize individual, commercial, and governmental activities to achieve the greatest overall reduction of risk. This necessity is based on a realistic view of financial and other resources as well as the variety and relative severity of dangers associated with the past and present use, storage, and disposal of different hazardous materials. In addition, resources dedicated to hazardous material issues must be prioritized along with other risks to the environment, such as vehicle-related air pollution. Finally, risk from hazardous material use must be balanced with other risks to public health and welfare. For example, are limited resources best spent on contaminated-site cleanup or on increasing pre-natal care?

Fundamental to San Francisco's goal of achieving a sustainable society is the need to ensure that all San Francisco's communities and segments of population equitably bear the impact of past, present, and future hazardous materials use. Although achieving a sustainable community in which the negative effects of hazardous materials are eliminated is the goal, the distance yet to be traveled is great. Past management practices for hazardous material and waste have resulted in disproportionate negative effects on communities of low income and communities of color. Members of all communities in San Francisco must be able to share in making decisions regarding the use, storage, cleanup, and disposal of hazardous materials. Success in obtaining representation from all segments of San Francisco's population depends on investing resources to allow people to participate.

Since the early 1970s, strict federal and state regulations have made it increasingly difficult for commercial and industrial concerns to reduce their costs by disposing of hazardous wastes directly to the environment and at the expense of future generations. Regulation has caused many businesses to reduce and in some cases eliminate their use of hazardous materials and their generation of hazardous waste. San Francisco has made strides in educating individuals about household toxics and alternatives and has provided residents and small businesses with reliable, if limited, access to proper disposal. At the same time, toxic and other hazardous materials continue to be produced and purchased in enormous quantities. Many find their way into consumer products which crowd most people's household cabinets and garages. Their use may contaminate air, land, water, and the bodies of people, plants and animals. Achieving a sustainable society will require a vast reduction of the use of chemicals, as society and nature heal from the damage they have already sustained.

Sustainability Strategy

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. To minimize risks to human health and the environment by striving to eliminate hazardous materials and hazardous waste. 2. To prioritize hazardous material and hazardous waste minimization and remediation efforts toward those issues with the highest risk of danger to human and environmental health. 3. To ensure that the impact of hazardous materials and wastes is not felt disproportionately by any one community or segment of population. 4. To ensure that all decisions on hazardous material and hazardous waste issues include all communities and segments of the population. 5. To educate and inform the entire	A. Housing and workplaces are designed and maintained to eliminate health hazards to occupants. B. The amount of hazardous material sold, used and stored in San Francisco has been reduced by no less than 75%. C. The use and storage of acutely/extremely hazardous materials has been banned, with an exception for the use of those which provide a net benefit that supports and sustains the City. D. All previously contaminated sites have been restored to a level of safety appropriate for the desired use. E. Residents and businesses understand and utilize alternatives to hazardous materials in their homes and workplaces. F. A system has been established by which	1. The total amount of hazardous materials stored in San Francisco has been reduced by 10% from 1995 levels. 2. The number of options available to residents and businesses for the proper disposal of hazardous wastes is double the 1995 number. 3. The City applies the priorities set forth by the Task Force described in Action (g) to 75% of its own operations (such as city labs, hospitals, and offices). 4. A process has been established through which the public sets its priorities for elimination or reduction of hazardous materials and the cleanup of	a. Create financial incentives for businesses and city departments to reduce their use and storage of hazardous materials and their generation of hazardous waste. b. Establish the following programs to manage and dispose of hazardous waste generated by residents and small businesses: • Curbside collection of oil, paint and batteries. • Satellite collection points. • Mobile collection service. • Additional "one day" collection events. c. Require every retail outlet for hazardous materials in San Francisco to actively provide public information about non-toxic alternatives and proper disposal of hazardous products. d. Encourage retailers to stock non-toxic alternatives to hazardous products. e. Determine and assess the impact of known hazardous materials exposure within the San Francisco population using existing data. f. Create a central database and mapping system identifying sites which use, store, or are contaminated by hazardous

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS

community, public and private sectors, about hazardous materials.	the City's resources are used to address high-priority hazardous material and waste problems.
	
	G. Links between hazardous materials and wastes and their impact on human health and the environment have been identified.
	
	H. A wide variety of groups and individuals participate in making decisions on hazardous materials issues.
	
	I. An informed public understands:
	
	• The risks involved with their own use of hazardous materials, and
	
	• The risks to the community as a whole due to the environmental impact of the past and present use of hazardous materials.
		contaminated sites.
		
		5. A system has been established for ongoing review of city regulations to insure they are addressing top priorities.
		
		6. A standardized self-audit procedure has been established which is mandatory for businesses required to register hazardous material storage with the City and voluntary for residents and other businesses. The purpose of the audit is to provide the tools to assess the impact of operations and lifestyles on the environment, as well as to evaluate compliance with applicable regulations.
		
		7. An environmental safety program has been created that is focused on educating groups identified as more
			materials.
			
			g. Develop a hazardous material prioritization task force, made up of San Francisco residents, representatives of city government, and businesses, to:
			
			• Define the risks posed by the past and present use of hazardous materials,
			
			• Determine the populations most at risk of health damage due to acute and chronic exposure to hazardous materials within San Francisco.
			
			• Establish or select a single hazard index that measures the relationship between hazardous materials and their impact on human health.
			
			• Set priorities for the elimination of hazardous materials/wastes and remediation of contaminated sites:
			
			  • Among hazardous material/waste issues and risks, and
			
			  • With other health and welfare issues, and
			
			• Disseminate results.
			
			h. Increase health care and epidemiological studies in areas disproportionately "unhealthy," focusing on sites with a high hazard index.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		at-risk either because of their characteristics (for instance, children and people with suppressed immune systems) or their location (for instance, adjacent to a contaminated site).	i. Develop criteria in the City's facility-siting policy and permit-review processes to take into account any disproportionate hazardous material/waste exposure "load" on the community. j. Prepare and make available to the public a document describing the current hazardous materials/wastes siting, zoning, and enforcement decision-making processes and the institutions involved.
			k. Conduct an inventory and preliminary risk evaluation of all "brownfields" (sites unused due to existing or perceived contamination) within city limits. l. Require retailers and suppliers of appropriate hazardous materials to report annual sales of those materials within San Francisco in order to determine the effectiveness of hazardous material-reduction efforts. m. Develop an outreach program on alternatives to the use of hazardous materials in homes and businesses. The program should include documents in non-technical language, appropriately translated, or use symbols. Work with organizations that already provide education to target groups. Target the program to: • Neighborhood associations, • Student-body councils, • Merchant associations, and

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			• San Francisco neighborhood emergency response team participants. n. Increase education about hazardous materials at workplaces where workers are likely to have less information (such as businesses that are exempt from Cal OSHA hazard communication requirements). o. Develop a system for the public to easily identify neighborhoods and businesses that are environmentally progressive and those that are not. Possible examples include: • A color-coded "report card" rating scheme relative to the use or sale of appropriate alternatives to hazardous materials, and • Signs or tags that give recognition to areas (streets, apartment complexes, business parks) that meet environmental criteria. p. Encourage local news media to designate an editor or reporter who specializes in hazardous materials. q. Develop a public education program that keeps San Francisco residents regularly informed on progress toward the objectives and actions set forth in the sustainability plan. r. Make as part of the City's contracting process the requirement that all prime- and sub-contractors properly dispose of all wastes and reduce or eliminate the use of hazardous materials to the maximum extent possible.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			s. Create and operate a central phone number which residents could call to report illegal disposal in San Francisco. Stencil this number on sewer catch-basins using alternative community service labor. Educate city enforcement staff (such as police and fire personnel) about the number to develop a consistent and effective response to complaints.

HUMAN HEALTH

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Introduction

The Ottawa Charter for Health Promotion defines the fundamental conditions and resources for health as "peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice, and equity." This vantage point expresses the unavoidable connections between all aspects of society and the natural world.

In order to focus this broad understanding toward creating social change that leads to a healthy urban environment, this section focuses primarily on those aspects of the environment that can directly lead to improvement in people's physical, mental and emotional well-being. This goal depends on social and environmental change that leads to better health. It may be pursued by reducing negative aspects of life, such as violence, drug abuse, disease, and pollution; and by increasing attributes that lead to health, such as personal responsibility, appropriate medical care, and access to green spaces and fresh, organically grown food. Clean air for exercise, physical education, and recreational opportunities all have a role to play. (Please see the Air Quality, Energy, and Transportation sections for further discussion of clean air.) While the issue of homelessness is beyond the defined scope of this planning effort, it is recognized that this condition has an important impact on human health, and should be addressed in a plan independent of this document.

To achieve a sustainable society, environmental, cultural, and institutional barriers to good health must be removed and appropriate health care services must be equitably distributed throughout the city. A primary value underlying these goals is that no individual or group should bear a disproportionate health burden or abridge another group's health. Care-providers themselves should reflect the diversity of San Francisco, and the types of care available should include therapies that reflect the diverse traditions of the community. This approach will

ensure an environment for health and care of illness that is appropriate to the human spirit as well as the human body.

Perhaps most importantly, public awareness must be increased about resources, rights and responsibilities related to health maintenance. Health professionals and educators must provide the information and motivation that can help people take more responsibility for their own health. Insurers must provide the economic context that makes it possible for people to secure preventative guidance. The focus of achieving public health should shift very strongly to prevention, while maintaining and improving the remediation services that will be needed during and after the long transition toward a more healthful society.
The following goals, objectives and actions address some of the factors that have an impact on human health. Since "human health" is a topic of very wide scope, the intention in this section is to highlight the connection between human health and the health of the environment. A collaboration between environmentalists and health professionals is critical to the implementation of this plan.

Many of the data on existing conditions and the objectives proposed in the following material came from the federal government's health-promotion report, *Healthy People 2000*. However, some of the specifics of this plan have not been researched for the local area, and objectives are based on the best judgment of the group drafting this section. References noted in the text follow the matrix. Numbers for which references are not given, (which have been cited to the nearest digit) come from *San Francisco SB 697 Community Needs Assessment, the Indicator Data Report* [ref 4].

Sustainability Strategy

GOALS
To minimize environmental factors that create health risks and illnesses.
To promote personal and community responsibility in maintaining a healthy lifestyle in both public and private arenas that minimizes damage to non-human parts of the ecosystem.
To promote adequate health care access for all.
To create an environment for community members which maximizes their physical, spiritual, mental, and emotional health and well-being.
To ensure broad access to family planning information and techniques, which not only maintains the integrity of individual families but protects the environment through minimized human population numbers.

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. Access to Health Care		
1-A. Language barriers to health-care access have been minimized. 1-B. Cultural barriers to health-care access have been minimized. 1-C. Transportation barriers to health care access have been minimized. 1-D. Access to alternative forms of medical treatment, such as acupuncture, nutritional therapy, chiropractic, traditional Chinese medicine, herbal medicine and other traditional treatments exists for all community members. 1-E. Health care resources and providers are equitably distributed throughout the City. 1-F. The number of uninsured has been decreased to zero.	1-1. The number of signs in multiple languages at city health facilities has increased. 1-2. A diverse population of health-care professionals that reflects the community they serve has been recruited. 1-3. Financial barriers to clinical preventive services have been eliminated (through improvements in financing and delivery of screening, counseling, and immunization services). 1-4. Access to mental health services has been improved: • Publicly-funded hospital days for mental illness has been reduced to 210 days per 1,000 persons. • No less than 15% of persons eligible for public mental health services receive non-hospital services. • The rate of involuntary detentions of mentally ill persons in danger to self or others or gravely disabled will not exceed 12 detentions per 1,000 persons. 1-5. The proportion of all pregnant women who receive prenatal care in the first trimester has increased to 90%. (SF = 79; CA 75) 1-6. The proportion of low-birth-weight infants has been reduced to no more than	1-a. Establish an ongoing, neighborhood-based health "circle" (incorporating the views of all interested local residents, non-governmental organizations, public agencies, and businesses) to identify significant health problems, prescribe corrective measures, and set up a timetable for achieving goals. 1-b. Ensure that health care providers reflect the population served by: • Increasing internship opportunities at health care facilities, in recruitment and in hiring; and • Establishing hiring policies that result in staffs that reflect the population served. *(Suggested for health-care providers)* 1-c. Expand education about and respect for nuances of diverse cultural practices, customs, and beliefs. *(Suggested for health-care providers)* 1-d. Provide interpreters and public information material in different languages. *(Suggested for health care providers and public educators)* 1-e. Provide public advocacy and ombudsman services for those who do not have access to such services. 1-f. Enforce the standards set out in the

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	5% of live births. (SF = 7, CA = 6) 1-7. Infant mortality in all segments of the community has been reduced to no more than 7 per 1000 live births. (SF = 7, with a range of 5-16) (The conditions described in items 1-6 and 1-7 are usually the result of inadequate prenatal care.) 1-8. At least 80% of Medi-Cal and low-income (up to 200% of poverty) children receive periodic "well" exams as defined by Federal/State Early Periodic Screening Diagnosis and Treatment (EPSDT) guidelines. 1-9. Access to alternative forms of medical treatment has been greatly increased.	Americans with Disabilities Act for building accessibility at health-care facilities. 1-g. Publish pamphlets of all existing medical transportation services, rates, and time-schedules, including Muni wheelchair routes and time schedules. 1-h. Expand coverage of alternative medical options. *(Suggested for providers of employee health insurance programs)* 1-i. Provide a minimum "safety net" for under-insured and uninsured residents of San Francisco. 1-j. Provide fair access to medical equipment for all San Franciscans through low-cost rental services. 1-k. Prescribe low-cost, generic drugs for all San Franciscans. *(Suggested for health care providers.)* 1-l. Create and distribute a multi-lingual directory of available health care resources and low-cost medical equipment rental programs. 1-m. Create a reuse program for medical equipment, infant car seats, and other reusable medical products.

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
2. Illness Prevention and Wellness		
2-A. A broadly accepted preventative-health-promoting ethic has minimized the need for remedial health care.	2.1 The proportion of schools with preventive health-care training has increased, specifically: • Elementary and secondary schools that provide planned and sequential in kindergarten through 12th grade quality school health education. • Post-secondary institutions with institution-wide health promotion programs for students, faculty, and staff. 2-2. Hospitalizations due to asthma have been reduced to no more than 160 per 100,000 people. (SF = 178) (Asthma itself is not generally preventable, but with proper care, hospitalization is rarely necessary.) 2-3. Basic immunization among children under two years of age has increased to at least 90%. (SF = 49%; CA = 49%) 2-4. The number of births to adolescents has been reduced in all segments of San Francisco's population to no more than 50 per 1,000 adolescents. (SF: Range is from 11 to 94 depending on year and ethnic/racial group.) 2-5. There is a greater understanding among local government, residents, non-governmental organizations and businesses about the new medical field of clinical ecology, which seeks to	2-a. Establish more diagnostic testing clinics, public education campaigns, and "healthy neighborhood" fairs, for all the City's communities. 2-b. Administer a health census to randomly measure the self-reported health status of 500,000 people. 2-c. Educate the community on disease-prevention and wellness-promotion practices. 2-d. Offer and promote preventive health classes, programs and practices for members and non-members. *(Suggested for health insurance companies and health-maintenance organizations)* 2-e. Increase access to educational programs addressing nutrition, exercise, and stress by extending program hours, providing more classes in more neighborhoods, increasing the safety of facilities, and increasing the diversity of programs. 2-f. Prevent falls among seniors through education of medical providers, senior agencies and seniors themselves on ways to make the home safer. 2-g. Set up an incentive program for vaccinations. 2-h. Expand the capacity and services of family shelters.

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	reduce or eliminate food allergies and chemical sensitivities (particularly common among urban residents) that are specifically linked to chemical pollution, degradation of food and increased environmental stresses.	2-i. Expand the amount of readily accessible family planning education and support. 2-j. Educate health care providers on environmental protection and the environmental causes of illnesses.
Infectious Disease 2-B. The incidence of communicable diseases caused by environmental factors has been minimized.	2-6. Reduce Viral Hepatitis A to 16.1 per 100,000 people. (SF = 293; SF rate is very high and related to a great extent to large numbers of people with HIV and related illnesses.) 2-7. Reduce Viral Hepatitis B to 6 per 100,000 people. (SF = 71) 2-8. Reduce the number of new cases of tuberculosis by 5% annually, or 30 per 100,000 people (by year 2000). (SF: 1993 = 47; CA = 17) 2-9. New AIDS cases have been reduced to 40 per 100,000 people. (SF: 1993-4 = 210; 1994-5 = 131) 2-10. Reduce the incidence of new cases of AIDS. 2-11. Reduce gonorrhea to an incidence of no more than 100 cases per 100,000 people. (SF = 229) 2-12. Chlamydia incidence has been reduced to 170 cases per 100,000 people. (SF = 298) 2-13. Syphilis incidence has been reduced: • Noncongenital (adult symptomatic) syphilis infections to no more than	2-k. Establish ongoing, neighborhood-based health circles to identify salient problems, prescribe corrective measures, and set up timetables for achieving goals, incorporating advice from all interested local residents, non-governmental organizations, public agencies, and businesses.

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	10 per 100,000 people. • Congenital syphilis to zero.	
Food and Nutrition 2-C. Urban agriculture is widespread and uses only organic techniques. 2-D. Produce purchased by government, institutions, schools, restaurants, and all food-related establishments is all organically grown: • 50% regionally produced, and • At least 45% from other California sources.	2-14. The number of people using locally grown organic food has increased by 10%. 2-15. Acreage in San Francisco managed by urban land trusts has increased. 2-16. Dietary intake for San Franciscans has increased to 5 or more daily servings for vegetables and fruits. 2-17. Iron deficiency among children has been reduced to less than 3% 2-18. Breast-feeding has increased: * To at least 75% of mothers for those who breast-feed their babies in the early postpartum period, and • To at least 50% of mothers for those who continue breast-feeding until their babies are 5-6 months old. • [Data for these objectives is currently available for low-income people only.] 2-19. The proportion of parents who use feeding practices that prevent baby bottle tooth decay has increased to at least 75%. *	2-l. See community garden actions in the *Food and Agriculture* section. 2-m. Increase community garden space and accessibility to space. 2-n. Establish educational programs explaining the benefits of: • Participation in urban farming, • Using undeveloped urban land for agriculture, and • Improving the soil using organic amendments. 2-o. Improve San Francisco school lunches to: • Increase their nutritional value with higher vitamin and fiber content from food choices, and higher mineral content by organic growing, and • Decrease the amount of residual pesticides on food. 2-p. Develop techniques for cleaning contaminated property to levels safe for community gardening. 2-q. Establish an audit to determine the accessibility of open space and community garden space. Establish an action plan for increasing accessibility to

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		open and community garden space. 2-r. Promote exercise to reduce ill health and promote a healthier lifestyle.
Preventable, Degenerative Diseases 2-E. Deaths due to preventable, degenerative diseases have been minimized.	2-17. Diabetes-related hospitalizations have been reduced to less than 8,500 per 100,000 persons. (SF = 9,010; CA = 9,017, est.) 2-18. Diabetes-related deaths have been reduced to no more than 34 per 100,000 persons. (SF = 72, est.) 2-19. Deaths due to coronary heart disease have been reduced to no more than 100 per 100,000. (SF = 107; CA = 107) 2-20. Stroke deaths have been reduced to no more than 20 per 100,000 people. (SF = 30; CA = 27) 2-21. The incidence of death due to chronic obstructive pulmonary disease has been reduced to 25 per 100,000. (SF = 32) 2-22. The rate of cancer deaths has been reduced to no more than 130 per 100,000. (SF = 167; CA = 162) 2-23. The incidence of newly diagnosed cancer cases has been reduced to 350 per 100,000. (SF = 449; CA = 380)	2-s. Increase screening and early detection for preventable degenerative diseases. 2-t. Increase public education on the value of calcium in the diet. 2-u. Expand programs to encourage walking and discourage driving.
Mental health 2-F. Unhealthy mental conditions that are preventable or curable	2-24. Suicide deaths have been reduced to 11 per 100,000 people. (SF = 16; CA = 11)	2-v. Expand suicide hot-line hours and the number of counselors available. 2-w. Include workplace-related stress in surveys of the health of San Franciscans.

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
have been minimized.		*(Suggested for managers of the City of San Francisco Health Census)* 2-x. Initiate a study on: • The nature and causes of stress to San Franciscans, and • The reasons people may not take steps to reduce or control their stress. 2-y. Decrease job-related stress by: • Improving working conditions (including well-lit, well-ventilated, ergonomically designed workplaces, and work-breaks) • Encouraging "mental health" days, and • Offering employers incentives to provide stress-management classes. 2-z. Establish more sex education and self-esteem programs for youths. 2-aa. Increase access to more interpersonal skill training. 2-bb. Provide better access to volunteer opportunities more closely tied to the community, using outreach mechanisms such as volunteer fairs. 2-cc. Establish more affordable individual and group counseling programs. 2-dd. Provide public education to de-stigmatize mental health problems and treatment.

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
3. Environmental Factors		
3-A. Injury and illness due to environmental factors in all neighborhoods has been reduced to zero. 3-B. Air, water and soil pollution are negligible. [For additional information, please see the *Air Quality*, *Water and Wastewater*, and *Hazardous Materials* sections.] 3-C. San Francisco parks and recreational facilities are safe and attractive. 3-D. Stress and ill-health caused by particulants produced by industry have been minimized. 3-E. Hazardous waste sites have been cleaned up and new discharges eliminated.	3-1. Historical and existing environmental contamination has been identified. 3.2 Children's risk from environmental lead has been reduced: • The prevalence of blood lead levels exceeding 15 micrograms per deciliter and 25 micrograms per deciliter among children aged 6 months to 5 years has been reduced to no more than 500,000 and zero, respectively. • High-risk lead-exposure neighborhoods and populations have been identified. • The number of children aged 6 months to 5 years receiving lead screening and counseling within high-risk neighborhoods and populations has increased. 3-3. The percentage of children who have blood levels of lead greater than 15 micrograms per deciliter has been reduced to zero. (SF = 4%) 3-4. San Francisco's score on the report card issued by Coleman Advocates for Youth has been increased from C- (1996) to B or better. (The report card is an assessment of conditions in 45 of the City's 150 parks.)	3-a. Ensure that there is a current assessment of all contaminated sites in the city. 3-b. Establish a database of information related to contaminated areas city-wide. 3-c. Increase public and private community awareness of the need for recycling and reduction of toxics use in the home. 3-d. Increase the priority given to public health consequences over economic impact in decisions on the use and disposal of chemicals. 3-e. Minimize local use of industrial chemicals, and encourage use of non-toxic biodegradable alternatives. 3-f. Decrease pollutants causing respiratory ailments. 3-g. Compile information on the health impacts of: • Routine, repeated, low-level exposure to toxic chemicals over time, and • Interacting industrial chemicals and air pollution on immune functions in residents and workers subject to multiple exposures. 3-h. Conduct a survey of the health levels in various areas of the City; analyze the data to determine which

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		environmental factors may contribute to the outcome. 3-i. Expand the number of household hazardous-waste collection days. 3-j. Route commercial vehicles and trucks carrying hazardous materials away from neighborhoods. 3-k. Increase the amount of green space in San Francisco. 3-l. Increase access to community centers and after-school programs. 3-m. Identify measures and resources to maximize environmental clean-up and restoration.
Public Sanitation 3-F. Public sanitation standards have increased beyond state and federal standards.	3-5. The number of garbage containers stored outside which can create unsanitary conditions has been reduced by 50%. 3-6. The number of citizen complaints regarding rodents has been reduced by 40% from 721 to 431 per year. (1995 data)	3-n. Find solutions to the illegal placement of garbage containers. *(Suggested for businesses and enforcement agencies)* 3-o. Store garbage and dispose of food waste properly to reduce the number of rodents in sewers. *(Suggested for businesses)*
Noise 3-G. The environment is sufficiently quiet that human health and the quality of life are not impaired.	3-7. The mean Muni motor-coach fleet noise level has been reduced by 5 dB. 3-8. Noise complaints have been reduced by 25%.	3-p. Enforce noise emission standards for vehicles. 3-q. Limit City purchase of vehicles to models with the lowest noise emissions; reduce unnecessary noise on Muni and BART vehicles. 3-r. Increase by 10% the number of electrically powered vehicles.

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		3-s. Improve the existing community noise regulation and enforcement program. 3-t. Update the existing noise control ordinance and coordinate enforcement procedures between the Health, Police, Building, and Public Works Departments. 3-u. Examine ways of reducing noise nuisance from car alarms.
Vehicles 3-H. Accidents, injury and pollution due to vehicles have decreased to very low levels. 3-I. The number of private vehicles has been minimized, and viable, dependable alternative methods of transportation are available to all.	3-9. Deaths caused by motor vehicle crashes are reduced (from 8 per 100,000 people). 3-10. Hospitalization of pedestrians due to injuries by motor vehicles has been reduced by 20% (to 38 per 100,000). 3-11. The number of vehicles in violation of the State Motor Vehicle Code has been reduced by 25%.	3-v. Increase traffic signs or signals on neighborhood streets, and install more cameras to catch red-light runners. 3-w. Utilize more traffic-calming mechanisms, such as speed bumps, and expand the posting of speed-limit signs in all neighborhoods. 3-x. Increase the availability of public transportation and increase facilities for bicycle use within the city. 3-y. Decrease air pollution by automobiles and other toxic emissions.
Unintentional Injuries 3-J. Unintentional injuries have been minimized.	3-12. Deaths due to unintentional injuries have decreased to 29 per 100,000 people. (SF = 33; CA = 28) 3-13. Non-fatal hospitalizations due to unintentional injuries have been reduced to less than 650 per 100,000 persons. 3-14. Deaths from falls and fall-related injuries have been reduced to no more than 2 per 100,000 people. (SF = 11, est.)	3-z. Reduce pedestrian injury through law enforcement, public education, city planning and intersection design (such as timing of lights) to make crosswalks safer.

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	3-15. Hospitalizations due to injuries from falls have been reduced to 315 per 100,000 people. (SF = 351, est.; goal signifies a 10% reduction)	
4. Substance Abuse and Violence		
Substance Abuse 4-A. Injury and death due to substance abuse is virtually zero. 4-B. The rate of lung cancer deaths has been reduced to no more than 42 per 100,000. (Incidence [not mortality] for SF = 82; CA = 77)	4-1. The prevalence of smoking among adults has been reduced to no more than 15% of the population. (SF = 21; CA = 20)	4-1-a. Provide smoking cessation services to the diverse populations of San Francisco through direct service and promotion of a statewide smokers' help-line in six languages. 4-1-b. Adopt policies that prohibit sponsorship of events by the tobacco industry, including art-museum and performing arts exhibits.
	4-2. Smoking by teens has been reduced: • Teens' smoking has been reduced to 5% of the population. • Teens' susceptibility to take up smoking has been reduced to 38%. • Tobacco purchases by youths have been reduced to 20%.	4-2-a. Prohibit tobacco self-service displays and require vendor-assisted sales only. 4-2-b. Establish a local tobacco license, revocable if the retailer sells to minors.
	4-3. Exposure to environmental tobacco has been reduced: • The percentage of the population exposed to environmental tobacco smoke at work has been reduced to less than 5% (excluding bars).	4-3-a. Actively enforce Labor Code 6404.5 and Article 19F which prohibit smoking in workplaces, including restaurants. 4-3-b. Pass and enforce a local ordinance prohibiting smoking in bars to protect bar workers from environmental

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	• The percentage of children exposed to smoke at home has been reduced to 30%.	tobacco smoke if the state law does not go into effect on January 1, 1997. 4-3-c. Educate parents on the health effects of environmental tobacco smoke on children.
	4-4. The average number of tobacco ads at point-of-purchase in retail stores has been reduced by 25% (from 24 to 18 ads per store). [ref. 1]	4-4-a. Prohibit outdoor and point-of-purchase advertising of tobacco and alcohol products within 2,000 feet of schools and playgrounds. 4-4-b. Actively enforce current laws regarding signs that: • Prohibit more than one-third a window's area to be covered by signs; • Prohibit more than one banner sign; 4-4-c. Increase enforcement of prohibition of sandwich-board signs. 4-4-d. Increase the number of advertisements *against* tobacco and drug use.
	4-5. Substance abuse-related deaths have been reduced: • To no more than 16 per 100,000 drug-caused deaths. • Homeless deaths due to substance abuse (drugs and/or alcohol) have been reduced 25% to 54 annual deaths. 4-6. Annual drug abuse-related hospital emergency department visits have been	4-e. Provide lab analysis of street drugs from anonymous users to test injectable drugs for toxicity to prevent unintentional poisonings among substance abusers.

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	reduced by 20%: • Heroin (from 2,133 to 1,706); • Speed (from 593 to 474); • Cocaine (from 1,155 to 924). 4-7. Alcohol-related motor vehicle deaths and injuries have been reduced by 20%. 4-8. Injuries caused by alcohol-related motor vehicle crashes have been reduced to no more than 100 per 100,000 people. (SF: 1988-93 average = 127) 4-9. The number of people on waiting lists for publicly-funded substance abuse treatment services has been reduced by 60%. 4-10. The proportion of young people who have used alcohol, marijuana, and cocaine in the past month has been reduced. • Alcohol/aged 12-17: 12.6% • Alcohol/aged 18-20: 29% • Marijuana/aged 18-20: 7.8% • Cocaine/aged 18-25: 2.3%.	
Violence 4-C. The incidence of death and injury due to violence has been reduced to zero.	4-11. Homicides have been reduced by 5% annually. 4-12. Homicides among black men aged 15-34 have been reduced to 72.4 per 100,000. 4-13. Aggravated assaults have been	4-f. Set policies and implement strategies that increase the constructive use of entertainment media to de-glamorize violence and promote nonviolent social norms. 4-g. Establish a public-education

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	reduced to less than 550 per 100,000 people. (SF: 1993 = 600, 1989 = 644; CA: 1993 = 611, 1989 = 600.) 4-14. The percentage of battered women and children who are turned away from shelter for lack of space has been reduced by 5% annually. 4-15. The incidence of maltreatment of children younger than age 18 has been reduced to less than 25.2 per 1,000 children. 4-16. Elder abuse has been reduced by 25%. (Difficult to measure, but approximately 900 reports per year) 4-17. The incidence of robberies has been reduced to less than 700 per 100,000 people. (SF: 1993 = 1,140, 1989 = 694; CA: 1993 = 398, 1989 = 355) 4-18. Rape and attempted rape of women aged 12 and older has been reduced to no more than 108 per 100,000. 4-19. The rate of hospitalizations due to self-inflicted injury has been reduced to 51 per 100,000 people. (SF = 57, est.) 4-20. The incidence of weapon-carrying by adolescents aged 14 – 17 has been reduced by 20%. (SF = 19%) 4-21. Robberies have been reduced to less than 700 per 100,000 people. (SF: 1993 = 1140, 1989 = 694; CA: 1993 = 398, 1989 = 335)	campaign on the effects of institutional and cultural racism within the communities of San Francisco. [ref. 3] 4-h. Create a climate of social change that makes violence unacceptable behavior by: • Including violence-related topics in public and professional education and • Including violence as a public health issue addressed by the Public Health Department. [ref. 3] 4-i. Increase employment opportunities and address other core problems associated with violence. [ref. 3] 4-j. Initiate a media campaign addressing sexist, racist and violent imagery. [ref. 3] 4-k. Enact local ordinances that restrict gun sales and transfer related revenue to public health purposes. 4-l. Advocate for state and federal legislation that taxes gun sales and uses a percentage of the taxes for violence-prevention projects. [ref. 3] 4-m. Advocate on a national level for an increase in gun control. 4-n. Increase education programs on the causes and prevention of violence.

References

1. *Operation Storefront Data = 1995*, (California Department of Health Services, Tobacco Control Section, 1995) [Call The Department of Public Health at 554-9151 for a copy of this report]

2. *Tobacco Use in California: Regional vs. State Level Changes, 1990-1993, San Francisco County* (University of California, San Diego)

3. *African American Task Force, Year 2000 Health Promotion Objectives and Recommendations for California* (1992). [Call The Department of Public Health at 554-2741 for a copy of this report]

4. San Francisco SB 697 Community Needs Assessment, The Indicator Data Report (City of San Francisco, 1996).

PARKS, OPEN SPACES AND STREETSCAPES

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Words defined in the *Definitions* section following the Parks matrix appear in italics when first used in this section.

Introduction

Parks, squares, street trees, and other *greenery* and *open space* in San Francisco are vital assets of a healthy and livable city. The ecological benefits of these resources are substantial: landscape improves air quality and lowers dust levels, provides vital *habitat* and corridors for birds and wildlife, reduces water run-off and erosion, and allows groundwater recharge. Trees and other plants absorb carbon dioxide and thus lower the city's contribution to global warming, an important capacity since the phenomenon of global warming has recently passed from theory to confirmed reality.

San Francisco's public spaces, parks, trees and open spaces also have profound social and economic functions in our city that are often overlooked. These resources enable people to connect with each other and with the *natural* world. They bring residents and visitors together for enjoyment, recreation, spiritual renewal, and education. They enhance the experience of walking, shopping, working, traveling and living in the city. Parks and open

spaces also provide gathering places to celebrate the arts and cultural diversity, and engage in political discourse and athletic competition. As such, our civic landscape is not just an ecological asset but **is an investment in the social fabric of the community and thereby becomes a critical element in the economic development of the city, too.**

For example, even though numerous studies have shown that parks and street trees act to increase property values and hence generate more tax dollars for city coffers, few cities take the necessary steps to invest in these revenue-generating civic amenities. In San Francisco, like many cities, we have been reducing our investment in our street-tree and park programs. This trend must be reversed if the city is to capture both the economic and ecological benefits of its *urban forest* and spark the civic involvement in this resource that can build a sustainable social fabric in the next century.

A sustainable city provides adequate (or even generous) access to parks and safe and numerous playgrounds and recreation facilities for its residents. What city residents do not appreciate beautiful, tree-lined boulevards, which for some become their main link with nature? San Francisco, however, is far below the national standard of 10 acres of open space per 1,000 residents (5.5 acres in San Francisco) and 200 street trees per street mile (80 to 100 in San Francisco).

The first goal in creating a sustainable civic landscape must therefore be the ***provision*** of attractive and numerous vegetated oases and tree-lined streets, keeping in mind that whenever decisions are made related to landscaping also affect the wildlife with which we share the planet.

A second critical goal is the ***maintenance*** of this vital resource. Parks, squares, and street trees are capital improvements, just like investments in roads and civic infrastructure. It is bad business practice to allow investments to be squandered. Yet, as illustrated by the devastating storms of the winters of 1994 and 1995, park and street trees are highly vulnerable, and require a consistent, annual reforestation and landscape improvement plan, as well as regular maintenance of infrastructure and recreation facilities in both the neighborhood parks and Golden Gate Park.

The basis of adequate maintenance is two-fold: **additional funding** (Goal 3) and **expanded public participation** (Goal 4). Financial resources are needed not only to renovate our parks, squares, recreation facilities, and *streetscapes*, but also to ensure that the City creates a first-class system in order to reap all of its ecological, economic and social benefits, and to protect the investment already made in these areas.

San Francisco must also expand the civic commitment to, and the opportunities for, public participation in supporting our "green" resources and recreational facilities. National studies show that resident commitment to parks and open spaces, recreation and street-tree programs becomes stronger with increased involvement in hands-on activities to design, create, and maintain these amenities. Programs that involve residents in the maintenance of parks, squares and streetscapes provide information and motivation to residents to support and expand city services in these areas.

Volunteer programs are not, however, an acceptable substitute for adequate civic commitment to fund urban forest and recreation programs. Volunteers cannot necessarily provide the consistency over time required in the normal maintenance of a living resource. Nor is relinquishing management of public greenery to the lowest bidder an effective long-term strategy for maintenance of this irreplaceable civic asset. A living resource requires consistent funding for regular, long-term management planning. It also requires a reliable, skilled and experienced work force to observe the landscape over time and to recommend maintenance based on these observations. Such recommendations do not come from the lowest bidder with the cheapest, short-term labor.

San Francisco needs beautiful, safe and inviting parks and playgrounds, and tree-lined streets. Some objectives and actions needed to realize the four key goals identified by the Parks, Open Spaces and Streetscapes Circle are detailed below, but public engagement in this ongoing process of planing and taking action on the various actions will be essential to sustain and enhance this tremendous natural and civic resource.

Sustainability Strategy

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. Provision of Parks, Recreation and Open Spaces To provide parks, recreation facilities, open spaces, streetscapes, waterfronts, and shorelines: • For the benefit, enjoyment, health and well-being of San Francisco's residents, visitors, and wildlife and • To celebrate San Francisco's unique sense of place.	**1-A. Parks and Recreation Facilities** A neighborhood park or open space is within a ten-minute walk of every home. Parks of city-wide interest are easily accessible to every resident by foot, bicycles, or public transit. Parks, open spaces, and recreational facilities have been made safe enough to allow use by all residents. Parks are no longer used as through-ways, and auto parking that is not park-related has been eliminated.	1-A-1. Development of five new parks in under-served areas has begun. 1-A-2. Appropriate unused or underutilized spaces have been reclaimed for public use. 1-A-3. Existing pedestrian, bike and public transportation linkages to and within city-wide parks have been improved to increase accessibility to under-served areas. 1-A-4. Safety issues in parks, open spaces, and recreational facilities have been identified and are being addressed.	1-A-a. Inventory all existing parks, open spaces and recreational facilities (including lands administered by public schools, private schools, the San Francisco Water District, Caltrans, the Department of Public Works, San Francisco Port Authority, private developers, and other institutions) to: • Reveal which residents cannot reach a park within a ten-minute walk. • Identify opportunities to create new parks or open spaces for broad public use. • Compile census data on use of habitats by wildlife and plants. • Diagram linkages between parks and open spaces. (An example is the downtown pedestrian plan.) 1-A-b. Expand parks and recreation facilities (identified by inventory) for broader public use to create new

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		1-A-5. A community-based safety program for parks, open spaces, and recreational facilities has been implemented. 1-A-6. Auto traffic within parks has been reduced by 25%.	opportunities in under-served communities. 1-A-c. Define what "easily accessible" means in the context of public transit travel time to citywide parks. 1-A-d. Analyze frequency, convenience, trip length and crowding of existing transit connections between under-served neighborhoods and city-wide parks. 1-A-e. Propose immediate and long-term modifications to the existing public transit system to improve transit linkages to major parks, including a shuttle system to and within Golden Gate Park. 1-A-f. Create pedestrian trail linkages for the Bay Trail, San Francisco Bay Area Ridge Trail, and Juan Bautista de Anza National Historic Trail; and between major parks. 1-A-g. Designate a network of safe bike-ways connecting and within major parks. 1-A-h. Expand the downtown pedestrian plan to include neighborhood park linkages; make the information available to the public. 1-A-i. Determine baseline statistics for crime and injury in all parks and open spaces.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			1-A-j. Analyze programs (both within San Francisco and in other areas) that have successfully increased safety in parks. Assess their applicability to San Francisco and develop a program to use their experience. 1-A-k. Develop and fund a city-wide effort to improve park access for residents with all degrees of mobility. 1-A-l. Undertake measures to reduce vandalism. 1-A-m. Analyze options and choose roadways in parks that will be closed to auto traffic or on which auto traffic will be restricted.
	1-B. Recreation All recreation facilities are safe and usable by the public. Safe play areas are provided throughout the City. Passive recreational opportunities are promoted (including gardening, bird-watching, and wildlife appreciation). Adequate public property for all recreational activities	1-B-1. 50% of identified unsafe recreational facilities have been made usable to the public. 1-B-2. Five recreational facilities in previously under-served neighborhoods have been added and the others have been improved. 1-B-3. Parks with high crime rates and vandalism have safety improvements and extra services and	1-B-a. Create community-supported, safe play areas in housing developments. 1-B-b. Establish a dialogue between government agencies, schools and the general public about opportunities to open school facilities for recreational purposes after regular school hours. 1-B-c. Develop a priority list of recreation facility needs in under-served areas.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	has been acquired.	patrols using innovative approaches to crime.	
	1-C. Streetscapes Streets have been improved to make pedestrian, bike and transit use safe and efficient, and make neighborhoods more livable by reducing noise, visual clutter (such as utility lines), traffic congestion, and air pollution, and by introducing landscaping to all neighborhoods. Street plantings use site-appropriate species designed to increase biodiversity. The total number of trees planted has increased by 50,000. All business projects allocate green space.	1-C-1. Five major arteries have been newly landscaped to create safe and comfortable pedestrian, bike and transit routes connecting neighborhoods to each other and to large open spaces. 1-C-2. The number of street trees has been increased by 4,000 trees per year. 1-C-3. Planting areas have been increased by 2,000 square feet per year. 1-C-4. Streetscape improvements have been implemented on ten miles of neighborhood streets. 1-C-5. The number of streets that have their utility lines undergrounded has doubled each year. 1-C-6. All new	1-C-a. Work together to develop a vision and a plan for the City's streets. *(Suggested for government agencies, community organizations and the public)* 1-C-b. Enforce regulations against parking on sidewalks. *(Suggested for Department of Parking and Traffic)* 1-C-c. Prepare landscape plans on major streets and boulevards, including both engineered features (for instance, widening sidewalks) and planting improvements. *(Suggested for Department of Public Works)* 1-C-d. Provide information about selection, planting, and maintenance of trees and other landscape materials that are native, drought-resistant or wildlife-supporting and appropriate for streetscaping. 1-C-e. Coordinate an increase in tree planting by • Securing additional funding or • Working with other organizations such as Friends of the Urban

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		business projects have a dedicated amount of green space.	Forest. *(Suggested for Department of Public Works)* 1-C-f. Install flower boxes and planters. *(Suggested for merchant associations and neighborhood groups)* 1-C-g. Amend the planning code to require sellers of homes to plant street trees, if trees are not already present. 1-C-h. Provide new homeowners with information concerning street tree maintenance. *(Suggested for the Board of Realtors)* 1-C-i. Plan streets to accommodate rest and respite by providing appropriate seating. 1-C-j. Enforce city regulations requiring green spaces in all business projects
	1-D. Private Gardens Front and back-yard open spaces act as havens for wildlife and provide opportunities for gardening.	1-D-1. An additional 10% of backyards have been revegetated. 1-D-2. A backyard wildlife sanctuary program has been developed. 1-D-3. A "heritage tree" ordinance has	1-D-a. Enforce zoning requirements concerning lot coverage and planting in front of residences. 1-D-b. Provide information to the public about the incorporation of diverse plantings on back-yard mid-block open spaces to reduce water and chemical use, lower maintenance costs, and increase biodiversity.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		been enacted that allows people to self-nominate trees on private property.	1-D-c. Encourage local nurseries to provide and promote wildlife-supporting, drought-tolerant and San Francisco-native plants. 1-D-d. Establish a media campaign to promote the benefits of gardening, street trees and wildlife sanctuaries to the community. 1-D-e. Give landlords and property owners incentives to maintain, plant, and provide access for building residents to vegetated back yards.
	1-E. Diversity of Settings Parks, open spaces, and recreational facilities reflect the diversity of San Francisco residents. San Francisco residents experience and create natural settings in parks and open spaces. Every neighborhood throughout the City has settings that are quiet "refuge" open space without automobile traffic and typical city noise, odor, and ambiance. San Francisco has a diverse array of park settings and recreation	1-E-1. Two open spaces have been converted into quiet "refuge" open spaces. 1-E-2. Civic Center open space (UN Plaza, Fulton Street, and Civic Center Plaza) has been revitalized to showcase the inter-national, cultural, ecological, and technological diversity of the City. 1-E-3. At least three areas have been restored in the City to natural conditions, per Policy 13. 1-E-4. Ten mini-parks have been converted	1-E-a. Identify and inventory "refuge" open spaces. 1-E-b. Develop and design guidelines for "refuge" open spaces. 1-E-c. Convert a "non-refuge" open space into a "refuge" space or develop a new "refuge" open space. 1-E-d. Support the restoration of open spaces to their natural condition with wildlife and plants, in coordination with existing programs. 1-E-e. Promote San Francisco ecological resources to visitors. (*Suggested for San Francisco Visitors and Convention Bureau*) 1-E-f. Encourage appropriate temporary community events in a variety of open spaces, with careful management to assure a minimum of

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	opportunities (including play, passive recreation, wildlife habitat, community gardening, and local cultural programs) that satisfy a wide range of community and ecosystem needs. A measurable increase of habitats suitable for a diversity of wildlife and plants has been achieved. A greater diversity of temporary use and activities in public space occurs.	into community gardens.	negative impact. 1-E-g. Establish a community-wide process to revitalize Civic Center. 1-E-h. Restore dunes at Ocean Beach and wetlands at Crissy Field. 1-E-i. Re-evaluate use of mini-parks based on community needs and interests. 1-E-j. Establish an aggressive program to create new opportunities for community gardens.
	1-F. Life-Long Learning *Life-long learning* is promoted within our parks, open spaces, and recreational facilities. Each school is linked to a park or open space for learning and stewardship purposes. Parks are used as outdoor classrooms to create community research and teaching teams that promote stewardship of nature and understanding of	1-F-1. State environmental education requirements are met for all youths graduating from high school. 1-F-2. Where appropriate, features of open spaces are interpreted through signs and other media. 1-F-3. Maps showing all the natural habitat areas in San Francisco	1-F-a. Add educational content to the work of volunteers and paid staff in maintaining parks. 1-F-b. Add gardening to school activities. 1-F-c. Establish a program to train children and youths to act as docents of parks. 1-F-d. Use interpretive signs and other media in parks describing park resources; both natural and cultural. 1-F-e. Develop a program about wildlife for schools.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	local place. Outdoor spaces are used to educate the public about nature and *horticulture* (including tree care and gardening).	have been developed. 1-F-4. A nature trail at Golden Gate Park with interpretive signs to teach the public about natural features has been developed (possibly the area along the chain of lakes).	1-F-f. Promote outreach to neighborhood organizations to describe wildlife in their areas and encourage citizen participation in promotion of diverse habitat.
2. Maintenance To maintain our parks, open spaces, recreation facilities and streetscapes through practical, economic, creative and collaborative means to achieve clean, safe, inviting and inspiring spaces for people and wildlife.	2-A. Action-oriented maintenance and management plans are completed for every open space area. These plans are based on community input and are flexible to reflect changing community needs and interests. 2-B. All parks, recreational facilities, streetscapes, and open space areas are maintained to ensure long-term health, sustainability and biodiversity. 2-C. Reforestation and revegetation plans are complete and implemented for all parks, open spaces and streetscapes.	2-1. Condition assessments have been completed for 25% of all parks, streetscapes and other open spaces to provide guidelines for reforestation, recreational uses, natural habitat preservation, horticultural maintenance, facility maintenance, and safety. Assessments involve on-site staff, specialists and neighborhood support groups. 2-2. Effective and responsive maintenance programs have been established to provide annual maintenance for each park and recreation facility.	2-a. Identify recreation facilities that are currently unsafe or unusable. 2-b. Develop new and implement existing policies to bring biodiversity stewardship considerations into all management decisions affecting open spaces. 2-c. Develop public-private agreements to improve San Francisco's unique and historical parks, open spaces, and street trees. 2-d. Increase staff capabilities in natural areas management in all City departments that have a relationship with parks and open spaces. 2-e. Build staff volunteer coordination skills in order to incorporate volunteers into maintenance programs. 2-f. Train gardeners, foresters and other landscape maintenance personnel in sustainable landscape

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	2-D. Only integrated pest management (IPM) techniques are used. 2-E. Biodiversity considerations are integrated into all open space management decisions. (For example, certain areas within parks and watersheds are managed for wildlife habitat.) 2-F. Maintenance is promoted as a form of recreation and education. 2-G. The feral cat population in the city has been significantly reduced. 2-H. 120-140 street trees are present per street mile. 2-I. 200 community gardens are maintained. 2-J. Appropriate landscaping is maintained for all public facilities including parks, schools, housing developments and public buildings.	2-3. All (approx. 21,000) public street trees are inspected annually. 2-4. 7,000 street trees are pruned and serviced annually. 2-5. Naturalist and biological capabilities of public agencies that deal with public open spaces have been expanded. 2-6. IPM measures are used in park and landscape maintenance. 2-7. Sustainable landscape guidelines are implemented. 2-8. 150 community gardens are maintained. 2-9. Landscaping plans for all public facilities have been completed. 2-10. Recreation and Parks Department staff have been trained to work with community volunteers to help with maintenance of parks and open spaces.	guidelines. 2-g. Increase biological and naturalist training for staff who maintain public open spaces. 2-h. Develop legislation to reduce the feral cat population in parks. 2-i. Thin, cull and replant trees to ensure a diverse forest. 2-j. Invite community-based agencies to assist park personnel with maintenance and management of parks, open spaces and street trees. 2-k. Incorporate environmental concerns into the mission statements of those departments involved with the maintenance of public open spaces. 2-l. Maximize the use of volunteers and schoolchildren as partners with maintenance personnel in parks, open spaces and streetscapes. 2-m. Promote volunteer habitat restoration work parties in public open spaces. 2-n. Utilize trees and plant material that will attract birds and other wildlife. 2-o. Maintain shrubbery and tree snags for birds. 2-p. Encourage public and private schools to participate in tree planting

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	2-K. Stewardship is provided for all street trees.		and maintenance programs. 2-q. Recycle and use city-generated organic material in landscape programs. 2-r. Maximize use of gray water in landscaping.
3. Participation To promote and strengthen community participation in the planning, creation, management and stewardship of our parks, open spaces, recreational facilities and streetscapes.	3-A. Neighborhood park groups play a leading partnership role with public agencies in stewardship, planning, programming and creating open spaces, parks, recreational facilities, and streetscapes. 3-B. The general public has a heightened awareness about and involvement in open space, park, and recreational issues. 3-C. The business community is a major participant in providing staff and volunteers to assist with park and recreation programs.	3-1. Public-sector commitment to park and open-space stewardship as well as recreational facility management and maintenance is expanded and formalized. 3-2. Private-sector commitment to provide volunteers and expand participation in all aspects of park, recreation, open spaces and streetscapes has been expanded and formalized. 3-3. A park coalition or council is operating to provide technical assistance to neighborhood park groups to: • Gain access to funds and resources,	3-a. Empower neighborhood park councils/ support groups to play a strong role in the design, creation, and ongoing management of parks. 3-b. Provide training in volunteer management to public employees. 3-c. Provide flex-time for public and private employees to be able to accommodate weekend volunteer activities in public parks. 3-d. Provide a business-tax reduction incentive for companies that donate at least 20 hours per year of volunteer time per full-time employee to work in public park and recreation facilities or provide design and professional services to neighborhood park councils.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		• Assist with design and management questions, and • Link educational programs (such as native plant protection and habitat creation) to neighborhood parks.	
4. Funding To build and improve the financial and other resources to adequately provide and maintain the quality, quantity and equitable provision of our parks, open spaces, recreation facilities and streetscapes.	4-A. A permanent, dedicated source of funding for parks, recreational facilities, open spaces and street-scapes has been established. 4-B. Financial solutions have been created through a collaborative process that includes stakeholders: government, labor unions, citizens, non-profit organizations, and businesses. 4-C. Public sector staffing has been expanded and the mission of public sector employees in park, open space, and street tree management has been revised to reflect	4-1. Adequate city funding for basic services and maintenance has been ensured. 4-2. Additional private funding for improvements of parks, open spaces, streetscapes has been generated. 4-3. A streamlined and consolidated system for site and resource utilization among city departments, including equipment pooling, has been created. 4-4. Cooperation has been increased among agencies to coordinate and streamline available public	4-a. Create a mayor's task force with representatives from all stake-holder groups to draw up an "options list" of financial solutions aimed at creating and maintaining a first-class park, recreation and streetscape program in San Francisco. 4-b. Secure City endorsement and private funding for planning and implementation to revitalize Civic Center. 4-c. Execute a joint powers agreement between the Recreation and Park Department and the School District to utilize school sites for after-school program and community use. 4-d. Create an equipment pool among city agencies with landscaping functions to avoid duplication and reduce costs. 4-e. Create a labor pool of environmental service workers (an

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	opportunities to work with volunteers and to develop creative partnerships with non-profits, private business, and private donors. 4-D. Additional funding has been secured to move utilities underground.	funding. 4-5. An Open Space Plan reauthorization process has begun.	existing classification) to be used in gardening activities by any city agency with a landscaping function on an as-needed basis. 4-f. Establish an earmarked fund for park and recreation fees with access only by the Recreation and Park Department. 4-g. Require that a movie fee be paid to the Recreation and Park Department Fund from any movies shooting scenes of or in city parks, squares, and maintained open spaces. 4-h. Establish neighborhood outreach to maximize the use of PG&E funds for moving utilities underground. 4-i. Initiate a joint City/community-based fundraising and maintenance pilot for neighborhood parks. 4-j. Create a vehicle for a major civic campaign to improve city park and recreation facilities to a first-class level and to endow their long-term maintenance. 4-k. Launch an outreach and education plan for renewal and possible expansion of the open space fund to be in place for voter renewal in 2004. 4-l. Allocate 1% of the hotel tax for parks, open spaces, and street trees. 4-m. Create a sports-star sponsorship campaign to encourage Bay Area sports figures and sports franchises to fund related recreation activities such

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			as tennis, baseball, softball, soccer, and basketball. 4-n. Terminate the practice of using the Open Space Fund for maintenance of existing parks.

Definitions of Terms Used In The Parks, Open Spaces and Streetscapes Matrix

Greenery. Living plants, regardless of size, whether colored green, gold, brown, or a combination of colors.

Habitat. A geographic area whose combination of resources (such as food, cover, water, temperature, precipitation, predators, etc.) promotes the survival and reproduction of individuals of a certain species.

Horticulture. The study and practice of cultivating plants.

Life-long learning. The activity of seeking out new knowledge or developing a skill, and participating in educational activities over the course of a person's entire life.

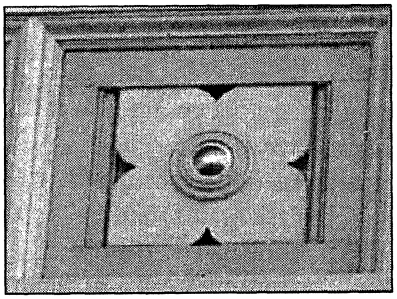
Natural. Plants, wildlife and humans in settings which are not built. Meadows, forests and gardens are natural areas.

Open space. Any outdoor public land not under the jurisdiction of the San Francisco Recreation and Parks Department, (that is, not a park or recreational facility) and any private space which is in general use by members of the public (such as a plaza or courtyard).

Parks. Any outdoor, planted areas that are under the jurisdiction of the San Francisco Recreation and Parks Department, maintained for the use and enjoyment of humans, wildlife and birds. "Parks" also include recreational facilities, which are indoor or outdoor spaces, managed by the San Francisco Recreation and Parks Department, used for athletic activities.

Streetscapes. City passageways: streets, boulevards and alleyways. They encompass public spaces such as roadways and sidewalks, semi-private spaces such as residential front yards and commercial terraces, and include the street trees, flower-boxes and planters that enhance these spaces.

Urban forest. The collection of trees growing in the city, and the plants that grow beneath them.



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Introduction

Garbage has always been an issue of controversy for San Francisco residents and elected officials. Local debates about using trash for fill in San Francisco Bay and the public health impacts of proposed municipal incinerators were a fixture of local politics for much of the first half of the 20th century.

The advent of modern landfills in neighboring cities, which provided a convenient means to export the problem, and the invention of packer trucks, which allowed "efficient" collection of solid waste, quelled local debate for a time. Unfortunately, these changes also displaced many of the traditional recycling activities performed by the local scavenger companies, whose prior practice was to sort trash for reusable commodities such as paper, rags and metals.

Beginning with Earth Day 1970, the environmental and recycling movement re-opened public debate by establishing the connections between the "throw-away" society, the dangers of landfilling and incineration, and broader resource-conservation issues. It became clear that Americans were burying in landfills unconscionable—and often toxic—quantities of natural resources, including the world's forests (in the form of paper and wood products), non-renewable petroleum reserves (in the form of plastics and tires), other limited natural resources (including semi-precious metals like aluminum). Even nutrients from diminishing agricultural top-soil were being buried in the form of food waste. Independent recycling centers were opened in the City to try to stem this colossal waste.

Solid Waste

In 1989 the state legislature passed the Integrated Waste Management Act, requiring California counties to divert 50% of what they send to landfill by the year 2000. Around the same time, the City started its curbside residential recycling program and many businesses began establishing recycling programs in the workplace. There remains a fundamental challenge: local solid waste generation is increasingly the result of broader national and international market trends, including increased production of disposable products and the use of packaging as a marketing tool. Efforts to achieve sustainable urban waste management must tackle the difficult question of commodities and packaging arriving from distant sources, used and discarded locally, and processed and returned to distant manufacturers and agricultural users.

San Francisco has a remarkably high *per capita* waste-generation rate—an average of 7 1/2 pounds of waste and recyclables per person per day, compared with a national average (and Americans are the biggest trash-producers in the world) of 5 pounds per person. Over 70% of this waste is generated by businesses and institutions. Although the City has a reasonably high recycling rate (29% by current estimates), San Francisco policy-makers, businesses and consumers must commit to drastic changes in the way resources are treated.

The three fundamental approaches to reducing waste are 1) to avoid creating waste in the first place, 2) to purchase durable, repairable products and reusable packaging, and 3) to purchase more products made from recycled materials in order to strengthen commodities markets for recovered materials. These strategies, in addition to expanding access to neighborhood recycling centers and improved recycling collection and processing programs that target more materials, will reduce San Francisco's waste stream.

A commitment to waste reduction will yield significant rewards beyond resource conservation and reduced landfilling. Recycling and waste reduction represent a major local-economy growth sector that is still largely untapped. Recycling and reuse are significantly more labor-intensive than garbage hauling, and create a new source of jobs in collection, processing, and repair or manufacturing—jobs for people with low skill levels that have become increasingly scarce in San Francisco. Business taxes from such recycling and reuse businesses will also expand local government revenues.

The City has another major incentive to reduce landfill dependence. Without a municipal landfill within city limits, San Francisco depends on exporting waste to Alameda County for landfilling. The current, long-term landfill contract requires that San Francisco maintain a higher recycling rate than Alameda County. To meet this condition and to preserve the City's allocated landfill space, the San Francisco Recycling Program, in conjunction with other departments, such as the Bureau of Street Environmental Services, the Bureau of Water Pollution Control, and the Recreation and Park Department, has been working to implement many of the policies and programs suggested in this plan.

To date, waste reduction has been largely voluntary. A more effective approach must include economic incentives that make it more expensive to "waste," and more cost-effective to recycle and reuse. Eventually, consideration must be given to mandatory measures, including disposal bans on locally recyclable materials or mandatory recycling for businesses and residents. Finally, businesspeople in every economic sector—including the construction, manufacturing, wholesale, retail and service industries—must take responsibility for wise resource use.

True sustainability, which implies eliminating garbage collection service and landfilling—will require dramatic changes to almost every economic transaction. Moving toward sustainability will transform many of the day-to-day activities of consumers, workers, and business people. There is no time like the present to begin.

Sustainability Strategy

GOALS
To convert our waste-minded culture and attitudes to a resource-efficient ethic. To maximize sustainable uses of natural resources and to eliminate solid waste generation.

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
Waste Generators		
A. The San Francisco public has been educated about the value of natural resources and motivated to reduce their consumption and disposal.	A-1. Public education programs have been expanded — targeting students, residents, workers, and visitors— demonstrating the value of natural resources and instilling a resource-efficient ethic.	A-a. Continue working with homeowner associations, neighborhood groups, building managers, and recycling providers to encourage residents to recycle. (*Action for city agencies*) A-b. Increase the use of hands-on environmental education in schools to promote the value of natural resources and the need for waste prevention and recycling. A-c. Expand "shop environmentally" programs to increase consumer awareness about resource-efficient products and packaging. A-d. Develop waste reduction training and education programs for businesses. A-e. Educate visitors about San Francisco's recycling programs. (*Action for the tourist industry*) A-f. Advertise and promote the successes of city-wide efforts to reduce disposal and increase waste reduction and

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		recycling. (*Action for the San Francisco Recycling Program*) A-g. Promote community-based programs that recycle materials, provide jobs for disadvantaged individuals, and educate residents about waste prevention. A-h. Educate designers, architects, and contractors about resource-efficient design and building for reuse and recyclability. A-i. Increase the use of multi-lingual educational and promotional materials that focus on waste reduction.
B. *Per-capita* waste generation has been reduced by 100%.	B-1. *Per-capita* waste generation has been reduced by 50%. B-2. 85% of households participate in a recycling program.	B-a. Increase and publicize incentives to encourage residential participation in recycling and waste-reduction programs. B-b. Promote home composting and develop convenient composting options for apartment dwellers. B-c. Encourage involvement in community-based composting projects such as community gardens.
C. All San Francisco businesses and institutions have eliminated solid waste generation.	C-1. 75% of San Francisco businesses and institutions participate in a recycling program. C-2. The use of reusable products and packaging has increased.	C-a. Increase and publicize incentives to encourage commercial participation in recycling and waste-reduction programs. C-b. Create a refuse rate structure that encourages commercial recycling and waste reduction. C-c. Coordinate promotional and outreach messages and technical assistance to businesses. (*Action for city agencies and local business organizations such as the Bay Area Council's Environmental Committee and the Recycled Paper Coalition*) C-d. Gather and publicize success stories on how much money local businesses and institutions have saved by systematically implementing recycling and waste-reduction

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		programs. C-e. Promote San Francisco as a business-friendly community by: • Promoting the City's Recycling Market Development Zone, • Issuing business recycling awards, • Gathering data and case-study information on local success stories, • Working closely with local business organizations, and • Offering free technical assistance, such as audits of businesses' waste streams. C-f. Encourage suppliers to ship goods in returnable packaging. (*Action for businesses and institutions*) C-g. Organize a summit between manufacturers, recyclers, and materials suppliers to discuss ways to incorporate "design for recycling" into product development. C-h. Update **The Bay Area Green Pages** and promote environmentally friendly businesses. C-i. Increase use of diaper services at institutional settings (such as hospitals and clinics). C-j. Require newspaper and magazine distributors with public boxes to recycle over-issue publications. C-k. Develop an educational program focused on fast-food packaging alternatives. C-l. Develop procurement policies that require minimal packaging, and reusable and returnable packaging. (*Suggested for businesses*) C-m. Develop green purchasing criteria and distribute it to

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		businesses and institutions. (*Suggested for city government*)
D. City government is a model of resource efficiency and it lobbies, coordinates, and leads others to achieve sustainability.	D-1. City government purchases only paper products with an average of 50% post-consumer recycled content. D-2. City government diverts 60% of its current waste generation. D-3. City government has increased the promotion of the City's accomplishments to the community. D-4. All City departments participate in a recycling program.	D-a. Pass a resolution that calls on the City to be a model of waste reduction and recycling. D-b. Develop specifications for products that contain at least 50% post-consumer recycled content. (*Action for City purchasing agents*) D-c. Create financial incentives for departments that recycle and reduce waste, including a system whereby disposal cost savings are passed through to individual departments. D-d. Develop a tracking system for city departments to document and quantify waste reduction. D-e. Increase internal and external publicity and promotion of San Francisco's accomplishments in the areas of recycling, waste reduction, and recycled-product purchasing through a multi-media educational campaign. D-f. Systematically incorporate attentiveness to recycling, waste reduction, and purchase of recycled or reused products into job descriptions and performance evaluations. D-g. Organize meetings of department leaders to promote sharing of information about department accomplishments.
E. Litter and illegal dumping have been eliminated in San Francisco.	E-1. The volume of litter generated and materials illegally dumped in San Francisco has been reduced by 50%.	E-a. Increase the enforcement of litter and illegal dumping laws. E-b. Increase the penalties for illegal dumping, particularly of hazardous materials. E-c. Increase the number and visibility of public trash receptacles, and increase collection frequency. E-d. Require litter clean-up programs for public institutions and properties.

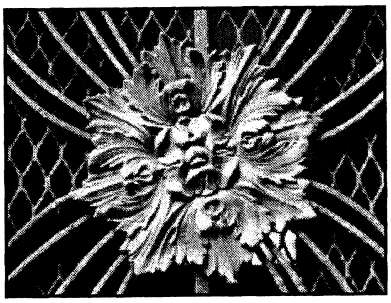
LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		E-e. Continue school-sponsored neighborhood clean-up events. E-f. Create a hot-line for reports of illegal dumping. E-g. Create a reward program for those reporting illegal dumping (where the dumping is ultimately prosecuted). E-h. Expand *Clean San Francisco* campaigns into several languages. E-i. Expand promotions of the existing "free neighborhood cleanup" program. E-j. Reduce litter and other negative environmental impacts from trucks transporting materials to and from the City's transfer station and other large material processing facilities; consider less-polluting alternatives to diesel recycling and refuse-hauling trucks.
Materials-Handling Infrastructure		
F. San Francisco maintains a diverse and competitive reuse, repair, and recycling infrastructure. (That is, more materials are reprocessed and more methods are used to collect them and restore them to a useful condition.)	F-1. The diversity of options for recovering materials has increased and systems have been created that make it easier to recycle.	F-1-a. Expand the variety of materials accepted for curbside recycling. F-1-b. Ensure access by all neighborhoods to full-service recycling and reuse centers. F-1-c. Allow small businesses to participate in the residential curbside recycling collection program. F-1-d. Increase the availability of recycling in apartment buildings. F-1-e. Increase salvage operations at the City's transfer station, including salvage of materials collected by the neighborhood cleanup program. F-1-f. Provide incentives and/or subsidies for collection and processing of low-value recyclable and/or reusable materials when viable markets for these materials exist.

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		F-1-g. Promote and/or expand local and statewide waste exchanges. F-1-h. Install beverage-container recycling receptacles on or next to every public trash bin (if an appropriate design can be identified).
	F-2. The legal and regulatory environment promotes maximum source reduction and recovery of materials.	F-2-a. Utilize progressive enforcement measures (education, warnings, citations) to ensure that recyclable materials are not placed in the garbage. Enforce compliance with city requirements regarding waste reduction and recycling. F-2-b. Create refuse collection and disposal rate structures and recycling fee structures that encourage waste reduction, recycling, composting and reuse. F-2-c. Provide the City's Refuse Rate Board with the authority to regulate commercial refuse collection rates (since there is a *de facto* exclusive commercial refuse collection franchise). F-2-d. Consider increasing the cost to dispose of garbage, potentially through: • A transfer station surcharge on disposal, • A franchise fee on gross refuse-collection receipts, and/or • Financing recycling program costs through refuse collection rates. (Consider and/or mitigate the impacts of any disposal rate increases on recycling and reuse businesses.) F-2-e. Consider incentives for permitted refuse haulers to reduce the tonnage of material landfilled, including linking profit margins to reductions in tonnage of material landfilled. F-2-f. Require businesses and institutions that generate a substantial weekly volume of waste to perform a solid waste

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		audit, consistent with ISO 14000 standards. Make renewal of business licenses contingent on performance of such an audit and development of a plan to reduce waste. (ISO 14000 standards are voluntary international standards devised by the International Standards Organization [Geneva, Switzerland] that establish environmental management system methodologies and a review process.) F-2-g. Consider removing legal impediments in local regulations that restrict competition among commercial recycling service providers. F-2-h. Encourage standardized permitting and land application regulations for organic materials, including treated sewage sludge, at the state level. F-2-i. Consider requirements for retail outlets to accept packaging materials from consumers for recycling. F-2-j. Lobby to include reusable containers in California's beverage-container deposit law. F-2-k. Mandate collection of recyclables as well as garbage if economic incentives and education programs fail to achieve diversion goals.
	F-3. The number, use, and awareness of repair facilities has increased.	F-3-a. Provide funding and technical support to reuse and repair businesses. F-3-b. Develop more jobs-skills training opportunities in repair businesses, especially for disadvantaged individuals, perhaps through high school or community college trade programs. F-3-c. Invest in development of new recycling/reuse technology (market development).
	F-4. The recovery of organic materials has increased.	F-4-a. Develop commercial-sector food-waste recovery programs.

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		F-4-b. Expand promotions of edible food recovery and redistribution programs. F-4-c. Develop a residential yard-waste collection program. F-4-d. Educate and provide financial incentives for landscaping contractors and other generators to recover organic material. F-4-e. Pursue direct land application and/or co-composting of treated sewage sludge for use in soil recovery projects and other agricultural uses. F-4-f. Support development of a statewide organics market.
G. The San Francisco economy employs sustainable uses of paper and other materials.	G-1. Paper purchases have decreased and the portion of those purchases that contain recycled material has increased.	G-1-a. Develop a demonstration project highlighting ways to achieve a paper-efficient office. G-1-b. Educate businesses about the availability, costs, and benefits of using recycled and alternative-fiber paper. G-1-c. Increase the City's minimum-content requirements for recycled paper and institute options for alternative-fiber paper purchasing and use. G-1-d. Require City contractors to use recycled-content paper and other recycled products in work provided to the City. G-1-e. Create incentives for retailers to aggressively market recycled-content products. G-1-f. Continue recycled-products vendor fairs. G-1-g. Consider lobbying for increased postal rates for bulk mail to decrease junk mail; consider lobbying to give residents and businesses the option of blocking receipt of certain types of third-class mail. G-1-h. Consider restrictions on hand-delivered advertising left on residential and commercial doorsteps.

LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	G-2. An infrastructure that preserves the highest value of recovered paper and other materials has been created.	G-2-a. Promote the value of source separation to generators of waste-paper and other discards. G-2-b. Include non-profit organizations (such as sheltered workshops) in material-processing programs to upgrade recycled materials to their highest and best use.
H. Only resource-efficient building practices are used in San Francisco (including for construction, demolition, and rehabilitation).	H-1. The salvage and reuse of construction and demolition materials has increased.	H-1-a. Revise local building codes to allow an increased use of salvaged materials that are structurally sound in new or remodeled buildings. H-1-b. Develop "green building" specifications, including: • Resource-efficient design, • Design for renovation and deconstruction, • Appropriate-material selection, • Space allocation for recycling, and • Low-waste landscaping techniques. H-1-c. Create a high-profile awards program which certifies that architects and contractors have achieved specified green building standards. H-1-d. Require submission of a salvage, reuse, and recycling plan to obtain a demolition or renovation permit. H-1-e. Support pilot programs that study the economics of hand-deconstruction projects. H-1-f. Develop a building-materials reuse/recycling directory (that is, where to go to buy or sell reusable or recycled building materials). H-1-g. For construction projects with limited space, provide permits for increased sidewalk use for recycling bins for source-separated construction materials.



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Introduction

A sustainable transportation system is one in which people's needs and desires for access to jobs, commerce, recreation, culture and home are accommodated using a minimum of resources. Applying principles of sustainability to transportation will reduce pollution generated by gasoline-powered engines, noise, traffic congestion, land devaluation, urban sprawl, economic segregation, and injury to drivers, pedestrians and cyclists. In addition, the costs of commuting, shipping, housing and goods will be reduced.

Ultimately in a sustainable San Francisco, almost all trips to and within the City will be on public transit, foot or bicycle—as will a good part of trips to the larger Bay Region. Walking through streets designed for pedestrians and bicycles will be more pleasant than walking through those designed for the automobile. Street-front retail and commercial establishments will prosper from the large volume of foot traffic drawn to an environment enhanced by trees, appropriately designed "street furniture," (street lights, bicycle racks, benches, and the like) and other people. Rents and property costs will be lowered as land for off-street parking is no longer required or needed. Customers will be closer to businesses; goods and services will be delivered more quickly; and time that employees would otherwise spend commuting will be available for activities of their own choice. The high use of transit and other alternatives to the automobile will enable the city and state to forego expensive freeway construction, land acquisition and housing condemnation. Old, obsolete highway segments of the automobile era will be demolished, freeing up land to be used and developed to its greatest potential as the community sees fit. With abundant, cheap and versatile alternatives to the automobile, the sustainable city is truly a place of equal access and enhanced opportunity.

Realizing the ideal of a sustainable San Francisco is a political, physical and educational challenge. Many people consider owning and driving an automobile an essential need or right—the very cornerstone of this country's

economic base. They do not recognize that the tradition of subsidizing gasoline, parking and driving has taken its toll on their pocketbooks and on the tax revenues that could be spent in ways much more conducive to sustainability. Some people are willing to drive less, to pay higher tolls and parking fees, and to support investments in alternative transportation, but as a result, they expect transit and other infrastructure to adapt and respond more readily to their needs. The City needs more revenue today simply to maintain the existing level of transit operation and service—and much more to match such expectations.

Reallocating revenues and subsidies from the automobile to public transit and other alternative modes is essential to move toward sustainable transportation. In addition, issues such as land use, traditions, safety and comfort profoundly influence the way people move about. Listed below are goals, objectives and actions that, if implemented, will guide government officials, residents, community and business leaders toward a sustainable transportation system for San Francisco.

Sustainability Strategy

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. To move people and goods with the most efficient use of resources.	1-A. 100% of trips into and within the City are accommodated by means other than single-occupancy vehicles. 1-B. All transit vehicles operating within the City are powered by renewable energy. 1-C. All goods are delivered by renewable energy vehicles.	1-1. The number of trips (including all modes, such as pedestrian, bicycle and public transit trips) into and within the City has remained constant or increased. While producing less pollution and congestion, San Franciscans mobility has improved. An increase in the total number of person-trips into and within the City will be accommodated while decreasing	1-1-a. Establish a Metropolitan Transportation Commission advertising budget to increase public awareness of transit options. 1-1-b. Educate the public about the true cost of automobile use. 1-1-c. Double the total funds transferred from parking taxes to Muni transit by increasing the 25% parking tax in 5% increments every year as necessary. 1-1-d. Collect the maximum amount of parking taxes legally due the City from all parking lots. 1-1-e. Implement congestion pricing and increase bridge tolls during peak hours. Use funds for transit. 1-1-f. Increase bridge tolls. Use the

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		the number of single-occupancy vehicles.	funds for seismic improvement of bridges and bridge approaches. 1-1-g. Eliminate free parking for government and private employees' private automobiles. Charge for parking at the same rate as nearby private parking lots. Charge for commuter parking on city streets and in parks. 1-1-h. Increase City gasoline taxes and lobby for increased regional gasoline taxes. Use the funds for transit. 1-1-i. Implement "parking cash-outs" which allow commuters to chose to receive cash instead of free parking.
			1-1-j. Provide adequate maintenance to improve the appearance of transit vehicles. 1-1-k. Extend Proposition B, sales tax revenue for transportation, and increase the share for transit, bicycle and pedestrian improvements. 1-1-l. Establish firm funding for Muni operations and capital budgets, using downtown and residential transit assessment districts, a residential utility tax, and parking taxes and fees. 1-1-m. Lobby for an income-tax deduction for the cost of transit passes. 1-1-n. Require businesses that provide free parking for customers to provide an equal benefit for those who come by other modes.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			1-1-o. Assess environmental impacts on transportation systems using performance measures in addition to vehicles' "level of service." More sustainable measures include "person throughput," consideration of all methods of transportation, and accessibility. 1-1-p. Do not increase Muni fares. 1-1-q. Reduce the cost of Fast Passes. 1-1-r. Study the impacts of providing an expanded fareless Muni service. [See note 1, following the matrix.]
		1-3. Bicycle use has increased by 100%.	1-3-a. Implement the Bicycle Plan, including a network of contoured bicycle-priority routes using protected space. 1-3-b. Educate bicyclists and motorists with signs and outreach about safe sharing of roadways. 1-3-c. Provide secure bicycle and roller-skate storage at transit stations. 1-3-d. Allow bicycles on all transit routes. 1-3-e. Provide a safe bicycle way through bus and corner bulbs if necessary as part of a bicycle lane. 1-3-f. Require and include incentives for businesses to provide secure parking and storage for bicycles and roller skates.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			1-3-g. Reimburse staff for mileage when errands are performed by bicycle. 1-3-h. Provide secure bicycle parking for recreational areas, such as beaches, parks, tourist attractions and commercial areas. 1-3-i. Encourage the development of bicycle service centers to key neighborhood and recreational sites. 1-3-j. Provide loaner bikes at key transit stations and centers.
		1-4. The number and enjoyment of trips made by walking has increased. [See note 2, following the matrix.]	1-4-a. Widen sidewalks where required by pedestrian traffic demand. Provide a sidewalk width in all commercial areas to at least meet disabled access requirements. Implement the pedestrian network: 1-4-b. Change traffic signals to allow pedestrians to cross at a walking pace of 2.5 feed per second. 1-4-c. Establish corner bulbs and median islands to provide a safe area for waiting for crossing signals and to shorten the time required to cross the roadway. 1-4-d. Remove sidewalk obstructions, such as newspaper racks.
			1-4-e. Increase education and enforcement of "pooper scooper" laws.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			1-4-f. Beautify walkways with amenities such as: • More trees; • Outdoor eating areas; • Signs and flags; and • More attractive, pedestrian-oriented store-fronts. 1-4-g. Enforce laws against parking on sidewalks and blocking crosswalks. 1-4-h. Restore pedestrian crosswalks. 1-4-i. Add mid-block pedestrian crosswalks on long one-way streets and, where safe, on two-way streets. 1-4-j. Increase enforcement against running red lights with cameras and more police. 1-4-k. Complete the work of making sidewalks more accessible for disabled. 1-4-l. Update the use of flashing signal lights to provide additional safety and convenience for crossing pedestrians during periods of low automobile traffic. 1-4-m. Provide a *WALK* signal that allows sufficient time for a pedestrian to cross safety at every signaled intersection. 1-4-n. Permanently eliminate automobile traffic on the portions of Kennedy Drive, in Golden Gate Park,

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			that are currently closed only on Sundays. 1-4-o. Increase transit service to Golden Gate Park and Presidio National Park.
		1-5. Transit on-time performance has increased to 97%.	
		1-6. Travel time for transit has been reduced by 10%.	1-6-a. Decrease Muni trip times by: • Constructing bus bulbs which allow buses to pick up passengers without leaving the traffic lane; • Adding transit preferential streets; • Using timed transfers; and • Providing and using signal preempts. 1-6-b. Increase distances between transit stops. 1-6-c. Increase the use of improved transit technology. 1-6-e. Improve feeders service to trunk lines. 1-6-f. Make transfers physically quicker and easier. 1-6-g. Improve feeder service to trunk lines. 1-6-h. Implement a proof-of-payment fare system to allow passengers to use.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			all doors on transit. 1-6-i. Decrease BART dwell-time at stations. 1-6-j. Electrify CalTrain. 1-6-k. Build grade separations for CalTrain.
		1-7. The efficiency of goods movement has improved, reducing delivery time by 10%.	1-7-a. Increase the number and size of yellow and metered yellow curbs. 1-7-b. Increase yellow curb enforcement. 1-7-c. Develop a comprehensive truck route system that gives trucks priority over automobiles. 1-7-d. Set goods delivery times to off-peak hours on transit streets. 1-7-e. Establish goods-delivery times downtown that give trucks priority over automobiles.
2. To have convenient regional transportation connections.	2-A. All regional transit connections are safe, comfortable, convenient and timely.	2-1. All regional transit connections are safe, comfortable, convenient and timely.	2-1-a. Provide a same-level transfer between BART and Muni Metro (not up to the mezzanine and back down). 2-1-b. Provide convenient connections to the San Francisco Airport from BART and CalTrain. 2-1-c. Extend CalTrain to downtown San Francisco. 2-1-d. Support the study and planning for high-speed rail between Los Angeles and San Francisco.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			2-1-e. Provide convenient transfers to transit for special events and publicize and market these connections. 2-1-f. [See also 1-3-c and d.]
		2-2. Agreement has been achieved from nine counties on improving regional connections through an integrated, public-transit-oriented regional transportation plan.	2-2-a. Implement a one-ticket-around-the-Bay system, such as Translink. 2-2-b. Create a public/private lobby for Bay-region transportation.
3. To integrate transportation, land use, and economic development policies.	3-A. All trips in the City can be made by walking, bicycling and transit; the city is so beautiful and clean that such trips are a joy.	3-1. Building and planning codes have been revised to help implement sustainable transportation objectives.	3-1-a. Re-evaluate garage and parking requirements in the Code, city-wide, to establish maximum, rather than minimum, levels of required parking. 3-1-b. Reduce or eliminate planning code parking requirements for some housing types, as appropriate, such as: • Low-income residences, • Residences with limited access due to space constraints, • Low-vehicle-ownership residences, • Buildings located near transit, and • Buildings in which tenants and owners agree not to obtain parking permits.

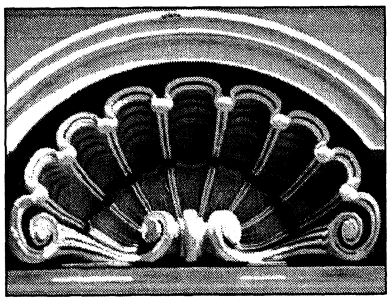
GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			3-1-c. Secure strong pedestrian links from transit centers to key destinations. 3-1-d. Require bicycle facilities as part of all new development.
		3-2. Sustainability criteria have been incorporated into transportation and land use planning.	3-2-a. Revise policies, objectives and regulations in codes and city plans. 3-2-b. Repeal the service station conservation ordinance. 3-2-c. Do not allow the construction of new publicly subsidized parking garages. 3-2-d. Revise the planning code to allow more commercial and recreational facilities closer to residential areas.
4. To reduce transportation energy consumption and pollution generation.	4-A. Non-polluting, renewable-energy-powered vehicles are used for all trips into and within the City.	4-1. Transportation-related non-renewable fuel consumption has been reduced by 10%. 4-2. Automobile vehicle-miles traveled have been reduced by 5%.	4-1 & 2, [See actions 1-1-a. through 1-1-r.]
		4-3. Fuel efficiency of vehicles in San Francisco has improved.	4-3-a. Purchase only high-fuel-efficient vehicles for the City fleet. 4-3-b. Lobby for State legislation providing incentives for fuel-efficient vehicles.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		4-4. 10% of all light-duty vehicles purchased are zero-emission vehicles (including bicycles).	4-4-a. Work with automobile manufacturers to attract the early introduction of zero-emission vehicles to San Francisco. 4-4-b. Provide three public electric-energy refueling facilities for vehicles.
		4-5. Optimal use of present transportation systems has increased.	4-5-a. Increase the use of computers to handle the complexities of service scheduling, vehicle maintenance, and the optimization of signal timing. 4-5-b. Provide on-demand transit service on established routes during off-off peak hours, including custom stops and pickups. 4-5-c. Use smaller buses or vans during off-off peak hours on routes with low patronage.
5. To reduce dependence on automobiles.	5-A. 90% of all San Francisco trips, including at least 90% of commute trips downtown, are made by means other than the private automobile. 5-B. 100% of all San Francisco-generated automobile trips are made in renewable-energy-powered vehicles. 5-C. "Traffic calming" projects on a majority of city streets have been implemented.	5-1. 85% of commuter trips to the downtown and 45% elsewhere are made by means other than a drive-alone private automobile. Non-commute generated automobile trips have been reduced by 5%.	5-1-a. Create shuttle services from existing garages to key outlying destinations. 5-1-b. Create a weekend and holiday Golden Gate Park and Museum shuttle from nearby garages and transit. 5-1-c. Provide incentives for businesses that provide commuter vans for employees. 5-1-d. Study the effects of eliminating private through-traffic on Market Street and the methods of implementing such a plan. 5-1-e. Study the effects of eliminating automobile traffic from small lengths of

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	5-D. Market Street is closed to private automobiles east of Van Ness Avenue. 5-E. A number of sections of streets have been closed to private automobiles.		other streets in addition to Market Street. 5-1-f. Provide package storage lockers in transit stations and transit centers. 5-1-g. Provide access through doors and elevators in space on vehicles for baby carriages and large packages. 5-1-h. Use teleconferencing to reduce long-distance travel, and home businesses and telecommuting to reduce local travel. (*Suggested for business and government*) 5-1-i. Develop additional delivery services. (*Suggested for the private sector*) 5-1-j. Advertise and promote transit use as a means of avoiding and not contributing to traffic congestion. 5-1-k. [See Actions 1-1-a through 1-1-r.]
6. To increase the reality and perception of safety and civility on transit to all.		6-1. The quality of Muni service has improved.	6-1-a. Train transit operators to provide courteous service, including at least: • Calling out stops, • Careful driving and • Giving tourist information. 6-1-b. Educate transit riders on how to use transit with courtesy and efficiency. 6-1-c. Enforce the laws on transit and at stops with a greater presence of

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			authority figures. 6-1-d. Improve design and maintenance to make transit vehicles and stations more pleasant. 6-1-e. Reduce the incidence of overcrowding on transit vehicles. 6-1-f. Improve working conditions for transit operators to reduce mental and physical stress. 6-1-g. Increase reference in advertising to the use of transit. (*Suggested for private advertisers*) 6-1-h. Provide an Internet website to provide information on transit, bicycles, and other alternatives to single-occupancy vehicles. 6-1-i. Provide better maps and signs to help riders use transit service. 6-1-j. Use enhanced and innovative technology to give information on current transit status, orientation and use of service, especially at key transit stops.
		6-2. Pedestrian and bicyclist safety and pleasure have increased.	6-2-a. Educate drivers, pedestrians and bicyclists about the rules and courtesies of sharing streets. 6-2-b. Provide signs on streets reminding drivers to share the streets.
		6-3. Accident rates for all transportation	6-3-a. Enforce traffic laws more stringently, especially at high-accident-

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		modes have been reduced.	rate locations. 6-3-b. Continue to upgrade traffic signal equipment and install red-light crossing cameras at high-accident-rate intersections.
		6-4. The pleasure of the walking experience between origins, destinations, and transit stops has improved.	6-4-a. Educate the public to assist other pedestrians and tourists. 6-4-b. [See Actions 1-4-a. through 1-4-i.]
7. Provide a fair distribution of transportation services to all users.		7-1. Public subsidies have been equalized among transportation modes.	7-1-a. Lobby the federal and state governments to equalize subsidies among all transportation modes. 7-1-b. Increase enforcement against handicap-placard violations.
		7-2. Increased financial incentives exist for using alternatives to single-occupant vehicles.	7-2-a. Lobby the state to raise vehicle registration fees and use the additional revenue to improve alternative modes of transportation.
		7-3. Residents and employees of all parts of the City enjoy adequate accessibility to high-quality public transit.	7-3-a. Provide additional transit service in areas currently deprived.



WATER AND WASTEWATER

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Introduction

A water policy that creates sustainable water use balances the needs for protection of the environment and public health, while not compromising the ability of future generations of San Franciscans to procure water to meet their basic needs. It also creates a shift from the traditional view of water as a commodity managed solely for the convenience of humans to a more balanced effort to maintain the water needs of the entire ecosystem of which humans are a part.

San Francisco is fortunate in having a pristine source of first-quality drinking water from the headwaters of the Tuolumne River in the Sierra Nevada Mountains. The undeveloped watershed located within the Yosemite National Park provides pollutant-free water originating primarily from snow-melt over a granite base. The Tuolumne River is captured behind O' Shaughnessy Dam and diverted to San Francisco via the Hetch Hetchy System. This system, composed of a series of dams, transport pipes and hydraulic electrical-generating stations, brings drinking water all the way to the Bay Area from the mountains. Water diversions such as this one and others, however, can have a profound effect on the San Francisco Bay Estuary, which historically received waters from rivers throughout the state. Reductions in flow to the estuary limits water available for wildlife, and the overall health of the system is fundamentally dependent on the quantity and quality of water available. The

degradation of water quality through the introduction of toxic materials and the reduction of flow through unmanaged use can ultimately harm the quality of life for all Californians.

To sustain life in the whole Bay watershed, it is essential to change the traditional view of water management to one that recognizes that human interests, in the long run, cannot be separated from the interests of the plants and other animals in the watershed. To this end, some members of the group drafting this section proposed restoring Hetch Hetchy Valley as a long-term objective, although this was not the consensus of the group.

The goals defined below go beyond the status quo and seek to redefine current thought on the use, treatment and reuse of San Francisco's water and wastewater. For example, partial or complete recycling of the City's entire wastewater flow has been set as a goal to be attained in the not-too-distant future. This goal drives a number of related activities, such as monitoring and reducing pollutants entering wastewater before treatment and ultimately eliminating pollutants entering receiving waters after treatment. Recycling wastewater also requires increased stormwater management, including greater control of urban run-off and combined system overflows.

Pollution prevention and water management will allow better use of millions of gallons of high-quality Sierra water daily. These new and expanded uses could include groundwater replenishment, aquatic habitat creation or enhancement, fisheries protection through greater flows in streams, and riparian (stream-side) habitat restoration. The large water bank created by more careful water management would reduce the need for new dams or water projects and reduce current demand on overburdened smaller streams and creeks.

The new directions and goals proposed here take the long view toward creating a sustainable water policy for the residents of San Francisco.

Sustainability Strategy

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. Reuse To reclaim all wastewater. To maximize local reuse. To maximize recovery and reuse of resources from wastewater.	1-A. 100% of the City's wastewater is recycled for reuse.	1-1. 10% of the City's wastewater is recycled for local use. 1-2. Dual plumbing is routinely installed for all new buildings over 40,000 sq . ft., especially the	1-a. Formalize interagency cooperation on reuse issues. 1-b. Use recycled water for street-sweeping and street flushing. 1-c. Obtain voter approval for financing and implementation of the Phase 1 Local Recycled Water Master Plan by November, 1997.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		ballpark, Hunters Point, China Basin and Treasure Island (in accordance with City Ordinance 391-92).	
2. Use Reduction To maximize water conservation and minimize water use and waste.	2-A. Water conservation audits are performed at 100% of San Francisco businesses, industries and parks.	2-1. Domestic water use has decreased by 10%. 2-2. Water conservation has been maximized through equipment replacement. 2-3. Water conservation audits have been performed at 20% of San Francisco businesses, industries and parks.	2-a. Replace all toilets with 1.6-gallon flush toilets using a combination of incentive programs and mandates. 2-b. Use recycled water for fire-fighting and irrigation. 2-c. Implement urban water conservation best management practices as reflected in the Urban Memorandum of Understanding signed by the City as part of the Bay-Delta accord. 2-d. Create tiered water pricing to encourage water conservation. 2-e. Change the building code to require water conservation upon change of building ownership. 2-f. Investigate and promote alternative water-saving technologies for gray-water (relatively clean water from sinks and showers). 2-g. Increase the use of horizontal-axis washers and institutional conservation. 2-h. Encourage maximum flexibility in work schedules, resulting in decreased commercial water use.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
3. Stormwater To minimize contaminants in storm water and dry-weather flows. To plan for normal flows and extraordinary events. To minimize storm water flows into the combined sewer system. To manage and treat flows that enter the system. To strive to eliminate combined system overflow discharge.	3-A. Storm water/pollution-prevention plans exist for 100% of targeted industries. 3-B. Rain catchment systems have been maximized. 3-C. Permeable paving is used wherever appropriate.	3.1 Storm water/pollution-prevention plans have been developed for 30% of targeted industries. 3-2. Vehicle transportation within the City has decreased by 10% to reduce oil in storm drains. 3-3. Vegetation and landscaping techniques to reduce stormwater run-off, emphasizing drought-tolerant and native species, are used to the greatest extent possible. 3-4. The number of trees planted on City streets has doubled.	3-a. Identify targeted industries for water/pollution-prevention plans. 3-b. Visit 30% of businesses to conduct educational audits. 3-c. Conduct a pilot program to determine best pollution prevention stormwater strategies. 3-d. Organize additional tree planting agencies, develop action plans, and plant trees. 3-e. Clean 10% of catch-basins each year. 3-f. Create a free Muni system. 3-g. Designate more bicycle paths. 3-h. Increase tree-planting.
4. Source Control To eliminate contaminants in supply and receiving waters through pollution prevention	4-A. A "first-flush" system exists throughout the City, which establishes a practice of rinsing off accumulated pollutants on city streets into the sewage system before	4-1. 25% of targeted businesses use pollution-prevention technologies. 4-2. Convenient hazardous-waste	4-a. Eliminate the Steinhart Aquarium salt-water discharge to the sanitary system. 4-b. Create a pilot curbside oil and paint recycling project. 4-c. Create a dry-weather street-flush

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
for all categories of dischargers.	the rainy season, reducing the likelihood of their being inadequately treated if introduced along with a heavy rainfall.	drop-off centers or pick-up services have been created for San Francisco businesses. 4-3. Salt water discharge and/or intrusion into the city's sewer system has been minimized. 4-4. The use of toxic chemicals in treatment of wastewater has decreased.	pilot project using recycled water. 4-d. Increase the number of used motor oil and paint recycling and collection centers throughout the city. 4-e. Coordinate with the tax office to identify businesses for potential pollution prevention practices. 4-f. Establish a procedure by which guests in San Francisco hotels can choose to have towels replaced less frequently than every day, to reduce water used in unnecessary laundry.
5. Wastewater To discharge only wastewater that does not impair receiving water and supports restoration and habitat goals.	5-A. Impacts of all wastewater discharge constituents on all local environments are monitored quarterly.	5-1. The mass of pollutants and volume of discharge have been decreased by 10% from a 1995 baseline. 5-2. A rodent control program to eliminate rodents from the sanitary sewer system has been developed.	5-a. Apply control measures for rodents in the sanitary sewer system such as trapping, baiting and installing barriers. 5-b. (See actions 3-a through 3-f.)
6. Water Supply To ensure a sustainable and adequate water supply for normal use	6-A. All lakes in the City are clean and maintained. 6-B. The auxiliary water supply system, which currently	6-1. Water flows to the Bay and Delta have been restored to levels that protect viable populations of fish.	6-a . Begin addressing areas of San Francisco that are not served by the auxiliary water supply system, resulting in inadequate fire protection. 6-b. Construct a recycled-water storage and distribution system on the west side

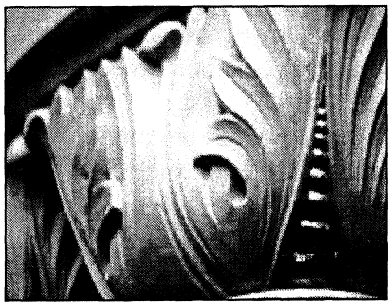
GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
and for extraordinary use (such as fire-fighting, earthquakes) and to do these considering the lowest impact on the environment.	supplies water (that does not necessarily meet drinking water standards) to the Fire Department for emergency fire protection, has been expanded to provide emergency drinking water service for the entire city.		of San Francisco. 6-c. Conduct routine evaluation of infrastructure for replacing and upgrading aged pipes. 6-d. Evaluate the impact of flushing the auxiliary water supply system into the Bay. 6-e. Pass legislation or institute a policy change clarifying groundwater recharge and other environmental priorities.
7. Public Health To maximize protection of public health by providing safe drinking water and the safe handling of wastewater.	7-A. Drinking water is in compliance with lead-content standards at all times.		7-a. Investigate alternatives to chlorinating drinking water and wastewater, including ultra-violet disinfection. 7-b. Develop a plan to monitor drinking water at schools for lead. 7-c. Collect drinking water at schools and analyze it for lead content. 7-d. Take interim measures to ensure that the lead levels in school drinking water meet the current state or federal standard that is most restrictive. 7-e. Replace or control the source of leachable lead in the schools' drinking water systems if the level exceeds drinking water standards. 7-f. Create water pollution signs in various languages and post them at beaches as appropriate. 7-g. Review sign-posting on ocean and bay shores and increase the number of locations as appropriate.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
8. Process To ensure public input into the water/wastewater planning process. To ensure fair and effective permit and enforcement procedures.	8-A. Departments managing water and waste have been merged.	8-1. An environmental ombudsman position has been created to assist the public with environmental review.	8-a. Encourage partnerships between city agencies, especially water and wastewater agencies, to implement the goals and objectives of the sustainability plan. 8-b. Improve compliance among businesses that are required to pre-treat water that flows into the sewer system by creating an ordinance for citizen action for enforcement of applicable environmental codes.
9. Acknowledge-ment of True Environmental Costs To create a water and wastewater policy that reflects true environmental costs and benefits, including impacts on the local economy.	9-A. Economic incentives and disincentives balance supply and demand to reflect true environmental costs and benefits.	9-1. Sewer and water rates have been increased to encourage water conservation, with revenues going for recycling, water infrastructure, and similar purposes. 9-2. 25% of targeted businesses have been provided with incentives to incorporate pollution-prevention strategies. 9-3. Tax credits and financial incentives are in place for water reduction in homes and businesses.	9-a. Create an audit to verify water and wastewater savings and to identify high water users to target for subsidies.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
10. Groundwater To restore and enhance groundwater supply and improve the water quality of San Francisco aquifers.	10-A. Aquifers have been restored, in cooperation with other communities.	10-1. The level of Lake Merced has been raised. 10-2. Five groundwater projects have been developed that allow for the prudent management of the City's aquifers, a balanced potable water supply, and improved basin water quality.	10-a. Find alternative water sources so that no groundwater is used. (*Suggested for golf courses*) 10-b. Implement joint groundwater management with Daly City.
11. Habitat Protection and Restoration To achieve long-term enhancement and restoration of local marine and freshwater habitats.	11-A. Green space acreage has increased by 25%. 11-B. Lobos Creek has been restored. 11-C. All city lakes are managed for high water quality and habitat support. 11-D. Water quality, habitat, and sediment has been restored along the entire San Francisco shoreline. 11-E. Bay-side sediments have been decontaminated. 11-F. Wetlands habitat to treat storm water flows throughout the	11-1. Islais Creek has been restored. 11-2. A lake management plan has been implemented. 11-3. All aspects of environmental clean-up are met or addressed on Treasure Island and Hunter's Point Naval Shipyard. 11-4. Green space acreage has increased by 10%. 11-5. Review the use of wetlands for alternative treatment.	11-a. Create and fund (through compliance funds) programs to restore and construct wetlands for alternative treatment, and also construct new wetlands whenever feasible. 11-b. Develop a lake management plan to control algae growth and support wildlife habitats. 11-c. Develop a memorandum of understanding with local branches of federal agencies (such as the Golden Gate National Recreation Area) to protect and restore habitats.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	City have been created. 11-G. Recycled water is used for wetlands restoration.		
12. Education To create an inclusive community of environmental stewards.	12-A. Many local job opportunities have been created for people in communities with a history of environmental degradation. 12-B. A model sustainable community has been built on Treasure Island. 12-C. Everyone in the City is reached with a conservation education program.	12-1. All businesses relocating in San Francisco have been provided with a water-conservation and pollution prevention packet. 12-2. Awareness of water conservation and water quality issues has been increased by 12% through the implementation of a residents' education program.	12-a. Establish a recognition and incentive program to reward residents' accomplishments. 12-b. Revise, update and improve teachers' curriculum materials that encourage environmental stewardship. 12-c. Provide information to the Bureau of Building Inspection to incorporate water reuse and water conservation strategies. 12-d. Establish a speakers bureau.
13. Infrastructure To repair, replace and upgrade infrastructure in a timely and environmentally sound manner and with adequate funding.	13-A. A plan to repair, replace, and upgrade water and wastewater infrastructure is being implemented.	13.1. A long-term plan for repairing, replacing, and upgrading water and wastewater infrastructure has been developed.	13-a. Fund and implement a plan to repair, replace, and upgrade water and wastewater infrastructure within 5 years.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
14. Alternative technologies To include alternative water, wastewater and storm water policies that promote the most environmentally and biologically sound methods in the City Water and Wastewater Master Plan.	14-A. The ideas produced in the alternative wastewater study have been implemented. 14-B. Use of toxics in wastewater treatment has been essentially eliminated.	14-1. A full, fair, and independent study of alternative wastewater methods has been conducted.	14-a. Conduct pilot water and wastewater projects. 14-b. Complete the Bayside Alternatives Study. 14-c. Conduct a full, fair and independent study of alternative wastewater, storm water, water supply and use policies.
15. Standards To create drinking water and wastewater standards that protect local and regional natural resources and public health, and are scientifically defensible while encouraging resource recovery.	15-A. Exceptions to drinking water and wastewater standards have been eliminated.	15-1. The effects of proposed and current exceptions to standards have been mitigated.	15-a. Conduct further research on drinking water and wastewater standards.



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Introduction

A sustainable economy is a fundamental requirement for a sustainable San Francisco. A sustainable economy will provide a good quality of life for all San Francisco residents without undermining the biological and physical processes of the environment upon which people depend. Its four main characteristics are:

- The predominant use of renewable energy;
- Energy and resource efficiency, including complete recycling of minimized resources;
- Minimum use of toxic material and no release into the environment; and
- The use of full-cost pricing (an analysis of the costs involved in the full cycle of a product's existence, from the pollution caused in production to the cost of disposal) in policy, production, and consumer decision-making.

The transition to an ecologically sustainable economy involves changing from a *linear* to a *circular* flow of resources. A linear flow transforms raw materials into products and pollution whose ultimate destination is a

landfill, the air or the water. In a circular flow, resources are continually used, broken down, and recombined—waste is eliminated as discards become the resources of reuse or of other production processes.

A sustainable economy follows the principles of *industrial ecology*: the complete interaction of production, services, resource and energy use through the complete recycling of by-products, elimination of waste, and reduction of use of toxins or products harmful to local ecosystems and communities.

Creating the foundation for sustainable economic prosperity involves identifying the needs of an ecologically sustainable economy and seizing the market opportunities involved in meeting them. The City's challenge will be to create the goods and services (processes, tools, machines, management, and labor) needed by enterprises and households so that production and consumption ultimately have no adverse effect on the environment. This change in the way San Franciscans do business will foster the transformation of existing industries and spawn entirely new industries, products and services.

The transition to an environmentally sustainable economy must include the integration of community values and purposes with those of commerce and the environment. Crucial to this integration will be City government's leadership role in both the public and private sectors of the economy.

As the global headquarters for the information age, San Francisco can exploit many of its competitive advantages, including "clean" output and a highly educated and trained workforce.

However, there are many residents of the City who lack the education or skills to take advantage of these new, knowledge-based industries. Industrial society has not only undervalued the natural resources it makes into disposable products, it has also disregarded the value to society of providing meaningful employment and a high quality of life to people of all skill levels. The conservation and reuse of resources are notable for their production of useful work for people of limited education and training, from sorting collected recyclables, to tending neighborhood gardens, to installing weather-stripping on doors and windows. Moving toward a sustainable economy provides opportunities for the economic betterment of *all* San Francisco residents.

Words defined in the *Definitions* section following the Economy and Economic Development matrix appear in italics when first used in this section.

Sustainability Strategy

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. The Whole Economy To create an ecologically sustainable, socially just and vibrant local economy as the basis for San Francisco's future economic prosperity, environmental health and high quality of life. To create an economy in which all individuals have the opportunity to develop and match their talents with their productive contribution to society.	1-A. Full-cost pricing and the polluter-pays principle are used throughout the economy in private and public-enterprise decision-making so that full social costs are reflected in economic production and consumption decisions.	[See detailed objectives below.]	1-a. Establish a task force to plan for the transition to a sustainable economy, and to integrate San Francisco's plan with the region. 1-b. Develop an action strategy to address the challenges, opportunities, roles and requirements of management in a sustainable economy. *(Action suggested for a task force of business and public-sector leaders, and management-education programs)* 1-c. Create a city position to coordinate agencies and resources for the transition to a sustainable economy. 1-d. Review existing city environmental guidelines and remove obstacles to the achievement of the 5-year objectives. 1-e. Capture the economic development potential of planning and implementation of a transition to a sustainable economy by marketing the goods, services, and

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			expertise that result. 1-f. Study the creation of local currency and credits and other methods to keep local dollars in the local economy.
2. Business and Jobs To develop an ecologically sustainable and vibrant economy that incorporates human and environmental values into commerce.	**Business Development** 2-A. The City's economic development efforts attract firms and jobs in industries: • For which San Francisco has a competitive advantage and which are poised for growth, and • Which are developing the new tools, products, processes and services of an ecologically sustainable economy. 2-B. The City's economic development programs encourage and support job-training and business development in competitive industries and emerging industries that meet the needs of a ecologically sustainable economy. 2-C. Local markets are	2-1. Economic development programs have increased the number of companies and the levels of employment in the multi-media, financial services, life-sciences, and tourism industries. 2-2. Action strategies have been devised and implemented for the economic development of communities with below-average prosperity levels. 2-3. A study on the development of local markets for promoting sustainable business has been completed. 2-4. A sustainable tourism industry has been created in San Francisco (with minimized impacts on the environment and the City), which includes elements of interaction with sustainable	2-a. Develop an action strategy to attract firms and create jobs in: • Industries in which the City has a competitive advantage and • Firms in emerging environmental industries; Market the positive environmental features of the Bay Area to attract sustainable business. *(Action suggested for City economic development agencies)* 2-b. Work together to attract businesses to the City. *(Action suggested for all city agencies)* 2-c. Establish new, flexible environmental initiatives, such as

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	used to maximize demand for sustainable products and services. 2-D. The economy is responsive to local community and environmental justice issues. 2-E. Investment decisions take into consideration the company's economic benefit to the local economy and the company's avoidance of environmental degradation and risk. 2-F. Evaluation of products, processes and services is based on *life-cycle analysis.* 2-G. A substantial number of the city's businesses are worker-owned.	development programs (education, green spaces, habitat restoration, and green industry practices). 2-5. Local currency and other mediums of exchange exist in San Francisco. 2-6. Most business educators are familiar with worker-ownership models. Classes are available about worker-owner models and democratic control of business.	*brownfield* redevelopment. 2-d. Form and fund industry associations to advance common needs and interests. *(Action suggested for local firms in emerging industries, in conjunction with city government. For example, groups such as the Environmental Media Association for the movie industry.)* 2-e. Conduct a study to propose actions that will develop local markets for sustainable business. The study should produce proposals for action in the areas of city purchasing, planning, zoning, and infrastructure modification. 2-f. Set up a sustainable business incubator program (which allows for participant feedback) and inform all small businesses in the City of the program's benefits. 2-g. Implement a strategy for the economic development of a targeted part of the community with below-average prosperity (such as the Bayview or Visitacion

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			Valley). 2-h. Promote local entrepreneurial ventures by facilitating community development fund loans and other assistance to startup businesses. 2-i. Invest city pension funds locally. 2-j. Help employees finance house-purchase down-payments for living in San Francisco. (*Suggested for San Francisco businesses*) 2-k. Create a local currency. (*Suggested for at least one neighborhood*) 2-l. Encourage labor-management partnerships to improve sustainable practices, and to increase business success and effectiveness. (*Suggested for business, labor and city government*) 2-m. Increase the number of businesses that reuse and repair materials and products. (*Suggested for the private sector*) 2-n. Employ local

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			residents, especially for emergency services (such as fire, police, and medicine). (*Suggested for city government*) 2-o. Increase sustainable practices in the tourism and movie industries in the City. 2-p. Allow a small competitive advantage to worker-owned and cooperative businesses in municipal purchasing decisions. 2-q. Disseminate information on the benefits of worker ownership and worker cooperatives. (*Suggested for city economic development agencies*)
	Green Business Practices 2-H. Enterprises plan strategically and make decisions that increase the demand for and production of ecologically sustainable goods and services. 2-I. San Francisco businesses utilize	2-7. Sustainable development criteria, including *ISO 14000* standards and green business ratings, have been established by the City. 2-8. Financial incentives for sustainable businesses	2-r. Promote sustainable business practices collaboratively between businesses, non-profit organizations, and government through education and compliance assistance (in preference to traditional approaches of inspection and

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	sustainable business practices.	(and those that perform voluntary ISO 14000 audits) have been established, along with incentives for compliance and penalties and non-compliance with City sustainability criteria. 2-9. A peer-review process for the implementation of green business standards for government and business organizations has been established. 2-10. The number of enterprises pursuing ISO 14000 certification has increased, and some public and private-sector enterprises have become ISO 14000-certified. 2-11. The percentage of small businesses that utilize sustainable business practices has increased.	enforcement). 2-s. Reward organizations that correct problems found in environmental audits (other than problems that are appropriately addressed with legal action). 2-t. Research and promote the benefits of adopting ISO 14000 standards. 2-u. Present and publicize awards for sustainable businesses, neighborhoods, city agencies, and community leaders. Also publicize booby-prizes for the worst environmental performance.
	Employment 2-J. Local business employs San Francisco residents as a priority. 2-K. Flexible conditions of employment and	2-12. The percentage of service-industry employees who are San Francisco residents has increased.	2-v. Collaborate to assess the workforce needs of sustainable industries to design more effective curricula for the City's institutions of higher

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	benefits allow individuals to more effectively handle job, personal, and family time and to reduce environmental impacts associated with working, such as transit energy use. 2-L. Neighborhood-level services are available to support sustainable economic community and neighborhood development throughout the City. Labor and capital for these services are provided by local residents where possible. 2-M. Organized labor develops and implements policies and strategies that address the needs of labor and business in a sustainable economy, adding issues like flexible work-time schedules and day-care to their traditional employment concerns.	2-13. Employment flexibility (work hours, work at home, and time allowances for the use of public transportation) has increased. 2-14. Sustainable jobs have increased through: • A reduction in unemployment, • An increase in youth employment, and • An increase in the number of retired people acting as mentors to youth. 2-15. Organized labor has modified its strategies for labor organizing and bargaining to base them on the conditions of a sustainable economy. 2-16. One neighborhood program per year has been established that manages neighborhood projects and employs local workers. 2-17. Apprenticeship programs have been established in secondary-materials manufacturing and other more sustainable industries, such as solar cell	education. *(Action suggested for business and educational institutions)* 2-w. Market the positive environmental features of the Bay Area to train and maintain a work force that meets the needs of Bay Area businesses. 2-x. Act as a role model by: • Using only local contractors where possible for all services, and • Using and providing incentive programs for flexible employment practices. *(Suggested for city government)* 2-y. Establish a program that manages neighborhood projects and employs neighborhood residents.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		manufacturing and production of alternative vehicles.	
3. Resource Efficiency To use all material and energy resources with the highest possible efficiency. To shift to renewable energy as the ultimate basis for a sustainable economy.	3-A. Full circulation of resources and maximum energy conservation has been achieved. 3-B. Waste brokerages serve city and regional businesses and government enterprises. 3-C. Nearly all of San Francisco's waste stream is diverted toward reuse, recycling and related businesses that produce value from discards, and remain in the City. 3-D. Renewable energy is the City's only substantial energy source. 3-E. Contracts, grants, and procurement specifications give preference to contractors, grantees and vendors who provide renewable-energy technology, or use it in the operation of their business. 3-F. City zoning supports alternative energy production and use.	3-1. A waste exchange has been created among city agencies for solid waste, wastewater, office furniture, computers, and other materials. 3-2. The recycled content of commercial products purchased in the City has been increased to improve demand for recycled products, leading to job creation in the recycling industry. 3-3. The percentage of post-consumer recycled content in office paper purchased in the City has reached 65%. 3-4. The percentage of materials salvaged from the waste stream has increased. 3-5. Through the use of recycling-market development zoning, jobs and businesses in secondary-materials manufacturing have significantly increased. 3-6. Development of renewable energy sources	3-a. Switch to an industrial ecology approach for industry and government planning. 3-b. Research advances in materials processing to develop new strategies for resource recovery (for instance, textile-scrap uses). *(Action suggested for businesses and universities)* 3-c. Recruit San Francisco manufacturers that can use as raw material by-products from city industries. 3-d. Act as a role model by committing to maximizing 100% recycled or reused material in all types of purchases (such as cars, building materials, and office and maintenance supplies). *(Action suggested for city government)* 3-e. Lobby state and federal governments to create *labeling and packaging guidelines* that follow leading-edge

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		has been expanded.	industry, product and international standards. 3-f. Provide no-cost or low-cost space at Hunter's Point and Treasure Island for sustainable industries such as waste-brokering. 3-g. Create apprenticeship programs targeting secondary-materials manufacturing.
4. The Economic Impact of Land Use To create land uses that are adaptable to the needs of a sustainable economy and that stimulate demand for sustainable products and services. To achieve a developed-property base that is free of pollutants and is used in a way that maximizes San Franciscans' quality of life and minimizes negative impacts on the environment.	4-A. Economic incentives and disincentives have worked with an educated community to create sustainable development. 4-B. Sustainable use of underutilized and contaminated properties has been achieved through environmental restoration and redevelopment. 4-C. Land use planning and development regulations, management processes, and enforcement mechanisms maintain a sustainable economy. 4-D. Substantial unpaid costs of development have been eliminated. 4-E. *Community-based planning* is used in every	4-1. The City's planning and development implementing tools (the master plan, zoning code, California Environmental Quality Act implementation guidelines, and redevelopment policies) have been revised to: • Eliminate barriers to and stimulate demand for sustainable land-use patterns, • Develop and incorporate green planning and building standards, • Promote neighborhood services and community-based business and job development, and	4-a. Implement a pilot project demonstrating environmentally sustainable, community-based development. 4-b. Expand the open-space maintenance fund by moving some revenues from road maintenance and by soliciting business and community donations. 4-c. Convert some paved areas such as streets and abandoned lots to green spaces. 4-d. Build roof-top gardens, urban farms, and urban gardens. 4-e. Consider sustainable development zones which allow uses previously excluded (such as home businesses that ship and

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	neighborhood of the City (with oversight from the Planning Commission). 4-F. Green building, planning, and development are widespread. 4-G. San Francisco's transportation system has been made resource-efficient and cost-efficient and integrates modes appropriate to the scale of travel, fully accommodating pedestrians, public transit, bicycles and electric vehicles. 4-H. Zoning that is based on a consideration of the environmental impact of land use has been established. 4-I. Development projects include mitigation of environmental impacts on-site as part of project costs. 4-J. Industrial and commercial facilities are reused, when possible, rather than demolished and rebuilt. 4-K. A post-disaster earthquake land-use and redevelopment plan is in	• Support mixed-use development of home businesses, commercial enterprises, and appropriate industry. 4-2. A complete portfolio of development impact fees and other mechanisms to eliminate substantial unpaid costs of development has been prepared. 4-3. A program to institute community-based planning (with oversight from the Planning Commission) in every neighborhood of the City is underway. 4-4. A plan for a resource- and cost-efficient, integrated, multi-modal transportation system is being implemented. 4-5. The development-permitting and compliance process has been streamlined, thereby minimizing the financial and time burdens on local businesses and improving economic productivity and efficiency. 4-6. Development policies for including	receive goods without unreasonable interference). 4-f. Develop zoning policies that are based on a consideration of the environmental impact of land use, and test them in a small area of the City. 4-g. Limit access by gasoline-powered vehicles to designated streets to allow greater access by bicyclists and pedestrians. 4-h. Investigate and emulate existing green building programs, such as that developed by the City of Austin, Texas. 4-i. Revise redevelopment policies and programs to incorporate concepts of sustainability. 4-j. Restore several under-used or contaminated areas, such as Port of San Francisco properties, to natural habitat. 4-k. Redevelop under-used or contaminated properties using sustainable development land-use principles.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	effect that specifies appropriate reuse for devastated areas and contains an effective implementing mechanism for controlling rebuilding.	environmental impact mitigation on-site (such as the life-cycle analysis standards developed by the American Institute of Architects or the Green Building Council) have been developed. 4-7. Green building standards for city zoning, planning, and building have been developed. 4-8. A city-wide system for expanding and protecting open space has been created.	4-l. Study the elimination of hidden and unpaid costs of development, including: • Modeling the economic and land-use implications of various policy-change options and • Recommending methods for enacting proposed changes. *(Action suggested for a government-university task force)* 4-m. Streamline development permitting and compliance. 4-n. Complete a pilot redevelopment project based on the principles of sustainable development.
5. Community To distribute sustainable economic activity and housing throughout San Francisco's neighborhoods. To ensure that all community groups are employed and housed. To ensure that every	5-A. The benefits of a vibrant economy are accessible and equitably shared among all neighborhoods. 5-B. The City's housing is efficient, attractive, and affordable to residents, with neighborhood land use based on human-scale and mixed-use planning principles.	5-1. Mixed-use, efficient, attractive, human-scale, affordable housing has been increased. 5-2. The amount of open and green spaces in neighborhoods has been increased, along with the number of people employed in their maintenance. 5-3. A citywide network	5-a. Use the approach described in the master plan to improve the City's housing stock. 5-b. Give priority to city residents with the highest need for employment when recruiting for employment opportunities in green space maintenance. 5-c. Establish

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
neighborhood has the resources needed for a good quality of life. To ensure that sustainable economic practices are employed in the City's households. To ensure that the demand for necessary goods is met by goods created using sustainable practices.	5-C. Every neighborhood has enough open and green space. 5-D. Public transit provides residents in all neighborhoods equitable access to work and services. 5-E. Housing that promotes shared resources, including co-housing and group houses, is common throughout the City. 5-F. Planning and economic decisions are made primarily through neighborhood boards in all neighborhoods. 5-G. *Sustainability resource centers* have been established in each neighborhood. 5-H. The City's residents manage their households with products and services that: • Are produced in an ecologically sustainable manner, • Maximize recycling, • Minimize energy use, • Minimize toxic use,	of neighborhood boards has been established. 5-4. The percentage of local contractors and minority- and woman-owned businesses working on publicly funded projects has increased. 5-5. Five co-housing projects have been built in the city, with at least 30% of their units affordable. 5-6. Recycling and composting centers employing local residents have been established in numerous locations accessible to all neighborhoods. 5-7. Two neighborhood sustainability resource centers have been established. 5-8. The number of federal enterprise zones has been increased to seven. 5-9. Household retrofits to reduce water and energy use have increased. 5-10. Purchase of green products and services has increased.	neighborhood boards, which: • Have a voice in planning decisions affecting their neighborhoods, and • Create small-scale actions and programs for strengthening their neighborhood economies. 5-d. Determine the adequacy and distribution of transit service with respect to the needs of San Francisco's population. 5-e. Create tax incentives for owners of lots suitable for gardens to create more garden projects targeting the disadvantaged for employment. 5-f. Fund one new project per neighborhood per year to create useful employment for local youth and elderly, homeless, rehabilitated and disabled people. These projects would be managed by the neighborhood boards and could be funded through such sources as the new environment department or federal or state block

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	and • Eliminate the release of toxic material into the environment. 5-I. San Francisco's large senior population is involved in multiple aspects of the community and the economy.		grants. 5-g. Implement programs to strengthen local cultural and ethnic activities. 5-h. Create neighborhood sustainability resource centers and support similar projects now underway, such as that of the Haight Ashbury Neighborhood Council. 5-i. Build an affordable co-housing project. *(Action suggested for city government and one of the non-profit housing developers)* 5-j. Provide incentives and implement other strategies to attract businesses that provide basic services (such as shopping, banking, laundry, and food service) to under-served neighborhoods. 5-k. Increase neighborhood activities that enhance community sustainability, such as tree planting, building reuse, garden projects, and community events, and coordinate them through the sustainability resource

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			centers. 5-l. Provide information, education, and resource support to worker-owned businesses. 5-m. Use incentives to encourage San Francisco residency for city employees. (*Suggested for city government*)
6. Education To provide the public with the skills and knowledge necessary for creating and maintaining a sustainable economy. To create a community that understands the economic and quality-of-life benefits of sustainable development. To maximize information about sustainable services and products.	6-A. The knowledge necessary to maintain a sustainable society is effectively communicated by: • Educational mechanisms, such as schools and public media, and • Communications professionals, such as journalists, editors and writers. 6-B. An educated work force attracts knowledge-based industries to San Francisco. 6-C. High-school graduates are employable, and curricula prepares students for jobs and careers in a sustainable	6-1. A number of public/private partnerships for education develop class work and special seminars based on the research and development needs of business in the transition to an ecologically sustainable economy. 6-2. Interdisciplinary environmental education has been incorporated into the public school curriculum. 6-3. A *magnet school* with a sustainability focus has been established. 6-4. A system of community-based sustainability educational information networks (which include access to job information and small-	6-a. Produce information for various media about the nature and benefits of ISO 14000 and other emerging environmental management approaches. 6-b. Sponsor a series of educational events about the transition to a sustainable economy. *(Action suggested for the Chamber of Commerce and other appropriate organizations)* 6-c. Publish case studies of the progress of firms that pursue ISO 14000 certification. 6-d. Develop a sustainability curriculum for schools. 6-e. Revise existing curricula to more

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	economy. 6-D. Public-private partnerships develop general and applied curricula for an ecologically sustainable economy.	business support) has been created.	effectively meet the work-force needs of targeted sustainable industries. *(Action suggested for a joint project between business and educational institutions)*

Definitions of Terms Used in The Economy and Economic Development Matrix

Brownfield. Abandoned or underutilized property in both industrial and residential areas, which has not been redeveloped due to concerns about the perceived cost of environmental clean-up.

Community-based planning. Planning that includes a consideration of the social and environmental effects of placement, architecture and infrastructure. Some of its aspects are: home-based and micro-business development, transit-friendly development densities, improved housing opportunities, and mixed-use projects.

Industrial Ecology. A business-management analytical framework, based on the dynamics of natural ecosystems, which considers the complete interaction of production, services, resource and energy use through the complete recycling of by-products, elimination of waste, and reduction of use of toxins or products harmful to local ecosystems and communities. Industrial ecology requires complex and continuous interaction among all components of the industrial system.

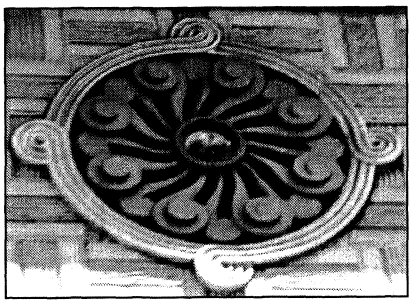
ISO 14000. Voluntary international standards devised by the International Standards Organization (Geneva, Switzerland) that establish environmental management system methodologies and a review process.

Labeling and packaging guidelines. Regulations that allow consumers to have at least some information to assess the environmental impact of their purchasing decisions (such as recycled content information) or set standards for industry to reduce the impact of its packaging (such as consumer take-back options and reduced packaging mandates).

Life-cycle analysis. The measurement of waste, pollution, and environmental impacts of all phases of production, service, transportation, distribution, and disposal.

Magnet school. A specialty school which draws qualified students from districts throughout the City.

Sustainability resource centers. Community centers that provide information and training about things people and businesses can do to improve the sustainability of their neighborhoods, homes, and workplaces. Through the center, residents organize and coordinate projects to improve neighborhood sustainability, such as community gardens and building retrofits for energy and resource conservation. Examples include the Ecology Center in Berkeley and Cooperative Resource Service Providers in Los Angeles (part of the Los Angeles Eco-Village).



ENVIRONMENTAL JUSTICE

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Introduction

Can there truly be a healthy, sustainable environment without justice? [ref. 1] Across the United States, poor communities and communities of color bear a disproportionate burden of environmental pollution. A national, multi-cultural environmental justice movement has emerged over the last decade to tackle the problem. Environmental problems are woven into the fabric of people's lives and communities are recognizing the need for broader social solutions beyond the mitigation of a particular risk or environmental hazard. Individual environmental hazards are seen as part of a larger context of problems that a single community faces, including inadequate access to quality health care and education, poor job opportunities, lack of affordable housing, and being left out of the process of identifying problems, communicating risks, developing responses to problems, and developing mitigation strategies. Rarely are the needs of low-income communities and communities of color taken into account in the identification of environmental health problems, studies of health outcomes, and/or designing appropriate interventions. Using a "holistic" approach and bringing together civil rights and environmental activists, the environmental justice movement integrates a broad range of issues, including environmental pollution, public health, worker safety, land use, transportation, housing, economic development and community empowerment. [ref. 2]

"Sustainability" means different things to different people. The term is most common among policy- and decision-makers who are far removed from the day-to-day struggles of poor and working-class communities. A "sustainable community" seems to refer to an idealized, utopian place or condition. However, many people and cultures do not use "sustainability" in their language, and this term is not universally shared. From the perspective of environmental justice activists, sustainability must include a process of collective decision-making

and address issues of social inequality and racism as well as ecological degradation. A sustainable community provides:

- A means of livelihood for all people,
- Resources to participate in civic life, and
- Respect for all members of the community. [ref. 3]

Although most environmental justice activists do not use the term "sustainability" to describe their efforts, for many the survival and environmental health of communities has been a central theme. The Southwest Network for Environmental and Economic Justice, a network of numerous environmental grassroots community organizations throughout California and the Southwest, describes sustainability as encompassing the political and personal, the tangible and intangible, the past and the future, and includes such ideas as "accountability, self-determination, justice, youth, nature, creation, collectivity, knowledge, culture, spirituality, and livelihood." To build a multi-cultural, socially just, sustainable community, it is necessary to work together to develop a shared language and vision for San Francisco.

Several local examples illustrate the need to look at environmental issues from an environmental justice standpoint.

- Despite being collectively charged more than $5,000 per month to support the City's curbside recycling program, until 1994 Chinatown residents did not receive the same level of recycling services provided to most other neighborhoods in San Francisco. Community advocacy from a base in Chinatown changed this situation.
- Bayview-Hunters Point is an area of San Francisco documented to have disproportionately high ambient pollution compared with the rest of the city. It is also an under-served community, with a large proportion of residents of color. Community advocates sucessfully fought a power plant proposed for the area and are working with the City's Department of Public Health on a community-wide environmental and health assessment project, in an effort to address the effects of toxic pollution and other environmental illnesses suffered by community residents.
- In the Mission, where 80% of the population lives in rental units, the low-income and primarily Latino residents have a serious problem with exposure to lead paint, which can lead to childhood lead poisoning. Local activists have supported a lead-paint poisoning prevention ordinance and help educate residents about the issue.
- San Francisco is also the home of several cutting-edge community-based programs that embody the goals and implementation actions of environmental justice. These include an innovative greening and gardening job-training program through the Sheriff's Department for correctional inmates, and a series of community gardens and greening projects that are designed from a community perspective to provide local jobs and training.

One of the most important aspects of environmental justice is the question of participation. In this context, it is appropriate to examine whether the sustainability plan drafting process itself has been inclusive of people from the entire community. Generally, volunteer drafters have been recruited from three sectors: environmental activists, City departments, and the business community. While the sustainability draft is regarded as a "starting point" for public participation and was not intended to be a final document, the drafting process has been

insufficiently inclusive with respect to public participation. It did not ensure the contribution of community residents, particularly those living in the City's lower-income communities of color who are bearing the brunt of the City's environmental industrial pollution. Any plan for the City's sustainability should reflect the views and perspectives of San Francisco's multi-racial, multi-ethnic communities and not only just those of people with the time to attend drafting meetings. For the Sustainable San Francisco project to serve as an effective planning tool, community outreach efforts must be undertaken and public hearings and planning sessions conducted beyond those conducted during the summer of 1996.

Sustainability Strategy

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. To establish meaningful participation in the decision-making processes that affect historically disadvantaged communities of San Francisco.	1-A. Both the marginalized and the powerful communities in San Francisco share in the responsibility for preserving San Francisco's ecological and social environment.	1-1. Information about decision-making processes is made accessible in culturally and linguistically appropriate formats.	1-1-a. Broadly publicize meetings. 1-1-b. Direct outreach into all communities. 1-1-c. Have a pool of translators and interpreters available at all times. 1-1-d. Translate documents and agendas. 1-1-e. Hold meetings in affected communities on a wide range of sustainability issues.
		1-2. Community education about: • Issues that affect historically disadvantaged communities and	1-2-a. Create an environmental resource center where residents can gain access to information about environmental hazards in their communities; also create a community-initiated

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		• The decision-making process is supported.	system for collecting, analyzing, and disseminating information about environmental hazards in various communities. 1-2-b. Ensure that information regarding present and future public policies reaches all residents of San Francisco; including disseminating information via non-traditional forums such as religious institutions, schools and community-based organizations. 1-2-c. Recognize and financially support urban, community-based environmental education programs.
		1-3. Decision-making bodies and processes have adequate and direct representation of affected communities.	1-3-a. Include proportional representation from historically disadvantaged groups in all decision-making bodies. (Candidates for these positions should be chosen by and reside in the communities they wish to represent.)
		1-4. All residents of San Francisco participate as equal partners at every	

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		level of decision-making processes, including planning, implementation, enforcement and evaluation. 1-5. Community awareness of policies and plans affecting the communities of San Francisco has increased.	
2. To create a vibrant community-based economy with jobs and career opportunities that allow all people economic self-determination and environmental health.	2-A. Adequate, non-polluting means of livelihood have been provided so people are not forced to choose between jobs and environmental health. 2-B. Extensive public awareness of the advantages of community-based enterprise (money going back into the community rather than out of it) has been created. 2-C. Sustainable businesses have been created throughout San Francisco that generate jobs and capital for poor communities. 2-D. A skilled work force in poor communities has been created that is ready to work in new and existing sustainable	2-1. Residents of poor communities are trained in the basic and technical job skills required by new and existing sustainable businesses and industries. 2-2. An economic strategic plan has been developed that will appropriately place (according to resource supplies, resource needs, cultural fit, etc.) just and sustainable businesses and industries into communities within San Francisco, 2-3. Local, state, and national sources of economic and technical business and industrial assistance have been identified and are in use. 2-4. The volume of community-based economic activity in poor	2-a. Create and fund locally staffed neighborhood economic development corporations to research and develop appropriate non-polluting businesses in poor neighborhoods. 2-b. Provide economic and technical assistance to those businesses, such as loan programs for home-based and small businesses especially in poor neighborhoods with the concept of sustainability as a criteria for such loans. 2-c. Link economic development corporations with federal programs (such as Climate Wise) that sponsor environmental assessments of existing local industries to make them more economically

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	businesses and industries. 2-E. Existing toxic, radioactive, hazardous, or otherwise polluting industries and businesses in poor neighborhoods have been replaced with safe and sustainable ones. 2-F. City standards of workers' occupational health and safety have been bolstered to minimize workplace illness and injury. 2-G. Residents of lower-income communities of color have access to technology and resources to participate in sustainability programs.	communities of color has been increased from 20% to 80%. 2-5. The economic and environmental well-being of historically disadvantaged communities has increased to reach parity with all other communities in San Francisco, according to traditional economic and environmental indicators. 2-6. 25% of existing and new businesses and industries are enrolled in environmental/ environmental justice incentive programs.	sound and less polluting and to cut energy and waste costs. 2-d. Create an incentive program for small and large businesses and industries to meet environmental and environmental justice sustainability criteria, recognizing that sustainability is an ongoing process rather than an end goal. 2-e. Create an incentive program for landlords and homeowners to extend accessibility to low-flow toilets, weatherization, etc.
3. To eliminate disproportionate environmental burdens and pollution imposed on historically disadvantaged communities and communities of color.	3-A. Pollution prevention strategies to reduce environmental pollution throughout the City of San Francisco have been implemented, with special focus on reducing the amount of pollution and toxic waste having an impact on historically disadvantaged communities. 3-B. The amount of pollution and toxic waste having an impact on historically disadvantaged	3-1. The amount of environmental pollution affecting historically disadvantaged communities of color has been reduced by 25%; 3-2. The approvals process for proposed projects that have the potential to cause significant adverse environmental impact take into account: • The demographics surrounding the site	3-a. Identify communities in San Francisco that have been disproportionately burdened with environmental pollution ("EJ communities"); 3-b. Through detailed and comprehensive environmental assessments, identify sources of environmental pollution affecting EJ communities and identify a quantifiable "baseline" for pollution (this "baseline" may serve as a

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	communities is dramatically reduced.	and • The fair distribution of the burdens and benefits of such projects among the City's communities. 3-3. The percentage and amount of environmental pollution in communities in San Francisco that have been disproportionately burdened with environmental pollution ("EJ communities"); has been reduced.	supplement to the 1994 Environmental State of the City Report); 3-c. In partnership with local residents, establish an inter-agency task force to develop a comprehensive plan and implement pollution prevention strategies to reduce pollution in EJ communities (these could include promoting new technologies, using alternative manufacturing materials, promoting economic incentives and/or increasing enforcement and regulatory compliance).
4. To create a community with capacity and resources for self-representation and indigenous leadership.	4-A. The relations of power have been altered so that historically disadvantaged communities are able to participate as equal partners with business, government, environmental and other sectors.	4-1. Resources have been provided and support has been given to organizations that develop indigenous leadership and community capacity in historically disadvantaged communities. 4-2. The contributions of people from diverse sectors of historically disadvantaged communities, with an emphasis on those who suffer the greatest environmental risk, are solicited and considered.	4-a. Fund community-based organizations for leadership development activities and community organizing within historically disadvantaged communities. 4-b. Hire staff with first-hand understanding of historically disadvantaged communities. 4-c. Consult with diverse sectors of historically disadvantaged communities, especially those who suffer the greatest environmental

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			risk.
5. To ensure that social and economic justice are established as an integral aspect of environmental well-being and sustainability.	5-A. Long-term strategies that integrate activities of business, city government, and community groups with the goals of social, economic and environmental sustainability have been established.	5-1. The environmental program and project resources of all city departments shall be divided equally between: • The local social and community aspects, and • The environmental conservation aspects of environmental problems.	5-a. Audit current city government expenditures for environmental programs and projects based on social justice criteria such as geographic distribution within the City, emphasis on social equity goals, amount of community-based participation, and emphasis on neighborhood leadership development. 5-b. Create partnerships among local businesses, residents and city officials to reorganize city government to balance departmental activities on environmental issues equally between community activities and conservation activities. 5-c. Create partnerships among local business, residents and city officials to establish ongoing neighborhood community planning processes. 5-d. Prepare neighborhood plans for all areas of San Francisco based on social, economic and environmental goals and on the participation of

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			local business, residents, and city officials.

References

1. A similar question was asked by Charles Lee, Director of Research, United Church of Christ, Commission for Racial Justice, in an article, "Evidence of Environmental Racism" (1990).

2. Bullard, Robert D., "Environmental Justice: A New Framework for Action," Environmental Law News, Vol. 5, No. 1, pp. 3-9 (Spring 1996).

3. EDGE, "Beyond Fear: Addressing Population and Sustainability Concerns in California" (1995). "Sustainability" has also been defined as having at least three broad components: access for all to safe livelihoods that pay livable wages, protection of environmental health, and the equal participation of all communities in decisions that affect their lives. Urban Habitat Program, "Sustainability & Justice" (1995).

MUNICIPAL EXPENDITURES

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Introduction

Economist John Maynard Keynes once wrote, "The important thing for Government is not to do things which individuals are doing already, and to do them a little better... but to do those things which at present are not done at all." The City of San Francisco, through its actions and by example, is now in a position to create a new trend. It can set a realistic course toward sustainability in both the public and the private sectors. Municipal expenditures must go beyond collecting and allocating tax dollars to become part of a larger governmental policy which has sustainability as a foundation, and which encourages and enables the fulfillment of this goal throughout the community.

The paramount question repeatedly asked by our city officials is, "How should the government allocate its $3.4 billion annual budget to improve the quality of life in San Francisco?" An integral part of the answer to this question is to establish resource-efficiency criteria for all municipal expenditures. These criteria should affect all aspects of governmental activities, both internally and as they relate to the public at large—it is only through a collaborative effort that sustainability can be reached.

Within city government, policymakers must be committed to including long-term sustainability issues in their decision-making processes. A part of this process is the establishment of an environmentally sensitive "full-cost" accounting system. This is a system which takes into account:

- An evaluation of capital expenditures for procurement,
- The maintenance of the City's material resources,

- The cost of operating facilities over time, and
- A consideration of the full cost of disposal of the goods it purchases.

Full-cost accounting not only gives a clearer picture of the long-term *direct* costs to the City of purchasing and maintaining supplies, equipment and facilities, it includes the *indirect* costs such as landfilling and hazardous waste disposal. These indirect costs represent very real municipal expenses, which are often ignored when purchasing decisions are made. Full-cost accounting is essential for prudent long-term fiscal management.

This so-called "cradle-to-grave" approach to municipal spending can be facilitated by environmentally savvy managers who are motivated by peer esteem, and by the accomplishment of sustainability objectives through performance requirements.

The role of the government is not limited to what can be achieved with prudent expenditures solely within the bureaucracy. Government expenditures also may be used to provide information and promote change in the private community. With public awareness of successful programs within the government as a guide, and under the direction of informed leaders, private enterprises will be encouraged to take a proactive approach to sustainability. Under these circumstances, businesses ultimately will be motivated both by the need to satisfy government expenditure criteria and by the desire to be regarded as leaders in their fields.

Five fundamental principles have been identified that serve as a framework for a sustainable municipal expenditures strategy:

The goal of municipal expenditures is to improve the quality of life in San Francisco.

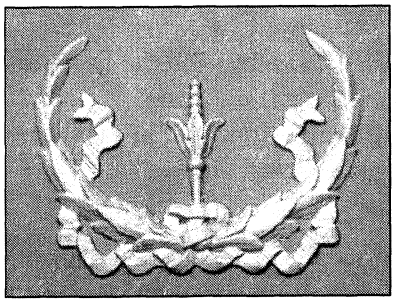
- The City's policy structure should support creation of a sustainable city.
- Municipal expenditures should be tailored to realize sustainability.
- The City should leverage its resources to facilitate sustainability in the private sector.
- The City should establish resource-efficient criteria for all resource allocations.

Sustainability Strategy

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. Policy To establish a policy framework that facilitates long-term sustainability as it relates to municipal resources. To achieve greater efficiencies in utilization of resources by expanding the number of factors considered when purchasing products and developing capital projects. To influence state government to make laws that do not conflict with San Francisco's sustainability program goals. To make city departments as environmentally efficient as possible.	1-A. The environmental impact of technology decisions is a required part of the overall decision-making process. 1-B. Resource utilization is considered in all policies affecting municipal expenditures. 1-C. A commitment of funding for long-term maintenance of facilities or structures has been incorporated in all requests for loans, grants or bond financing for capital improvements. 1-D. A lobbyist devotes full-time promotion of the City's sustainability goals at the state level. 1-E. "Total quality management" programs (to promote sustainability) exist in all departments, thus creating an effective framework to motivate city employees.	1-1. Policy-makers include long-term sustainability issues in their decision-making process. 1-2. A long-term budgeting policy promoting multi-year funding support and life-cycle costing (full-cost accounting) for capital expenditures has been established. 1-3. A lobbying program to communicate San Francisco's sustainability goals to the state government has been created. 1-4. "Total quality management" programs (to promote sustainability) have been established in selected departments, thus creating an effective framework to motivate city employees.	1-a. Enact legislation that directs the Purchasing Department, Mayor's Office and Controller's Office to create a list of a parameters for the environmental impact of technology, full-cost accounting, and resource utilization minimization. 1-b. Allow departments greater latitude for managing resources; reward departments for achieving objectives. 1-c. Follow adopted guidelines in all funding contracts, leases and other agreements for goods. 1-d. Utilize the fundamental principles (listed in the introduction of this section) when evaluating financial issues. *(Suggested for the Budget Analyst's Office)* 1-e. Review the current administrative code for modifications, deletions, and additions necessary to implement sustainability goals.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			1-f. Develop multi-year budgeting for capital goods. 1-g. Promote the concept of sustainability at the State level. 1-h. Adopt procedures within "total quality management" programs that conform to adopted sustainability legislation.
2. Education To promote and facilitate change in the public sector, based on the concepts of sustainability. To become leaders in setting examples of environmental initiative. To create a culture that extends to the private sector in which sustainability concepts are included routinely in business decisions.	2-A. City departments incorporate into existing orientation and training sessions information which promotes awareness of sustainability issues. 2-B. Vendors are encouraged to approach the City with innovative "green" products.	2-1. City departments have developed information materials to promote awareness of sustainability issues. 2-2. Successful departmental sustainability programs have been identified. 2-3. A program to educate product and service providers on the City's "green" needs has been implemented.	2-a. Publicize success and inform the general public by implementing a public awareness program to publicize successful efforts to achieve sustainable practices. 2-b. Develop and disseminate information about effective and successful programs. 2-c. Create a "green vendors" list with associated products availability.
3. Finance To use municipal resources to encourage people to make sustainable choices.	3-A. Rules for purchasing and contracting allow factors other than low bid to be considered. 3-B. All purchasing procedures to encourage the use of environmentally sound materials have been	3-1. A full-cost accounting and resource-efficiency procurement system which requires an evaluation of capital, maintenance and disposal costs has been established.	3-a. Create standard guidelines on full-cost accounting systems for departments to use when making purchasing decisions. *(Suggested for the Budget Analyst's Office)*

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
To establish a facility maintenance program which supports sustainability concepts.	modified. 3-C. All construction contracting procedures to encourage the use of environmentally sound materials have been modified. 3-D. Dedicated funds are provided to address maintenance of public buildings and utility infrastructure.	3-2. All departments have developed a maintenance program that sustains city parks, buildings, streets and other public facilities. 3-3. Contracting procedures have been modified, enabling them to be tailored to meet the goals of the user.	3-b. Fund a facility maintenance program at 2% of the City's annual budget. 3-c. Establish sustainability criteria. 3-d. Incorporate longer-term thinking into directives and incentives for departmental operations.



PUBLIC INFORMATION AND EDUCATION

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Introduction

At every step in the process—from development to implementation to evaluation—effective public education and information efforts are absolutely key to achieving a sustainable San Francisco. Informational and educational resources should give a wide variety of audiences the tools to understand and value what it means to live sustainably. The goal of this section of the sustainability plan is to motivate every resident and visitor to act as stewards of a sustainable city.

Given the City's rich diversity of communities and cultures, a comprehensive public education and information strategy will recognize the need to be consistently engaging, positive and inclusive. Accurate, usable information about sustainability should be widely available, in many languages and formats. Libraries, homes, schools, workplaces, community centers and public spaces should all be places where individuals can gain access to and exchange information, educate themselves and each other, and participate in discussions, hands-on learning, and volunteer projects. All residents and visitors to the City should be able to experience working examples of sustainability within their own and other communities. Lifestyles and business practices should increasingly reflect everyone's knowledge and acceptance of sustainability principles, further reinforcing a city-wide ethic of stewardship.

Public Information and Education

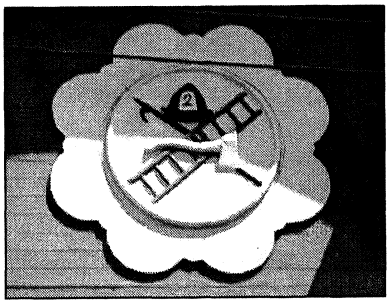
Ongoing public information and education efforts will encourage all San Franciscans to understand the *whys* and *hows* of sustainable living. Evaluation is critical to measuring the overall effectiveness of these efforts. Additionally, publicizing indicators of progress toward a sustainable San Francisco will inform and invigorate the daily decisions that all San Franciscans, as residents or as representatives of government, business and nonprofit organizations, make about living more lightly on the region and the planet.

Sustainability Strategy

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. To educate and motivate everyone in San Francisco to choose to live more sustainably. 2. To impart a sense of responsibility and accountability, and an understanding of interrelationships in nature, including human culture. 3. To make sustainability planning, implementation and evaluation an ongoing process in San Francisco that is adequately funded. 4. To educate San Francisco consumers on options available to promote	A. A comprehensive public education plan provides information about living sustainably. B. An outreach program brings "green city" model(s) (a representation of and information on an environmentally sound, socially just city) into all communities, libraries and schools throughout San Francisco. C. *Sustainability* is a household word. D. All environmental programs and activities are coordinated through a centralized telephone number and facility, providing not only	1. A plan to achieve the public education goals in all other sections of San Francisco's sustainability plan has been developed. 2. Outreach programs that are multi-lingual and multi-culturally sensitive have been developed. 3. A highly visible "green city" model with supporting outreach information that illustrates sustainable living and its short- and long-term benefits has been developed. 4. An integrated environmental curriculum is in use	a. Conduct an outreach campaign that: • Explains what sustainability is in a simple and celebratory way, • Makes informational materials widely accessible, • Collaborates with the media to develop educational strategies, and • Includes art, culture, and innovative educational strategies. b. Conduct workshops on all topics in the sustainability plan for individuals, teachers, businesses, and other sectors of the community. c. Make all materials and activities available to all communities. d. Meet with community representatives to ensure that the sustainability plan and educational materials are culturally appropriate.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
sustainability. 5. To foster community investment and participation in sustainability efforts, including discussion groups, community forums, and volunteer activities.	access to government programs, but facilitating networking between organizations and individuals. E. All San Francisco schools give students skills and experience related to sustainability.	in all public elementary schools in San Francisco. 5. Evaluation tools to measure progress and promote programs have been developed. 6. An accessible clearinghouse of environmental information promotes volunteer networking among organizations and individuals. 7. Hands-on volunteerism has increased. 8. Guidelines and policies for public- and private-sector purchasing that reflect sustainable practices have been developed and distributed. 9. Guidelines and policies for individuals' purchasing that reflect sustainable practices have been developed and distributed.	e. Seek out community venues to set up information tables and booths, including community fairs, meetings, religious institutions, PTA meetings, farmers' markets, and festivals. f. Engage the media through community and civic meetings, press conferences, press releases, and ongoing sustainability features on news programs. g. Gather, make accessible, and publicize environmental information and curricula. h. Adopt an integrated environmental curriculum in the San Francisco schools that includes classroom-based and service components. i. Create a working model sustainable school within the San Francisco public school system, converting an existing school building and involving students in the process. j. Promote responsibility among members of the civic and business communities. • Invite the civic and business communities to educational meetings, workshops, round-tables, and summits that provide resources for conducting business sustainably and illustrate examples of businesses' successful sustainability efforts. • Hold a series of "executive briefings" for the civic and

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			business communities on steps to achieving sustainability, for employees and employers. • Meet with business representatives to encourage their participation, including corporate sponsorships, in outreach efforts. • Conduct workplace-based workshops on sustainability, for employees. k. Develop incentives for everyone to live more sustainably, including awards and recognition programs for businesses, schools, and individuals. l. Promote sustainability in existing and new public and private development projects (both housing and commercial), especially during the preliminary planning stages. m. Promote environmental service through volunteerism.



RISK MANAGEMENT

ACTIVITIES OF HIGH ENVIRONMENTAL RISK

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Introduction

The purpose of addressing environmental risk management in this plan is to assess the primary risks of major, single-cause environmental damage to the City of San Francisco, and to suggest a strategy for minimizing them. San Francisco's diverse manufacturing, shipping, transportation and other commercial activities, and its dense population, make it likely that certain acute events, or "disasters" will occur. For example, San Francisco, like all cities, experiences fires, hazardous materials incidents, and structural failures. These disasters have the potential to affect the City's long-term sustainability by causing loss of life; poisoning the air, water, and land; and destroying buildings which would otherwise serve succeeding generations.

The Bay Area is a high-risk region for earthquakes, that may, if sufficiently powerful, have the broadest impact on the most people of any type of disaster. Furthermore, earthquakes may trigger other events that pose acute risks, such as fires or toxic releases. Therefore, a major earthquake is the most likely disaster that could have a long-term impact on the city.

Separate from earthquakes, other acute risks may occur in isolated incidents. Although these are less likely to affect long-term sustainability, they are addressed in this plan as integral to earthquake response. A list of the more probable acute risks includes:

- Toxic releases from facilities and vehicles (rail, truck);

- Fires and explosions;
- Oil spills in the Bay; and
- Inundation and soil structure failures.

Preparedness is the key response to these risks. Preparedness will—by reducing personal, environmental and property damage—protect San Francisco's sustainability in the wake of these events. Being prepared is more than accumulating sufficient supplies; it extends to the training, resources, and emotional preparedness needed to move people to action and coalesce them into effective "action teams." The strategy outlined in this section describes actions to be taken by both the public and private sectors.

With two major terrorist incidents occurring on U.S. soil in the past five years (bombings at the World Trade Center in New York City and the Alfred P. Murrah Federal Office Building in Oklahoma City), consideration might also be given to the potential effects of civil unrest and terrorism. Mitigation measures are best taken at the state and federal levels, but additional consideration should be given to improving the security of the existing and future infrastructure of the City.

Sustainability depends upon the health and well-being of the City's population, as well as protection of the environment in which we live. Urban disasters produce environmental impacts that will permanently affect the environment. The strategy devised in this section is intended to provide for the most rapid response possible in the event of a disaster in order to minimize loss of life, property damage, and environmental damage.

Sustainability Strategy

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
1. ALL ACUTE RISKS To establish effective city and business disaster recovery programs. To increase the general public's ability to respond	1-A. To significantly reduce the loss of life and property damage from a major disaster. 1-B. Individuals and businesses perceive participation in preparedness programs	1-1. Funding for the Neighborhood Emergency Response Teams (NERT) program sponsored by the fire department is tripled, enabling it to grow effectively and conduct more classes.	1-a. Identify potential consequences and prioritize the method of responding to them in the event of a major disaster. 1-b. Develop educational materials in coordination with the Office of

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
constructively during an in the aftermath of a disaster. To minimize loss of life and property damage due to a disaster.	like the Neighborhood Emergency Response Teams (NERT) to be a "civic duty." 1-C. The general public is educated and organized for appropriate emergency response. 1-D. The general-public notification system (siren system) is in operation and maintained. 1-E. The City is prepared to provide mutual aid to other jurisdictions. 1-F. All San Francisco businesses are prepared for response to incidents related to major disasters. 1-G. All San Francisco businesses are prepared to respond and mitigate incidents which occur on their premises, even during major disasters. 1-H. Businesses are prepared to provide aid to others in the community. 1-I. Education programs and materials are written in multiple languages and available in all schools and libraries.	1-2. The NERT program has been translated into all languages of which San Francisco has a representative population of 3% or more. 1-3. A general-public notification system is established for disasters. 1-4. The City's emergency operations plan is regularly maintained and implemented in the event of a disaster.	Emergency Services, the American Red Cross, PG&E, the Fire Department, and other appropriate agencies. 1-c. Train public safety officials (such as firefighters, police officers, paramedics, and the Fire Department Hazmat team) on the emergency alert system. 1-d. Promote Neighborhood Emergency Response Team refresher trainings and exercises. 1-e. Ensure that the City/Office of Emergency Services siren system is installed and operates with voice activation in the event of a disaster. 1-f. Finalize and update the City emergency operations plan (EOP); train relevant responding agencies on the City EOP, Standardized Emergency Management System, and disaster management. 1-g. Encourage businesses to participate in NERT programs.

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
2. EARTHQUAKES (Including Resulting Fires, Power Outages, Transportation Accidents, and Tsunamis) To effectively operate infrastructure (water, gas, power, transportation, etc.) in areas that may be isolated during earthquakes.	2-A. A network of redundant systems and controls to promote the ability to effectively operate infrastructure is in place. 2-B. San Francisco continually improves its community/resident preparedness and is seen as being a leader in this area by other countries. 2-C. Architects, engineers, and contractors strive to achieve a "pride of survival" in their design and construction methods.	2-1. Three bunkers located in "open" spaces with rescue equipment and medical supplies have been built and stocked. 2-2. Hospitals and major roadway overpasses are retrofitted to withstand a major earthquake. 2-3. A program of public acknowledgment for engineering design and construction that minimizes the effect of earthquakes on structures is in place. 2-4. A program that ensures affordable earthquake insurance for home-owners and renters has been established.	2-a. Develop requirements for and fund programs to supplement official City recovery efforts. These programs would include the Neighborhood Emergency Response Teams (NERT) and the Building Operational Readiness Program (BORP). These efforts would: • Train responders; • Plan, fund, construct, and supply bunkers; and • Develop preparedness and response plans for specific populations, such as school children, the elderly and the disabled. 2-b. Mandate the retrofit of high-priority items identified in item 1-a, above. Such work might include seismic retrofitting for public, private and residential buildings. 2-c. Increase support for NERT and BORP programs by: • Funding to triple current resources;

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
			• Recruiting neighborhood organizers for all sections of San Francisco; • Providing media coverage of NERT and BORP activities; and • Increasing outreach in schools. ("It's 'cool' to be a NERT.") 2-d. Fund engineering design and construction prizes. 2-e. Develop training and resources for voluntary organizations, utilities, and the military as well as businesses which may need to respond on their own before receiving help from a public agency.
3. TOXIC RELEASES: **General** To limit or reduce the public health danger, environmental damage, and economic impact from hazardous materials incidents. (Hazardous materials include chemical, physical [including radiological],	3-A. The San Francisco general public is informed and prepared to take protective action in the event of a hazardous materials incident. 3-B. The general public is trained on evacuation and shelter-in-place procedures. 3-C. Responding agencies are prepared, equipped, and trained for *prompt*	3-1. The San Francisco general public is prepared to respond to hazardous materials incidents with the help of a system that has been developed to provide them with information about nearby sources of hazardous materials. 3-2. San Francisco city employees and other responding agencies are	3-a. Provide public service announcements (PSAs) on hazardous materials spills to the media and encourage them to utilize PSAs during spills. 3-b. Develop systems for public information on hazardous materials such as: • A "global information system" (a master

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
and biological agents).	response to hazardous materials incidents. 3-D. The Area Plan for hazardous materials is maintained and updated frequently, and all relevant city departments and response agencies are knowledgeable about the Area Plan.	prepared for response to hazardous materials incidents by: • Maintaining and implementing the San Francisco Area Plan for Hazardous Materials Incidents; • Having trained all public safety officers to handle hazardous materials incidents; and • Having provided all public safety officials responding to hazardous materials incidents with proper equipment and resources. 3-3. San Francisco private businesses are prepared for response to and mitigation of hazardous materials incidents which occur on their premises.	public-access database) at public access locations such as libraries; • Pamphlets on response to hazardous materials spills; and • A site on the Worldwide Web. 3-c. Maintain the Area Plan. 3-d. Develop a plan to coordinate response with other hazardous materials response teams. 3-e. Provide appropriate equipment to response teams. 3-f. Enforce the Risk Management Prevention Program and Hazardous Materials Ordinance requirements, including requirements for emergency response plans.
4. TOXIC RELEASES: **Oil Spills** To limit the risk of environmental danger from a major oil spill in the waters surrounding	4-A. San Francisco is protected from the significant and adverse effects from oil spills. 4-B. The San Francisco public is educated about oil spills.	4-1. High-risk areas and appropriate protection strategies have been identified. 4-2. A public education program about the effects of oil spills & ways to	4-a. Maintain the San Francisco oil spill plan and participate in the San Francisco Bay/San Joaquin Delta Area Contingency Plan. 4-b. Support alternative energy uses to reduce

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
San Francisco and to create better response capabilities should a spill occur.	4-C. There is an adequate number of trained responders to oil spills. 4-D. Fossil fuel use has been minimized.	respond is in place. 4-3. The number of governmental oil-spill Hazardous Waste Operations Training responders has increased 5-fold. 4-4. Waterway hazards have been identified and their mitigation is underway. 4-5. Evaluation of the removal of submerged rocks that are navigational hazards around Alcatraz Island is underway.	dependence on fossil fuels.
5. FIRE To reduce the incidence and impact of dwelling fires, high-rise and industrial building fires, transportation-related fires, and wildfires.	5-A. Smoke detectors are installed and tested in each dwelling. 5-B. Fire-prevention programs target causes such as persons falling asleep while smoking, children playing with matches, space-heaters, faulty wiring and furnaces, and kitchen fires. 5-C. Mandated sprinkler systems are installed, inspected, and tested on an ongoing basis. 5-D. Education and training (fire extinguisher operation, first aid, fire escape techniques) and	5-1. Legislation that mandates fire safety education and training programs has been passed. 5-2. Staff in places of public assembly have been trained about fire evacuation. 5-3. The percentage of schools and libraries providing education programs about fire safety has increased. 5-4. The percentage of all dwelling units with working smoke detectors has increased. 5-5. Rigorous building fire safety standards have been	5-a. Develop standard fire safety and fire-response curricula and make them available to schools. 5-b. Develop hands-on fire extinguisher training and fire-drill programs for the public, and field-test them publicly. 5-c. Introduce and support fire safety-related legislation. 5-d. Identify and prioritize for retrofit and worker training the highest fire-risk buildings. 5-e. Develop tax and other incentives for fire

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
	protection procedures are available to all people working in industrial and high-rise buildings. 5-E. Stairwell ventilation is mandated and enforced. 5-F. Special safety procedures for workers above the seventh floor (the height limit of Fire Department ladders) of high-rise buildings have been developed and are implemented.	implemented and are enforced. 5-6. Existing buildings have been retrofitted to include modern fire prevention technology. 5-7. The San Francisco Fire Department inspects on a regular basis all industrial and high-rise buildings for fire hazards, safety procedures and equipment, evacuation routes and training programs. 5-8. Alternative sources of water for fire-fighting have been identified and secured.	safety compliance. 5-f. Develop and evacuation training program for those staffing places of public assembly.
6. INUNDATION / SOIL MOVEMENTS Minimize the hazard of unwanted inundation and soil movements. (These risks include such things as sinkholes, subsidence, landslides, flooding, and rock-falls.)	6-A. A program is ongoing for maintenance and upgrading of water distribution and drainage systems (including underground water pipes, gutters, sewers, tunnels, utility ducts, and other installations) to: Effectively manage storm-water runoff; and Minimize water-pipe rupture and inadvertent underground discharge of water.	6-1. The following are being assessed: • The degradation level and condition of underground infrastructure; • The cumulative changes in surface conditions affecting runoff (such as dirt surfaces being replaced by paving); and • The impact of inundation and soil movements on various	6-a. Perform a vulnerability study to identify high-risk areas. (Look into coordinating with the Public Utility Commission's vulnerability study of the Hetch Hetchy water supply system.) 6-b. Develop a city-wide retrofit and upgrading plan that will balance the costs and benefits associated with various upgrading options. 6-c. Implement an

GOALS	LONG-TERM OBJECTIVES TO REACH SUSTAINABILITY	OBJECTIVES FOR THE YEAR 2002 (5-year plan)	ACTIONS
		locations such as streets, open spaces, and utilities to identify high-risk locations and determine where to focus resources and coordinate repair and retrofit.	ongoing maintenance program which ensures that risks are managed. 6-d. Develop a response plan.

INDICATORS

These indicators, sampled on a regular basis, will give a bird's-eye view of whether San Francisco is moving toward or away from a sustainable future. Of course, none of the topics below are completely covered by the few listed indicators, and there are certainly infinitely more things that could be tracked. These ongoing measures are meant to give an overall indication of whether the City is moving in the right direction, and provide a way of measuring significant trends without entailing major new expense for data-collection. Baselines for these indicators have yet to be compiled.

An upward-pointing arrow indicates that the measurement should rise if the City is moving toward sustainability; a downward-pointing arrow indicates that the measurement should fall.

INDICATOR	WHICH WAY SHOULD THINGS GO?
Air Quality	
Number of existing buildings that join the Building Air Quality Alliance Program (or similar voluntary programs).	↑
Number of people going to clinics for respiratory problems.	↓
Percentage of new cars registered in San Francisco which are alternatively fueled (e.g., California Air Resources Board-certified, low emission vehicles, ultra-low emission vehicles, or electric vehicles).	↑
Biodiversity	
Number of volunteer hours dedicated towards managing, monitoring, and conserving San Francisco's biodiversity.	↑
Number of square feet of the worst invasive species removed from natural areas.	↑

INDICATOR	WHICH WAY SHOULD THINGS GO?
Number of surviving indigenous native plant species planted in developed parks, private landscapes and natural areas.	↑
Abundance and species diversity of birds, as indicated by the Golden Gate Audubon Society's Christmas bird counts.	↑
Energy, Climate Change and Ozone Depletion	
Ratio of renewable to non-renewable energy consumption.	↑
Energy cost per tax dollar.	↓
Food and Agriculture	
Number of public agricultural gardens.	↑
Quantity of food and agricultural residuals recycled.	↑
Number of school, vocational and community education and training programs about sustainable agriculture and nutrition.	↑
Hazardous Materials	
Difference between motor oil purchased in the City and the amount that is properly recycled or disposed.	↓
Equitable distribution of the hazardous material/waste exposure "load" throughout the City.	↑
Number of contaminated sites within City borders.	↓
Public awareness of hazardous materials/waste issues (especially proper use and disposal and knowledge of alternatives) as measured by annual survey (to measure effectiveness of outreach).	↑
Human Health	
New cases of asthma.	↓
Number of people attending organized wellness classes.	↑

INDICATOR	WHICH WAY SHOULD THINGS GO?
Participation in organized youth programs at city recreation centers.	↑
Parks, Open Spaces and Streetscapes	
Percentage of the population with a recreational facility and a natural setting within a ten-minute walk.	↑
Number of neighborhood green street corridors created annually.	↑
Number of volunteer hours spent annually on maintenance of open space.	↑
Annual municipal expenditures on parks, open space, and streetscapes.	↑
Solid Waste	
Tons of waste landfilled annually.	↓
Recycling rate as a percentage of material generated.	↑
Percentage of residents, businesses, and institutions that participate in recycling programs.	↑
Transportation	
Auto registration.	↓
Parking-spot inventory.	↓
Muni ridership.	↑
Muni route running time on key routes.	↓
Water and Wastewater	
Per capita water consumption measured by the San Francisco Water Department.	↓

INDICATOR	WHICH WAY SHOULD THINGS GO?
Mass of pollutants in wastewater.	↓
Mass and frequency of combined sewer overflows.	↓
Recycled water use.	↑
Acres of habitat restored.	↑
Topics that Span Many Issues	
Economy and Economic Development	
Number of San Francisco enterprises adopting ISO 14000 standards.	↑
Number of San Francisco neighborhoods with unemployment rates higher than the government-defined "full employment" rate.	↓
Difference between the highest neighborhood unemployment rate and the full employment rate.	↓
Number of San Francisco manufacturers using recovered secondary materials as raw material.	↑
Percentage of people employed in San Francisco who live in San Francisco.	↑
Environmental Justice	
Mean income level of people in historically disadvantaged communities.	↑
Proportion of environmental pollution sources in historically disadvantaged communities with respect to San Francisco's other communities.	↓
Participation of historically disadvantaged communities as a whole and their indigenous self-selected representatives in decision-making processes.	↑
Municipal Expenditures	
Number of items of legislation adopted by the Board of Supervisors that advance sustainability goals.	↑

INDICATOR	WHICH WAY SHOULD THINGS GO?
Number of service providers and companies on the Green Vendors list.	↑
Percentage of budget allocated utilizing sustainability criteria.	↑
Percentage of budget that is devoted to facility maintenance.	↑
Public Information and Education	
Number of schools that integrate and progressively update environmental education in their curricula.	↑
Conservation and waste reduction as measured by volume of garbage produced per capita and units of electricity used per capita.	↓
Number of volunteers working on environmental projects as measured through the largest volunteer clearinghouse that refers or mobilizes people to do community service.	↑
Risk Management	
Number of businesses that train employees in the Neighborhood Emergency Response Teams program.	↑
Number of seismically upgraded buildings.	↑
Number of hazardous materials incidents.	↓