

PLANNING DEPARTMENT

GREENHOUSE GAS REDUCTION STRATEGY



# City and County of San Francisco

## Strategies to Address Greenhouse Gas Emissions



# **City and County of San Francisco**

## **Strategies to Address Greenhouse Gas Emissions in San Francisco**

November 2010

San Francisco Planning Department  
1650 Mission Street, Suite 400  
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This document presents a compilation of San Francisco policies, programs and regulations that comprise San Francisco's greenhouse gas reduction efforts. This document has been prepared pursuant to the Bay Area Air Quality Management District's (BAAQMD's) *California Environmental Quality Act (CEQA) Air Quality Guidelines*, adopted June 2, 2010. For questions regarding this document, please contact Jessica Range at (415) 575-9018 or [Jessica.Range@sfgov.org](mailto:Jessica.Range@sfgov.org).

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## Table of Contents

<b>I. INTRODUCTION .....</b>	<b>I-1</b>
I.I Purpose .....	I-2
I.II Standard Elements of a Greenhouse Gas Reduction Strategy .....	I-2
I.III Document Organization .....	I-8
<b>II. GREENHOUSE GAS EMISSIONS INVENTORY AND REDUCTION TARGETS.....</b>	<b>II-1</b>
II.I Greenhouse Gas Emissions Inventory and Projections .....	II-1
II.II Greenhouse Gas Reduction Targets.....	II-2
<b>III. GENERAL PLAN POLICIES ADDRESSING CLIMATE CHANGE.....</b>	<b>III-1</b>
<b>IV. CLIMATE ACTION PLAN STRATEGIES .....</b>	<b>IV-1</b>
IV.I Climate Action Plan Transportation Actions .....	IV-3
IV.II Climate Action Plan Energy Efficiency Actions ....	IV-3Error! Bookmark not defined.
IV.III Climate Action Plan Renewable Energy Actions .....	IV-55
IV.IV Climate Action Plan Solid Waste Actions .....	IV-82
<b>V. ADDITIONAL GREENHOUSE GAS REDUCTION STRATEGIES.....</b>	<b>V-1</b>
V.I Greenhouse Gas Emissions .....	V-1
V.II Transportation .....	V-9
V.III Land Use .....	V-13
V.IV Environment.....	V-18
V.V Business.....	V-23
<b>VI. PROGRESS TOWARDS EMISSIONS REDUCTIONS .....</b>	<b>VI-1</b>
VI.I Progress Indicators.....	VI-1
VI.II Communitywide Inventory .....	VI-7
<b>VII. MONITORING AND REPORTING GREENHOUSE GAS EMISSIONS .....</b>	<b>VII-1</b>
<b>VIII. ANTICIPATED GREENHOUSE GAS REDUCTION EFFORTS .....</b>	<b>VIII-1</b>
VIII.I Department of the Environment 2010-2012 Strategic Plan .....	VIII-1
VIII.II Department Climate Action Plans.....	VIII-20
<b>IX. REGULATIONS APPLICABLE TO NEW DEVELOPMENT.....</b>	<b>IX-1</b>
IX.I Regulations Applicable to Municipal Projects.....	IX-1
IX.I Regulations Applicable to All Other Projects .....	IX-10
<b>X. CONCLUSIONS .....</b>	<b>X-1</b>
X.I California’s Greenhouse Gas Reduction Strategy .....	X-1
X.II New Development Addressed by this Greenhouse Gas Reduction Strategy .....	X-4
X.III Updates to San Francisco’s Greenhouse Gas Reduction Strategy .....	X-5

## List of Tables

Table I-1. BAAQMD Greenhouse Gas Thresholds of Significance. I-Error! Bookmark not defined.	
Table III-1. General Plan Policies that Address Climate Change.....	III-2
Table IV-1. Climate Action Plan Transportation Actions.....	IV-3
Table IV-2. Transit Impact Development Fee Schedule .....	IV-11
Table IV-3. Planning Code Bicycle Parking Requirements.....	IV-18
Table IV-4. Required Car Share Parking Spaces.....	IV-30
Table IV-5. Climate Action Plan Energy Efficiency Actions.....	IV-32
Table IV-6. Climate Action Plan Renewable Energy Actions.....	IV-55
Table IV-7. Completed Solar Photovoltaic Projects .....	IV-67
Table IV-8. Solar Photovoltaic Projects in Progress .....	IV-68
Table IV-9. San Francisco Municipal Solar Possibilities .....	IV-68
Table IV-10. Climate Action Plan Solid Waste Actions.....	IV-82
Table V-1. Jobs Housing Linkage Fee Schedule (2008).....	V-16
Table VI- 1. Vehicles Available by Household .....	VI-2
Table VI- 2. Means of Transportation to Work for San Francisco Residents.....	VI-3
Table IX-1. Regulations Applicable to Municipal Projects.....	IX-2
Table IX-2. Regulations Applicable to All Other Projects .....	IX-11
Table X-1. GHG Reductions from the AB 32 Scoping Plan.....	X-1

## List of Figures

Figure IV-1. Bicycle Rack Requests and Installations .....	IV-21
Figure IV-2. Green Buildings in San Francisco.....	IV-52
Figure IV-3. San Francisco's Solar Generation Systems .....	IV-62
Figure V-1. San Francisco's Generalized Housing Density by Zoning District .....	V-14
Figure V-2. Residential Service Areas of Neighborhood Commercial Districts and Uses .....	V-15
Figure VI-1. San Francisco Energy Watch: Gross kWh Savings.....	IV-3
Figure VI-2. San Francisco Energy Watch: Therms Savings.....	IV-4
Figure VI-3. Waste Generation, Disposal and Diversion in San Francisco.....	VI-5
Figure VII-1. 1990 and 2009 GHG Emissions for SFO .....	VIII-22

## Appendices

Appendix A: *Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Gas Emissions*, San Francisco Department of the Environment and Public Utilities Commission, September 2004.

Appendix B: 2008 GHG Reduction Ordinance and applicable CEQA documentation.

Appendix C: *City and County of San Francisco Community GHG Inventory Review*, IFC International, August 1, 2008.

Appendix D: *City and County of San Francisco Annual Emissions Report*, California Climate Action Registry. August 6, 2007.

Appendix E: *Climate Action Plan, Draft for Public Review*. San Francisco Municipal Transportation Agency. December 19, 2008.

Appendix F: *Land Use Index of the General Plan of the City and County of San Francisco*. San Francisco Planning Department. July 16, 2009.

Appendix G: Environmental review documentation.

Appendix H: *Administrative Bulletin 0-93*. San Francisco Department of Building Inspection. January 1, 2010.

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# I. Introduction

The purpose of the Bay Area Air Quality Management District (BAAQMD) *California Environmental Quality Act Air Quality Guidelines* is to assist lead agencies in evaluating air quality impacts of projects and plans proposed in the San Francisco Bay Area Air Basin. The Guidelines provide procedures for evaluating potential air quality impacts during the environmental review process consistent with California Environmental Quality Act (CEQA) requirements. BAAQMD adopted an update to its CEQA thresholds of significance on June 2, 2010. The thresholds of significance establish CEQA thresholds of significance as they pertain to air quality and provide rationale for the updating the previous thresholds of significance (1999 Guidelines). BAAQMD also prepared a revised *CEQA Air Quality Guidelines* document, which presents the methodology for assessing and mitigating air quality impacts.

BAAQMD's thresholds of significance addresses for the first time a proposed project's greenhouse gas (GHG) emissions. The BAAQMD thresholds of significance present both quantitative and qualitative operational thresholds of significance for GHGs at both the project level and the plan level, as shown on Table I-1. Consistent with state CEQA Guidelines Section 15183.5, BAAQMD has adopted a GHG threshold of significance that allows a lead agency to determine that a project that is consistent with a GHG reduction strategy to make a finding that the project's contribution of GHG emissions would be less than significant.

**Table I-1. BAAQMD Greenhouse Gas Thresholds of Significance**

Project	Applicable Thresholds
Stationary Sources	10,000 Metric Tons (MT) CO <sub>2</sub> E/year <sup>1</sup>
Other Project-level	Compliance with a Qualified GHG Reduction Strategy Or 1,100 MTCO <sub>2</sub> E/year Or 4.6 MTCO <sub>2</sub> E/SP/Year <sup>2</sup>
Plan-level	Compliance with a Qualified GHG Reduction Strategy Or 6.6 MTCO <sub>2</sub> E/SP/Year
<sup>1</sup> CO <sub>2</sub> E or "carbon dioxide equivalents" is a common metric for measuring GHGs. CO <sub>2</sub> E accounts for the differential heat absorption potential of various GHGs, which present a weighted average based on each gases heat absorption potential (or global warming potential). <sup>2</sup> SP (service population) is the project's sum of residents and employees. Source: Bay Area Air Quality Management District, <i>California Environmental Quality Act Guidelines</i> , June 2010.	

## I.I Purpose

BAAQMD's *CEQA Air Quality Guidelines* provide guidance on the standard elements of a GHG reduction strategy. The vision of San Francisco's GHG Reduction Strategy is expressed in the City's Climate Action Plan, however implementation of the strategy is appropriately articulated within other citywide plans (General Plan, Sustainability Plan, etc.), policies (Transit-First Policy, Precautionary Principle Policy, etc.), and regulations (Green Building Ordinance, etc.).

This document presents San Francisco's assessment of policies, programs, and ordinances that collectively represent San Francisco's Qualified Greenhouse Gas Reduction in compliance with BAAQMD's *CEQA Air Quality Guidelines* and thresholds of significance, adopted June 2, 2010.

While climate change policies can be identified in the City's Charter and General Plan, individual programs are implemented through various City departments, and regulations are codified among the City's municipal codes. This document pulls together San Francisco's climate-related policies, programs, and regulations. The actions identified in this document do not represent the totality of San Francisco's climate-related actions, but represent the most influential and important of these actions.

## I.II Standard Elements of a Greenhouse Gas Reductions Strategy

The following GHG Reduction Plan elements are based on both State CEQA Guidelines and BAAQMD's interpretation of those guidelines, as discussed in its *CEQA Air Quality Guidelines*.<sup>1</sup> Each element of a GHG Reduction Strategy (Elements A-F) is discussed below with cross-references to where additional information is contained.

### **A. Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic range.**

A GHG Reduction Strategy must include an emissions inventory that quantifies an existing baseline level of emissions and projected GHG emissions for a given horizon year. In February 2002, the San Francisco Board of Supervisors passed the Greenhouse Gas Emissions Reduction Resolution (Resolution Number 158-02), setting a goal for the City and County of San Francisco to reduce GHG emissions to 20 percent below 1990 levels by the year 2012. In September 2004, the San Francisco Department of the Environment (SF Environment) and the Public Utilities Commission (SFPUC) published the *Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Emissions*<sup>2</sup> (Appendix A). The *Climate Action Plan* includes both an emissions inventory and projections. The *Climate Action Plan* estimated that in 1990 San Francisco's GHG emissions were approximately 9.1 million tones of CO<sub>2</sub>E, or approximately 8.25 million metric

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<sup>1</sup> Bay Area Air Quality Management District (BAAQMD). *California Environmental Quality Act Air Quality Guidelines*. June 2010. At pages 4-7 to 4-12. This document is available online at: [www.baaqmd.gov](http://www.baaqmd.gov). Accessed August 3, 2010.

<sup>2</sup> San Francisco Department of the Environment and San Francisco Public Utilities Commission, *Climate Action Plan for San Francisco, Local Actions to Reduce Greenhouse Emissions*, September 2004.

tons (MMT) of CO<sub>2</sub>E.<sup>3</sup> The *Climate Action Plan* projected San Francisco's 2012 GHG emissions at 10.8 million tons of CO<sub>2</sub>E (9.8 MMTCO<sub>2</sub>E) based on a business-as-usual scenario (without citywide actions to reduce GHG emissions). San Francisco's GHG emissions inventory and projections, as described in the *Climate Action Plan*, meet the requirements of an emissions inventory and projection as outlined in BAAQMD's *CEQA Air Quality Guidelines*, and are incorporated into this document by reference. The City's GHG emissions inventory is discussed further in Section II.

**B. Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable.**

The intent of this requirement is to establish a GHG reduction target, adopted by legislation that meets or exceeds one of the following options, based on Assembly Bill 32 ("Global Warming Solutions Act of 2006") goals:

- Reduce emissions to 1990 levels by 2020;
- Reduce emissions 15 percent below baseline (2008 or earlier) emissions levels by 2020; or
- Meet the plan efficiency threshold of 6.6 MTCO<sub>2</sub>E/SP<sup>4</sup>/year.

San Francisco's original GHG reduction target was established in 2002, before Assembly Bill 32 (AB 32) was enacted. San Francisco's original GHG reduction target, for which the *Climate Action Plan* is based upon, is based on Resolution No. 158-02, passed by the Board of Supervisors in 2002. This resolution establishes a goal of reducing GHG emissions to 20 percent below 1990 levels by 2012.

In May 2008, San Francisco adopted an ordinance amending the San Francisco Environment Code to establish City GHG emission targets, superseding Resolution 158-02. The ordinance establishes the following GHG emission reduction limits for San Francisco and the target dates to achieve them:

- Determine 1990 City GHG emissions by 2008, the baseline level with reference to which target reductions are set;
- Reduce GHG emissions by 25 percent below 1990 levels by 2017;
- Reduce GHG emissions by 40 percent below 1990 levels by 2025; and
- Reduce GHG emissions by 80 percent below 1990 levels by 2050.

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<sup>3</sup> Unless otherwise noted, all numbers in this document are reported in metric units.

<sup>4</sup> SP refers to service population and it is the total number of residents plus employees.

The 2008 GHG Reduction Ordinance and applicable CEQA documentation are included in Appendix B. The City is currently in the process of updating its *Climate Action Plan* to meet the GHG reduction targets as outlined in the 2008 ordinance.

Resolution 158-02 and the 2008 GHG Reduction Ordinance are both more aggressive than AB 32 goals and would meet BAAQMD's requirements for which the contribution of GHG emissions would not be cumulatively considerable. The City's GHG emissions reduction targets are discussed further in Section II.

### **C. Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area.**

The intent of this section is to analyze the GHG emissions reductions anticipated from local and state policies and regulations that may be planned or adopted but not yet implemented. The *Climate Action Plan* identifies GHG reduction strategies grouped among four sectors: transportation, energy efficiency, renewable energy, and waste. Within each of these sectors, the *Climate Action Plan* identifies existing actions that influence GHG emissions. The *Climate Action Plan* also identifies actions to reduce GHG emissions among each sector and assigns an overall GHG reduction value to those groups of actions. At this time, however, it is not possible to tie many of these strategies to a numerical GHG reduction value; it is anticipated that the group of proposed actions within each sector will collectively achieve reduce GHG emissions. This document presents a compilation of the City's actions to reduce GHG emissions. Section III identifies policies in the City's General Plan that encourages reduced GHG emissions. Section IV presents a review of the City's GHG reduction strategies that are identified in the *Climate Action Plan* and actions taken by the City in support of the strategies proposed in the *Climate Action Plan*. Section V identifies other City actions undertaken to reduce GHG emissions that were not expressly identified in the *Climate Action Plan*. Lastly, Section VIII identifies additional GHG reduction efforts currently being undertaken by SF Environment and other key City departments.

In 2006, the California legislature passed AB 32 (California Health and Safety Code Division 25.5, Sections 38500, et seq.), requiring the California Air Resources Board (ARB) to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, ARB adopted a Scoping Plan in December 2008, outlining measures to meet the 2020 GHG reduction limits. In order to meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels, or about 15 percent from today's levels.<sup>5</sup> The Scoping Plan estimates a reduction of 174 MMTCO<sub>2</sub>E (about 191 million U.S. tons) from the transportation, energy, agriculture, forestry, and high global warming potential sectors. BAAQMD has identified the estimated GHG reductions from land use-driven sectors, upon implementation of AB 32 actions. By 2020,

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<sup>5</sup> California Air Resources Board, California's Climate Plan: Fact Sheet. Available online at: [http://www.arb.ca.gov/cc/facts/scoping\\_plan\\_fs.pdf](http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf). Accessed March 4, 2010.

BAAQMD estimates that full implementation of AB 32 could reduce GHG emissions by as much as 23.9 percent.<sup>6</sup> It is not possible at this time to estimate the reduction in GHG emissions from the City's projections for year 2020 because the City has not projected year 2020 GHG emissions. However, based on BAAQMD's analysis of AB 32, the City would need to reduce GHG emissions by 2.3 percent (from a projected 2020 emissions inventory) on top of the 23.9 percent estimated GHG reductions from AB 32 in order to meet AB 32 goals.

Additional GHG reductions are anticipated by regional policies and statewide GHG actions, primarily AB 32 and Senate Bill 375 (Steinberg, Chapter 728, Statutes of 2008). Senate Bill 375 (SB 375) is anticipated to result in emission reductions from land use decisions. SB 375 was enacted to align local land use and transportation planning to further achieve the State's GHG reduction goals. Pursuant to SB 375, ARB must propose draft regional GHG reduction targets by June 30, 2010 with final adoption of regional reduction targets by September 30, 2010. SB 375 requires regional transportation plans, developed by Metropolitan Planning Organizations (MPOs), to incorporate a "sustainable communities strategy" in their regional transportation plans (RTPs) that would achieve GHG emission reduction targets set by ARB. SB 375 also includes provisions for streamlined CEQA review for some infill projects such as transit-oriented development. SB 375 would be implemented over the next several years, and the Metropolitan Transportation Commission's (MTC's) 2013 RTP would be its first plan subject to SB 375. Pursuant to SB 375, MTC's goals are to reduce GHG emissions by at least 7 percent by 2020 and at least 15 percent by 2035.

Although it is not possible at this time to quantify GHG emissions reductions from existing plans and policies at the local, regional and statewide level, future GHG accounting methodologies may develop tools that can be used to estimate these reductions. As discussed below in (D) and throughout this document, the City has already reduced GHG emissions to below 1990 levels and has met AB 32 GHG reduction goals. Further emissions reductions from AB 32 programs and those envisioned by SB 375 programs will further reduce citywide emissions and help San Francisco achieve its aggressive GHG emissions reduction targets.

**D. Specify measures or a group of measures, including performance standards that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.**

The *Climate Action Plan* contains actions to reduce community-wide GHG emissions and assigns a performance standard to those measures. Section IV of this document contains a detailed review of the strategies listed in the *Climate Action Plan* and other GHG reduction strategies that have been implemented but not expressly called for in the *Climate Action Plan*. The City's *Climate Action Plan* identifies a group of measures to be implemented to achieve the GHG reduction goal of reducing community-wide GHG emissions by 20 percent below 1990 levels by 2012, far more aggressive than AB 32 goals of reducing GHG emission to 1990 levels by 2020. Although the

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<sup>6</sup> BAAQMD, *California Environmental Quality Act Air Quality Guidelines*. June 2010. At page D-17.

*Climate Action Plan* was not formally adopted, many of the actions identified in the plan have been implemented have contributed to measurable community-wide GHG emissions reductions. Section V contains additional GHG emissions reduction programs not specifically envisioned by the *Climate Action Plan*, and Section VIII discusses the City's ongoing efforts to reduce GHG emissions.

In 2008 San Francisco commissioned an independent third party to conduct a review the City's baseline community-wide GHG emissions for years 1990, 2000, and 2005. The report, *Community GHG Inventory Review*,<sup>7</sup> found that year 1990 and 2000 emissions estimates did not differ from previous year emissions estimates (Appendix C). However, estimated year 2005 GHG emissions were slightly higher than actual GHG emissions reported, mostly due to increases in electricity emissions factors. In 2005, San Francisco's community-wide and municipal GHG emissions were estimated to be 7.82. This independent review of community-wide GHG emissions verifies that San Francisco has met and superseded AB 32 GHG reduction goals. San Francisco has reduced GHG emissions from 8.26 MMTCO<sub>2</sub>E in 1990 to 7.82 MMTCO<sub>2</sub>E in 2005, or a total of about 5 percent below 1990 levels.

As San Francisco's GHG reduction goals are more aggressive than statewide goals outlined in AB 32, San Francisco continues to pursue GHG reduction programs to meet the goals outlined in the 2008 GHG Reduction Ordinance, which are to reduce GHG emissions by 25 percent below 1990 levels by 2017; reduce GHG emissions by 40 percent below 1990 levels by 2025; and reduce GHG emissions by 80 percent below 1990 levels by 2050. The long-term goal to reduce GHG emissions by 80 percent below 1990 levels by 2050 is consistent with the state's long term GHG reduction goal outlined in Executive Order S-3-05.

## E. Monitor the Plan's Progress.

This action calls for an implementation plan for the GHG Reduction Strategy. Many of the GHG reduction programs articulated in the *Climate Action Plan* are programs to be implemented by various city agencies. The *Climate Action Plan* includes an implementation strategy that identifies the following:

1. Actions to be Implemented
2. Implementing Agencies
3. Funding Sources; and
4. Progress Indicators.

Section IV of this document provides a review and update on the status of implementation of the strategies outlined in the City's *Climate Action Plan*. In addition to the actions outlined in the

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<sup>7</sup> *City and County of San Francisco, Community GHG Inventory Review*. August 1, 2008. IFC International. Prepared for the City and County of San Francisco.

*Climate Action Plan*, the City has undertaken numerous other programs and projects that will achieve GHG emissions reductions. These measures are discussed in Sections V and VIII of this document.

In order to have a qualified GHG Reduction Strategy, such strategy must also identify those measures that are applicable to new development and include a mechanism for determining if all mandatory measures have been adequately applied to new development projects. The City's GHG Reduction Strategy includes measures that are applicable to municipal government operations, voluntary measures, and mandatory measures to be applied to existing uses and new development projects. All of these measures are discussed in Sections IV and V of this document. For ease of reference, mandatory GHG reduction programs that are applicable to new development are summarized in Section IX of this document, which identifies the applicable regulation, the effective date of the regulation, applicability, regulation requirements, any enforcement mechanism, and monitoring/reporting required by the regulation.

Other requirements of the GHG Reduction Strategy include procedures for monitoring and updating the GHG inventory and reduction measures every three to five years, and an annual review of the progress on implementation of individual measures. Section VI of this document identifies the City's progress towards emissions reductions using progress indicators; this section will be updated annually until an updated Climate Action Plan replaces this GHG Reduction Strategy. Section VII identifies the procedures for monitoring and updating the City's GHG inventory.

#### **F. Adopt the Greenhouse Gas Reduction Strategy in a Public Process Following Environmental Review.**

The BAAQMD has interpreted this section as follows:

If the GHG Reduction Strategy consists of a number of different elements, such as a general plan, a climate action plan and/or separate codes, ordinances and policies, each element that is applicable to new development projects would have to complete an environmental review in order to allow tiering for new development projects.<sup>8</sup>

Section IX of this document identifies those regulations applicable to new development projects. This section identifies those regulations applicable to municipal projects and those applicable to private development projects. Tables IX-1 and IX-2 identify those regulations that are being relied upon in this GHG Reduction Strategy for which environmental review has been completed and the appropriate findings of that environmental review are attached. (See Appendix G for environmental review documents.) Although copies of the environmental review documents have not been located for some regulations, they are included in this table as they are still

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<sup>8</sup> BAAQMD. *California Environmental Quality Act Air Quality Guidelines*. June 2010. At page 4-11.

regulations that are consistently applied to new development projects, but for which this GHG Reduction Strategy does not solely rely upon.

### **I.III Document Organization**

This document identifies San Francisco's climate change related policies, programs and regulations and comprises the City's GHG Reduction Strategy. The following outlines this document's organization and where each element of the GHG Reduction Strategy (elements A-F as discussed above) is discussed, as applicable.

*I. Introduction* – identifies the purpose for preparing this document, explains the elements of a GHG Reduction Strategy, and outlines the document's organization.

*II. Greenhouse Gas Emissions Inventory and Reduction Targets*- This section provides an overview of San Francisco's greenhouse gas emissions inventory and reduction targets. (GHG Reduction Strategy Elements A and B)

*III. General Plan Policies Addressing Climate Change* – identifies the City's General Plan policies that relate to GHG emissions reductions by sector.

*IV. Climate Action Plan Review* – provides a review of San Francisco's 2004 *Climate Action Plan* and identifies policies and programs that have been implemented in furtherance of the actions outlined in the *Climate Action Plan*. Where possible, this section notes quantitative GHG emissions reductions anticipated by the program or group of actions. (GHG Reduction Strategy Element C, D and E)

*V. Additional GHG Reduction Strategies* – identifies programs and regulations to reduce GHG emissions that were not anticipated by the *Climate Action Plan*. (GHG Reduction Strategy Element C, D, and E)

*VI. Progress Towards Emissions Reductions* – identifies San Francisco's progress towards achieving greenhouse gas reduction goals. (GHG Reduction Strategy Element E)

*VII. Monitoring and Reporting Citywide Greenhouse Gas Emissions* – discusses how the City monitors and reports the City's GHG emissions. (GHG Reduction Strategy Element E)

*VIII. Anticipated Greenhouse Gas Reduction Efforts* – discusses ongoing City climate change-related planning and projects. (GHG Reduction Strategy Element C and D)

*IX. Regulations Applicable to New Development* – summarizes the regulations that are applicable to new development, identifies the regulation, the effective date, regulation requirements, enforcement, and monitoring. This section also identifies those regulations for which copies of the appropriate environmental review have been located, and therefore, those



regulations for which this GHG Reduction Strategy relies upon. Copies of the environmental review documents are included in Appendix G.

- X. *Conclusion* – relates the City’s greenhouse gas reduction efforts to those at the State level, summarizes how new development is addressed by the GHG Reduction Strategy, and identifies how updates to this document will be prepared.

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## II. Greenhouse Gas Emissions Inventory and Reduction Targets

This section discusses San Francisco's GHG emissions inventory and reduction targets, meeting criteria A and B of the Standard Elements of a GHG Reduction Strategy in the BAAQMD *Air Quality Guidelines*.

### II.I Greenhouse Gas Emissions Inventory and Projections

In September 2004, the San Francisco Department of the Environment (SF Environment) and the Public Utilities Commission (SFPUC) published the *Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Emissions*<sup>1</sup> (Appendix A). The *Climate Action Plan* includes both an emissions inventory and projections. The *Climate Action Plan* estimates that in 1990 San Francisco's GHG emissions were approximately 9.1 million tons of CO<sub>2</sub>E, or approximately 8.26 million metric tons of carbon dioxide equivalent (MMTCo<sub>2</sub>E). An estimate of 1990 GHG emissions was prepared to measure performance in meeting San Francisco's GHG reduction targets. Overall, approximately 51 percent of San Francisco's GHG emissions in 1990 were from mobile sources (vehicles). The remaining 49 percent were generated from building energy use. The *Climate Action Plan* also includes an estimate of year 2000 GHG emissions (the then current-year emissions inventory), estimated at 9.7 million tons of CO<sub>2</sub>E, or 8.8 MMTCo<sub>2</sub>E.

The *Climate Action Plan* projected San Francisco's 2012 GHG emissions at 10.8 million tons of CO<sub>2</sub>E (9.8 MMTCo<sub>2</sub>E) based on a business-as-usual scenario (without citywide actions to reduce GHG emissions). The *Climate Action Plan* estimated that GHG emissions are projected to rise approximately 9 percent from 2000 levels in the transportation sector, and 14 percent from 2000 levels in the building energy sector. San Francisco's GHG emissions inventory and projections, as described in the *Climate Action Plan*, meet the requirements of an emissions inventory as outlined in BAAQMD's *CEQA Air Quality Guidelines* (GHG Reduction Element A), and are incorporated into this document by reference. In 2008, San Francisco commissioned an independent third party to conduct a review the City's baseline community-wide GHG emissions for years 1990, 2000 and 2005. The report, *Community GHG Inventory Review*, found that year 1990 and 2000 emissions estimates did not differ from previous year emissions estimates (Appendix C).

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<sup>1</sup> San Francisco Department of the Environment and San Francisco Public Utilities Commission, *Climate Action Plan for San Francisco, Local Actions to Reduce Greenhouse Emissions*, September 2004.

## II.II Greenhouse Gas Reduction Targets

In 2002, the Mayor and Board of Supervisors passed the Greenhouse Gas Emissions Reduction Resolution, committing San Francisco to a GHG reduction goal of 20 percent below 1990 levels by the year 2012, which is equivalent to approximately 35 percent below 2000 levels (equivalent to a reduction of 1.5 MMTCO<sub>2</sub>E/yr). San Francisco's GHG reduction targets set a limit of approximately 5.99 MMTCO<sub>2</sub>E/yr by the year 2012.

In September 2004, SF Environment and the SFPUC published the *Climate Action Plan* to meet the goals of the City's 2002 GHG reduction ordinance.<sup>2</sup> The *Climate Action Plan* provides the context of climate change in San Francisco and examines strategies to meet the 20 percent greenhouse gas reduction target. Although the Board of Supervisors has not formally committed the City to perform the actions addressed in the plan, and many of the actions require further development and commitment of resources, the plan serves as a blueprint for GHG emission reductions, and several actions have been implemented or are now in progress. This document examines the degree to which programs in the *Climate Action Plan* have been implemented as well as other programs that were not originally conceived under the *Climate Action Plan*.

The Greenhouse Gas Emissions Reduction Resolution was superseded in 2008 by passage of the Greenhouse Gas Reduction Ordinance in May of 2008, amending the San Francisco Environment Code to establish new greenhouse gas emission targets, require departmental action plans, authorize SF Environment to coordinate efforts to meet these targets, and make environmental findings. This ordinance and its CEQA documentation are included in Appendix B. The 2008 GHG Reduction Ordinance establishes the following greenhouse gas emission reduction limits for San Francisco and the target dates to achieve them:

- Determine 1990 City greenhouse gas emissions by 2008, the baseline level with reference to which target reductions are set;
- Reduce greenhouse gas emissions by 25 percent below 1990 levels by 2017;
- Reduce greenhouse gas emissions by 40 percent below 1990 levels by 2025; and
- Reduce greenhouse gas emissions by 80 percent below 1990 levels by 2050.

The amended greenhouse gas reduction targets are far more aggressive than near-term statewide reduction goals identified by Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006, and are consistent with long-term, aggressive statewide reduction goals identified under Executive Order S-3-05. Executive Order S-3-05 sets forth a series of target dates by which statewide emission of greenhouse gases would be progressively reduced, as follows: by 2010,

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<sup>2</sup> *Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Gas Emissions*. San Francisco Department of the Environment and Public Utilities Commission. September 2004.

reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.<sup>3</sup> As such, San Francisco's GHG reduction targets meet the requirements for a GHG reduction target outlined in BAAQMD's *CEQA Air Quality Guidelines* (GHG Reduction Element B).

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<sup>3</sup> California Air Resources Board (CARB), *Climate Change Scoping Plan: A Framework for Change*, December 2008. Available on the internet at: <http://www.climatechange.ca.gov/index.php>. Accessed July 7, 2009.

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### III. General Plan Policies Addressing Climate Change

A greenhouse gas reduction strategy may be a single plan or rely on a collection of climate action policies, programs, and ordinances that have been adopted by a local jurisdiction. As discussed in Section I, the City's climate change policies are generally located within the City Charter and the General Plan. This section identifies San Francisco General Plan policies that address climate change. Other climate-related policies, such as the City's Transit-First policy, incorporated into the City Charter, are discussed throughout this document.

The General Plan is composed of ten individual elements stating objectives and policies to guide the physical development in San Francisco that are applicable on a citywide basis, and fourteen adopted area plans with policies and objectives to guide the physical development in specific neighborhoods. San Francisco's area plans make up over 21.3 percent of San Francisco's total land area. The General Plan is based on a creative consensus concerning social, economic, and environmental issues and serves as the community's vision for the future of San Francisco.

The Citywide Division of the Planning Department is in the process of preparing a number of updates to the General Plan, including a new Preservation Element, updates to the Community Safety Element, Housing Element, and Recreation and Open Space Element. In addition, a number of area plans are being developed through community input processes.

This section identifies adopted General Plan policies that address and/or relate to climate change and should be updated upon adoption of new elements and area plans. Table III-1 identifies General Plan policies mitigate climate change and identifies the applicable climate change sector (transportation, energy, renewable energy and solid waste). These sector categories were chosen because they are the overarching sectors addressed in the City's *Climate Action Plan*. The transportation sector includes policies that would increase the use of public transit, promote carpooling as an alternative to single occupancy driving, increase bicycling and walking as an alternative to driving, trip reduction measures through employer-based programs, and policies that discourage driving or increase vehicle fleet efficiency. The energy efficiency sector also includes policies that would increase water efficiency. A fifth category not included in the *Climate Action Plan* was added: the environment/conservation category includes other climate change-related policies, such as street planting and landscaping, policies that increase carbon sequestration, and those that encourage conservation of the natural environment.

The City's 2004 Housing Element is currently under litigation. Pursuant to the Court's direction, interim revisions to the Housing Element have been made until this case is settled. The policy analysis therefore identifies climate-related policies in both the 1990 Housing Element and the revised 2004 Housing Element of the General Plan.

**Table III-1. General Plan Policies that Address Climate Change**

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
<b>Air Quality Element</b>					
Objective 1 Adhere to State and Federal Air Quality Standards and regional programs.					X
Policy 1.1 Cooperate with regional agencies to promote air quality improvement in San Francisco which, in turn, will contribute to air quality improvements at the regional level.					X
Policy 1.2 Adhere to State and Federal air quality standards in the future through sustained efforts and continued budgetary resources.					X
Policy 1.3 Support and encourage implementation of stationary control measures established by the State.					X
Objective 2. Reduce mobile sources of air pollution through implementation of the Transportation Element of the General Plan.	X				
Objective 3. Decrease the air quality impacts of development by coordination of land use and transportation decisions.	X				
Policy 3.1 Take advantage of the high density development in San Francisco to improve the transit infrastructure and also encourage high density and compact development where an extensive transportation infrastructure exists.	X				
Policy 3.2 Encourage mixed land use development near transit lines and provide retail and other types of service oriented uses within walking distance to minimize automobile dependent development.	X				
Policy 3.3 Continue existing city policies that require housing development in conjunction with office development and expand this requirement to other types of commercial developments.	X				
Policy 3.4 Continue past efforts and existing policies to promote new residential development in and close to the downtown area and other centers of employment, to reduce the number of auto commute trips to the city and to improve the housing/job balance within the city.	X				
Policy 3.5 Continue existing growth management policies in the city and give consideration to the overall air quality impacts of new development including its impact on the local and regional transportation system in the permit review process. Ensure that growth will not outpace improvements to transit or the circulation system.	X				



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 3.6 Link land use decision making policies to the availability of transit and consider the impacts of these policies on the local and regional transportation system.	X				
Policy 3.8 Promote the development of non-polluting industries and insist on compliance with established industrial emission control regulations by existing industries.					X
Policy 3.9 Encourage and require planting of trees in conjunction with new development to enhance pedestrian environment and select species of trees that optimize achievement of air quality goals.					X
Objective 4. Improve air quality by increasing public awareness regarding the negative health effects of pollutants generated by stationary and mobile sources.	X				X
Policy 4.1 Increase awareness and educate the public about negative health effects of pollution caused by mobile sources.					X
Policy 4.2 Educate the public about air polluting household consumer products and activities that generate air pollution. Increase public awareness about the environmental costs of using these products and activities.					X
Policy 4.3 Minimize exposure of San Francisco's population, especially children and the elderly, to air pollutants.					X
Objective 6. Link the positive effects of energy conservation and waste management to emission reductions.		X		X	
Policy 6.1 Encourage emission reduction through energy conservation to improve air quality.		X			
Policy 6.2 Encourage recycling to reduce emissions from manufacturing of new materials in San Francisco and the region.				X	
Policy 6.3 Encourage energy conservation through retrofitting of existing facilities.		X			
Policy 6.4 Retain and upgrade the current network of trolley buses and, where feasible, replace diesel buses with buses powered by electricity or retrofit these buses to create fewer pollutants.	X	X			X
Policy 6.5 Require energy efficient, low polluting fireplace inserts, and wood stoves in all new residential development.		X			X
<b>Commerce and Industry Element</b>					

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 1.1 Encourage development which provides substantial net benefits and minimizes undesirable consequences. Discourage development which has substantial undesirable consequences that cannot be mitigated.					X
Policy 1.2 Assure that all commercial and industrial uses meet minimum, reasonable performance standards.					X
Policy 3.2 Promote measures designed to increase the number of San Francisco jobs held by San Francisco residents.	X				
Policy 4.7 Improve public and private transportation to and from industrial areas.	X				
Objective 6. Maintain and Strengthen viable neighborhood commercial areas easily accessible to City residents.	X				
Policy 6.1 Ensure and encourage the retention and provision of neighborhood-serving goods and services in the city's neighborhood commercial districts, while recognizing and encouraging diversity among the districts.	X				
Policy 6.3 Preserve and promote the mixed commercial-residential character in neighborhood commercial districts. Strike a balance between the preservation of existing affordable housing and needed expansion of commercial activity.	X				
Policy 6.4 Encourage the location of neighborhood shopping areas throughout the city so that essential retail goods and personal services are accessible to all residents.	X				
Policy 6.5 Discourage the creation of major new commercial areas except in conjunction with new supportive residential development and transportation capacity.	X				
Policy 6.6 Adopt specific zoning districts which conform to a generalized neighborhood commercial land use and density plan.	X				
Policy 6.8 Preserve historically and/or architecturally important buildings or groups of buildings in neighborhood commercial districts.		X			
Policy 6.9 Regulate uses so that traffic impacts and parking problems are minimized.	X				
Policy 6.10 Promote neighborhood commercial revitalization, including community-based and other economic development efforts where feasible.	X				
Policy 8.3 Assure that areas of particular visitor attraction are provided with adequate public services for both residents and visitors.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
<b>Community Facilities Element</b>					
Policy 3.4 Locate neighborhood centers so they are easily accessible and near the natural center of activity.	X				
Objective 6. Development of a public library system in San Francisco which will make adequate and efficient library service freely available to everyone within the City, and which will be in harmony with related public service facilities and with all other features and facilities of land development and transportation provided for in other sections of the General Plan.	X				
Objective 7. Distribution throughout the City of district Public Health Centers to make the educational and preventative services of the Department of Public Health convenient to the people, thereby helping to achieve the goals of the Public Health Program in San Francisco.	X				
Objective 8. Assure that public school facilities are distributed and located in a manner that will enhance their efficient and effective use.	X				
Objective 9. Assure that institutional uses are located in a manner that will enhance their efficient and effective use.	X				
Objective 10. Locate wastewater facilities in a manner that will enhance the effective and efficient treatment of storm and wastewater.		X			
Objective 11. Locate solid waste facilities in a manner that will enhance the effective and efficient treatment of solid waste.		X			
<b>Environmental Protection Element</b>					
Objective 1. Achieve a proper balance among the conservation, utilization and development of San Francisco's natural resources.					X
Policy 1.1 Conserve and protect the natural resources of San Francisco.					X
Policy 1.2 Improve the quality of natural resources					X
Policy 1.3 Restore and replenish the supply of natural resources.					X
Policy 1.4 Assure that all new development meets strict environmental quality standards and recognizes human needs.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Objective 2. Implement broad and effective management of natural resources.					X
Policy 2.1 Coordinate regional and local management of natural resources.					X
Policy 2.2 Promote citizen action as a means of voluntarily conserving natural resources and improving environmental quality.					X
Policy 2.3 Provide environmental education programs to increase public understanding and appreciation of our natural surroundings.					X
Objective 3. Maintain and improve the quality of the Bay, Ocean and shoreline areas.					X
Policy 3.1 Cooperate with and otherwise support regulatory programs of existing regional, State, and Federal agencies dealing with the Bay, Ocean, and Shorelines.					X
Policy 3.4 Encourage and assist privately operated programs to conserve the resources of the Bay, Ocean, and Shorelines.					X
Policy 3.5 Protect sensitive economic and environmental resources in Northern California offshore coastal areas threatened by oil development.					X
Policy 4.1 Support and comply with objectives, policies, and air quality standards of the Bay Area Air Quality Management District					X
Policy 4.2 Encourage the development and use of urban mass transportation systems in accordance with the objectives and policies of the Transportation Element.	X				
Policy 4.3 Encourage greater use of mass transit in the downtown area and restrict the use of motor vehicles where such use would impair air quality.	X				
Policy 4.4 Promote the development of nonpolluting industry and insist on compliance of existing industry with established industrial emission control regulations.					X
Policy 4.5 Exert leadership in the voluntary reduction of pollution emissions during air pollution alerts.					X
Objective 6. Conserve and protect the fresh water resource.		X			
Policy 6.1 Maintain a leak detection program to prevent the waste of fresh water.		X			

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 6.2 Encourage and promote research on the necessity and feasibility of water reclamation.		X			
Objective 7. Assure that the land resources in San Francisco are used in ways that both respect and preserve the natural values of the land and serve the best interest of all the City's citizens.					X
Policy 7.1 Preserve and add to public open space in accordance with the objectives and policies of the Recreation and Open Space Element.					X
Objective 8. Ensure the protection of plant and animal life in the City.					X
Policy 8.1 Cooperate with and otherwise support the California Department of Fish and Game and its animal protection programs.					X
Policy 8.2 Protect the habitats of known plant and animal species that require a relatively natural environment.					X
Policy 8.3 Protect rare and endangered species.					X
Policy 9.5 Retain and expand the electric trolley network.		X	X		
Objective 12. Establish the City and County of San Francisco as a model for energy management.		X	X		
Policy 12.1 Incorporate energy management practices into building, facility, and fleet maintenance and operations.	X	X	X		
Policy 12.2 Integrate energy cost reduction measures into the budget process.		X	X		
Policy 12.3 Investigate and implement techniques to reduce municipal energy requirements.		X			
Policy 12.4 Encourage investment in capital projects that will increase municipal energy production in an environmentally responsible manner.			X		
Policy 12.5 Include energy emergency preparedness plans in municipal operations.		X			
Objective 13. Enhance the energy efficiency of housing in San Francisco.		X			

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 13.1 Improve the energy efficiency of existing homes and apartment buildings.		X			
Policy 13.2 Strengthen enforcement of the state's residential energy conservation building standards.		X			
Policy 13.3 Expand the environmental review process to encourage the use of additional measures to save energy in new housing.		X			
Policy 13.4 Encourage the use of energy conserving appliances and lighting systems		X			
Policy 13.5 Emphasize energy conservation in local government housing assistance programs.		X			
Policy 3.6 Advocate real estate association participation in residential energy management program efforts.		X			
Objective 14. Promote effective energy management practices to maintain the economic vitality of commerce and industry.		X			
Policy 14.1 Increase the energy efficiency of existing commercial and industrial buildings through cost-effective energy management measures.		X			
Policy 14.2 Insure adequate local enforcement of California's non-residential building standards.		X			
Policy 14.3 Expand the environmental review process to encourage the use of additional measures to save energy in new commercial buildings.		X			
Policy 14.4 Promote commercial office building design appropriate for local climate conditions.		X			
Policy 14.5 Encourage use of integrated energy systems.		X			
Objective 15. Increase the energy efficiency of transportation and encourage land use patterns and methods of transportation which use less energy.	X	X			
Policy 15.1 Increase the use of transportation alternatives to the automobile.	X				
Policy 15.2 Provide incentives to increase the energy efficiency of automobile travel.		X			

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 15.3 Encourage an urban design pattern that will minimize travel requirements among working, shopping, recreation, school and childcare areas.	X				
Policy 15.4 Promote more efficient commercial freight delivery.		X			
Policy 15.5 Encourage consideration of energy use issues when making transportation investment decisions.	X	X			
Policy 15.6 Promote alternative work arrangements which will contribute to more efficient transportation use.	X	X			
Objective 16. Promote the use of renewable energy sources.			X		
Policy 16.1 Develop land use policies that will encourage the use of renewable energy sources.			X		
Policy 16.2 Remove obstacles to energy conservation and renewable energy systems in zoning and building codes.		X	X		
Policy 16.3 Develop information resources to assist in the use of renewable energy.			X		
Objective 7. Support Federal, State and PG&E energy programs that are equitable, and encourage conservation and renewable energy use.		X	X		
Policy 17.1 Support continuation of state and federal tax incentives and credits for conservation and renewable energy technologies.		X	X		
Policy 17.2 Promote state energy building standards that are cost-effective and take into account San Francisco's climate and density patterns.		X	X		
Policy 17.3 Encourage PG&E involvement in energy management programs for residential, commercial and industrial users.		X	X		
Objective 8. Develop financing opportunities to implement local energy programs.		X	X		
Policy 18.1 Promote government and private financing partnerships to carry out local energy programs.		X	X		
Policy 18.2 Encourage private financial institutions to offer energy loan programs responsive to local market needs.		X	X		

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 18.3 Establish a self-supporting system for funding municipal energy cost reduction investments.		X	X		
Policy 19.3 Encourage City agencies to act as role models by establishing a Waste Minimization Program.				X	
Objective 20. Encourage development of facilities needed to recycle, treat, store, transfer and dispose of hazardous waste.				X	
Objective 21. Control illegal disposal and eliminate land disposal of untreated waste.				X	
<b>1990 Housing Element</b>					
Objective 1. To provide new housing, especially permanently affordable housing, in appropriate locations which meets identified housing needs and takes into account the demand for affordable housing created by employment growth.	X				
Policy 1.1 Promote development of permanently affordable housing on surplus, underused and vacant public lands.	X				
Policy 1.2 Facilitate the conversion of underused industrial and commercial areas to residential use, giving preference to permanently affordable housing uses.	X				
Policy 1.3 Create incentives for the inclusion of housing, including permanently affordable housing in commercial developments.	X				
Policy 1.4 Locate infill housing on appropriate sites in established neighborhoods.	X				
Policy 1.5 Allow new secondary units in areas where their effects can be dealt with and there is neighborhood support, especially if that housing is made permanently affordable to lower income households.	X				
Policy 1.6 Discourage development of new housing in areas unsuitable for residential occupancy, or on sites containing existing housing worthy of retention.		X			
Policy 1.7 Obtain assistance from office developments and higher educational institutions in meeting the housing demand they generate, particularly the need for affordable housing for lower income workers and students.	X				
Policy 2.1 Set allowable densities in established residential areas at levels which will promote compatibility with prevailing neighborhood scale and character.	X				



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 2.2 Encourage higher residential density in areas adjacent to downtown, in underutilized commercial and industrial areas proposed for conversion to housing, and in neighborhood commercial districts where higher density will not have harmful effects, especially if the higher density provides a significant number of units that are permanently affordable to lower income households.	X				
Policy 2.3 Allow flexibility in the number and size of units within permitted volumes of larger multi unit structures, especially if the flexibility results in creation of a significant number of dwelling units that are permanently affordable to lower income households.	X				
Objective 3. To retain the existing supply of housing.		X			
Policy 3.1 Discourage the demolition of sound existing housing.		X			
Policy 3.3 Consider legalization of existing illegal secondary units where there is neighborhood support and the units can conform to minimum Code standards of safety and livability and the permanent affordability of the units is assured.	X	X			
Policy 3.6 Restrict the conversion of housing in commercial and industrial areas.	X				
Policy 3.7 Preserve the existing stock of residential hotels.		X			
Objective 5. Retain the existing supply of housing.		X			
Policy 5.3 Assure correction of serious continuing code violations and loss of housing.		X			
Policy 5.4 Maintain and improve the existing supply of public housing.		X			
Policy 5.5 Preserve landmark and historic residential buildings.					
Policy 7.2 Include affordable units in larger housing projects.	X				
Policy 7.3 Grant density bonuses for construction of affordable or senior housing.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 7.5 Encourage energy efficiency in new residential development and weatherization in existing housing to reduce overall housing costs.		X			
Objective 12. To provide a quality living environment.	X				
Policy 12.1 Assure housing is provided with adequate public improvements, services and amenities.	X				
Policy 12.2 Allow appropriate neighborhood-serving commercial activities in residential areas.	X				
Policy 12.6 Modify proposed developments which have substantial adverse environmental impacts or otherwise conflict with the Master Plan.					X
Policy 16.1 Encourage the balancing of regional employment growth with the development and growth of affordable housing in the region.	X				
Policy 16.2 Encourage development of housing in the bay area which will meet regional housing needs and contribute to the quality of life in the region.	X				
<b>2004 Housing Element</b>					
Objective 1. To provide new housing, especially permanent affordable housing, in appropriate locations which meets identified housing needs and takes into account the demand for affordable housing created by employment demand.	X				
Policy 1.1. Encourage higher residential density in areas adjacent to downtown, in underutilized commercial and industrial areas proposed for conversion to housing, and in neighborhood commercial districts where higher density will not have harmful effects, especially if the higher density provides a significant number of units that are affordable to lower income households. Set allowable densities in established residential areas at levels which will promote compatibility with prevailing neighborhood scale and character where there is neighborhoods support.	X				
Policy 1.2 Encourage housing development, particularly affordable housing, in neighborhood commercial areas without displacing existing jobs, particularly blue-collar jobs or discouraging new employment opportunities.	X				
Policy 1.3. Identify opportunities for housing and mixed-use districts near downtown and former industrial portions of the City.	X				
Policy 1.4. Locate in-fill housing on appropriate sites in established residential neighborhoods.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 1.6. Create incentives for the inclusion of housing, particularly permanently affordable housing, in new commercial development projects.	X				
Policy 1.8 Allow new secondary units in areas where their effects can be dealt with and there is neighborhood support, especially if that housing is made permanently affordable to lower income households.	X				
Policy 1.9. Require new commercial developments and higher educational institutions to meet the housing demand they generate, particularly the need for affordable housing for lower income workers and students.	X				
Objective 2. Retain the existing supply of housing.		X			
Policy 2.1. Discourage the demolition of sound existing housing.		X			
Policy 2.2. Control the merger of residential units to retain existing housing.	X	X			
Policy 2.4 Retain sound existing housing in commercial and industrial areas.	X	X			
Policy 2.5 Preserve the existing stock of residential hotels.		X			
Policy 2.6 Consider legalization of existing illegal secondary units where there is neighborhood support and the units can conform to minimum Code standards of safety and livability and the permanent affordability of the units is assured.	X	X			
Policy 3.3 Maintain and improve the condition of the existing supply of public housing.		X			
Policy 3.4 Monitor the correction of serious continuing code violations to prevent the loss of housing.	X	X			
Policy 3.5 Improve the seismic stability of existing housing without reducing the supply of affordable housing.	X				
Policy 3.6 Preserve landmark and historic residential buildings.		X			
Objective 4. Support affordable housing production by increasing site availability and capacity.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 4.2 Include affordable units in larger housing projects.	X				
Policy 4.4 Consider granting density bonuses and parking requirement exemptions for the construction of affordable housing or senior housing.	X				
Policy 4.5 Allow greater flexibility in the number and size of units within established building envelopes, potentially increasing the number of affordable units in multi-family structures.	X				
Objective 11. In increasing the supply of housing, pursue place-making and neighborhood building principles and practices to maintain San Francisco's desired urban fabric and enhance livability in all neighborhoods.	X				
Policy 11.2 Ensure housing is provided with adequate public improvements, services, and amenities.	X				
Policy 11.3 Encourage appropriate neighborhood-serving commercial activities in residential areas, without causing affordable housing displacement.	X				
Policy 11.10 Include energy efficient features in new residential development and encourage weatherization in existing housing to reduce overall housing costs and the long-range cost of maintenance.		X			
Policy 12.1 Work with localities across the region to establish a better relationship between economic growth and increased housing needs.	X				
Policy 12.2 Support the production of well-planned housing region-wide that address regional housing needs and improve the overall quality of life in the Bay Area.	X				X
<b>Recreation and Open Space</b>					
Objective 1. Preserve areas of open space sufficient to meet the long-range needs of the Bay region.					X
Policy 1.1. Protect the natural character of regional open spaces and place high priority on acquiring open spaces noted for unique natural qualities.					X
Policy 2.1 Provide an adequate total quantity and equitable distribution of public open spaces throughout the City					X
Policy 2.5 Preserve the open space and natural historic, scenic and recreational features of the Presidio.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 2.7 Acquire additional open space for public use.					X
Policy 2.9 Maintain and expand the urban forest.					X
Policy 2.12 Expand community garden opportunities throughout the City.					X
Policy 2.13 Preserve and protect significant natural resource areas.					X
Policy 3.5 Provide new public open spaces along the shoreline.					X
Objective 4. Provide opportunities for recreation and the enjoyment of open space in every San Francisco neighborhood.	X				X
Policy 4.4 Acquire and develop new public open space in existing residential neighborhoods, giving priority to areas which are most deficient in open space.	X				X
Policy 4.5 Require private usable outdoor open space in new residential development.	X				X
Policy 4.6 Assure the provision of adequate public open space to serve new residential development.	X				X
<b>Transportation Element</b>					
Objective 1. Meet the needs of all residents and visitors for safe, convenient and inexpensive travel within San Francisco and between the City and other parts of the region while maintaining the high quality living environment of the Bay Area.	X				X
Policy 1.2 Ensure the safety and comfort of pedestrians throughout the city.	X				
Policy 1.3 Give priority to public transit and other alternatives to the private automobile as the means of meeting San Francisco's transportation needs, particularly those of commuters.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 1.4 Increase the capacity of transit during the off-peak hours.	X				
Policy 1.5 Coordinate regional and local transportation systems and provide for interline transit transfers.	X				
Policy 1. 6 Ensure choices among modes of travel and accommodate each mode when and where it is most appropriate.	X				
Policy 1.7 Assure expanded mobility for the disadvantaged.	X				
Policy 1.9 Develop a multi-modal emergency transportation plan for the city and encourage the development of complementary plans in the private and public sector, to provide for movement to and from emergency and health facilities from all areas of the city, and to and from the city and other Bay Area communities.	X				
Objective 2. Use the transportation system as a means for guiding development and improving the environment.	X				
Policy 2.1 Use rapid transit and other transportation improvements in the city and region as the catalyst for desirable development, and coordinate new facilities with public and private development.	X				
Policy 2.2 Reduce pollution, noise and energy consumption.	X	X			
Policy 2.4 Organize the transportation system to reinforce community identity, improve linkages among interrelated activities and provide focus for community activities.	X				
Policy 2.5 Provide incentives for the use of transit, carpools, vanpools, walking and bicycling and reduce the need for new or expanded automobile and automobile parking facilities.	X				
Policy 2.6 In conversion and re-use of inactive military bases, provide for a balanced, multi-modal transportation system that is consistent with and complementary to the planned land use and the local and regional transportation system.	X				
Objective 3. Maintain San Francisco's position as a regional destination without inducing a greater volume of through automobile traffic.	X				
Policy 3.1 The existing capacity of the bridges, highways and freeways entering the city should not be increased for single-occupant vehicles, and should be reduced where possible.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Objective 4. Maintain and enhance San Francisco's position as the hub of a regional, city-centered transit system.	X				
Policy 4.1 Rapid transit lines from all outlying corridors should lead to stations and terminals that are adjacent or connected to each other in downtown San Francisco.	X				
Policy 4.2 Increase transit ridership capacity in all congested regional corridors.	X				
Policy 4.3 Where significant transit service is provided, bridges and freeways should have priority transit treatment, such as exclusive transit lanes.	X				
Policy 4.4 Integrate future rail transit extensions to, from, and within the city as technology permits so that they are compatible with and immediately accessible to existing BART, CalTrain or Muni rail lines.	X				
Policy 4.5 Provide convenient transit service that connects the regional transit network to major employment centers outside the downtown area.	X				
Policy 4.6 Facilitate transfers between different transit modes and services by establishing simplified and coordinated fares and schedules, and by employing design and technology features to make transferring more convenient.	X				
Policy 4.7 Locate outlying rapid transit stations close to the commercial and high-density residential districts and employment centers of each community.	X				
Policy 4.8 Expand and coordinate the use of ferries, water taxis and other forms of water-based transportation with each other and with landside transportation in waterfront communities in San Francisco and across the bay, using San Francisco's Ferry Building as the main transfer point.	X				
Policy 5.2 Develop direct transit connections from downtown to the Airport that will maximize convenience and minimize confusion for airport patrons.	X				
Policy 5.4 Encourage the use of public transportation and improve its services between the airport and all Bay Area communities, for airport employees as well as air passengers.	X				
Policy 5.5 Develop high-speed rail that links downtown San Francisco to major interstate and national passenger rail corridors as the principle alternative to interstate air travel, and as the primary means to relieve air traffic congestion.	X				
Policy 5.6 Secure a berth for cruise ships in an attractive location, well-served by public transportation, to enhance San Francisco as a recreational port destination.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 6.4 Identify new freight rail corridors and enhance existing ones to improve and shorten links between key freight distribution points in the city and the main interstate railroads and to minimize conflicts with pedestrian, street and passenger rail traffic.	X				
Policy 7.3 Maintain a supply of parking commensurate with demand at outlying intercept parking facilities that have good connections to transit and ride-sharing opportunities.	X				
Objective 8. Maintain and enhance regional pedestrian and hiking access to the coast, the Bay and ridge trails.	X				
Policy 8.2. Clearly identify the Citywide Pedestrian Networks where they intersect with the Coast, Bay and Ridge Trails.	X				
Objective 9. Improve bicycle access to San Francisco from all outlying corridors.	X				
Policy 9.1 Accommodate bicycles on regional transit vehicles, such as trains and ferries, whenever practically feasible.	X				
Policy 9.2 Where bicycles are prohibited on roadway segments, provide parallel routes accessible to bicycles or shuttle services that transport bicycles.	X				
Objective 10. Develop and employ methods of measuring the performance of the City's transportation system that respond to its multi-modal nature.	X				
Policy 10.1 Assess the performance of the city's transportation system by measuring the movement of people and goods rather than merely the movement of vehicles.	X				
Policy 10.2 Employ performance measures that address the problems of transportation deficiencies.	X				
Policy 10.4 Consider the transportation system performance measurements in all decisions for projects that affect the transportation system.	X				
Objective 11. Establish public transit as the primary mode of transportation in San Francisco and as a means through which to guide future development and improve regional mobility and air quality.	X				
Policy 11.1 Maintain and improve the Transit Preferential Streets program to make transit more attractive and viable as a primary means of travel.	X				
Policy 11.2 Continue to favor investment in transit infrastructure and services over investment in highway development and other facilities that accommodate the automobile.	X				



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 11.3 Encourage development that efficiently coordinates land use with transit service, requiring that developers address transit concerns as well as mitigate traffic problems.	X				
Policy 11.4 Encourage the development of one or more multi-service transportation outlets at transit-accessible locations for the sale of transit fare instruments and the provision of other kinds of trip information.	X				
Objective 12. Develop and implement programs in the public and private sectors, which will support congestion management and air quality objectives, maintain mobility and enhance business vitality at minimum cost.	X				
Policy 12.1 Develop and implement strategies which provide incentives for individuals to use public transit, ridesharing, bicycling and walking to the best advantage, thereby reducing the number of single occupant auto trips.	X				
Policy 12.2 Build on successful efforts implemented at numerous private sector worksites, such as the downtown Transportation Brokerage Program and voluntary programs, and adapt such programs for application in new areas as appropriate.	X				
Policy 12.3 Implement private and public sector Transportation Demand Management programs which support each other and explore opportunities for private-public responsibility in program implementation.	X				
Policy 12.4 Encourage private and public sector cooperation in the promotion of alternative work programs designed to reduce congestion and the number of automobile trips.	X				
Policy 12.7 Promote coordination between providers of transportation management services, where possible, to enhance the quality of individual programs.	X				
Policy 12.8 Encourage the creation of Transportation Management Associations where specific needs are identified and coordination with other similar associations and agencies is pursued.	X				
Objective 13. Promote the development of marketing strategies that encourage and facilitate the use of transit and other alternatives to the single-occupant automobile for shopping, recreation, cultural and other non-work trips.	X				
Policy 13.1 Encourage the use of alternatives to the automobile for all age groups in the advertisement of business, recreational and cultural attractions by identifying their proximity to transit facilities and significant landmarks.	X				
Policy 13.2 Promote the identification of core fixed guideway and regional transit lines, such as BART, Muni Metro, cable car, CalTrain and ferry lines, on maps and literature designed for tourists and visitors.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 13.3 Use Transit Centers and Visitor Information Centers for the promotion of transit services and the distribution of transit service information.	X				
Objective 14. Develop and implement a plan for operational changes and land use policies that will maintain mobility and safety despite a rise in travel demand that could otherwise result in system capacity deficiencies.	X				
Policy 14.2 Ensure that traffic signals are timed and phased to emphasize transit, pedestrian, and bicycle traffic as part of a balanced multi-modal transportation system.	X				
Policy 14.3 Improve transit operation by implementing strategies that facilitate and prioritize transit vehicle movement and loading.	X				
Policy 14.4 Reduce congestion by encouraging alternatives to the single occupant auto through the reservation of right-of-way and enhancement of other facilities dedicated to multiple modes of transportation.	X				
Policy 14.5 Encourage the use of alternative fuels for City vehicles, transit vehicles and as feasible, any other motor vehicles as a means of reducing toxic automobile emissions and conserving energy.	X	X			X
Policy 14.6 Reduce peak period congestion through the promotion of flexible work schedules at worksites throughout the City.	X				
Policy 14.7 Encourage the use of transit and other alternatives modes of travel to the private automobile through the positioning of building entrances and the convenient location of support facilities that prioritizes access from these modes.	X				
Policy 14.8 Implement land use controls that will support a sustainable mode split, and encourage development that limits the intensification of automobile use.	X				
Objective 15. Encourage alternative to the automobile and reduced traffic levels on residential streets that suffer from excessive traffic through the management of transportation systems and facilities.	X				
Policy 15.1 Discourage excessive automobile traffic on residential streets by incorporating traffic-calming treatments.	X				
Policy 15.2 Consider partial closure of certain residential streets to automobile traffic where the nature and level of automobile traffic impairs livability and safety, provided that there is an abundance of alternative routes such that the closure will not create undue congestion on parallel streets.	X				
Objective 16. Develop and implement programs that will efficiently manage the supply of parking at employment centers through the City so as to discourage single-occupant ridership,	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
and encourage ridesharing, transit and other alternatives to the single-occupant automobile.					
Policy 16.1 Reduce parking demand through the provision of comprehensive information that encourages the use of alternative modes of transportation.	X				
Policy 16.2 Reduce parking demand where parking is subsidized by employers with "cash-out" programs in which the equivalency of the cost of subsidized parking is offered to those employees who do not use the parking facilities.	X				
Policy 16.3 Reduce parking demand through the provision of incentives for the use of carpools and vanpools at new and existing parking facilities throughout the City.	X				
Policy 16.4 Manage parking demand through appropriate pricing policies including the use of premium rates near employment centers well-served by transit, walking and bicycling, and progressive rate structures to encourage turnover and the efficient use of parking.	X				
Policy 16.5 Reduce parking demand through limiting the absolute amount of spaces and prioritizing the spaces for short-term and ride-share uses.	X				
Policy 16.6 Encourage alternatives to the private automobile by locating public transit access and ride-share vehicle and bicycle parking at more close-in and convenient locations on-site, and by locating parking facilities for single-occupant vehicles more remotely.	X				
Objective 17. Develop and implement parking management programs in the Downtown what will provide alternatives encouraging the efficient use of the area's limited parking supply and abundant transit services.	X				
Policy 17.1 Discourage the provision of new long-term parking downtown and near major employment centers.	X				
Objective 18. Establish a street hierarchy system in which the function and design of each street are consistent with the character and use of adjacent land.	X				
Policy 18.2 Design streets for a level of traffic that serves, but will not cause a detrimental impact on adjacent land uses.	X				
Policy 18.3 The existing single-occupant vehicular capacity of the bridges, highways and freeways entering the city should not be increased and should be reduced if needed to increase the capacity for high-occupancy vehicles, transit and other alternative means of commuting, and for the safe and efficient movement of freight trucks.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 18.4 Discourage high-speed through traffic on local streets in residential areas through traffic "calming" measures that are designed not to disrupt transit service or bicycle movement.	X				
Policy 19.2 Promote increased traffic safety, with special attention to hazards that could cause personal injury.	X				
Objective 20. Give first priority to improving transit service throughout the City, providing a convenient and efficient system as a preferable alternative to automobile use.	X				
Policy 20.1 Give priority to transit vehicles based on a rational classification system of transit preferential streets.	X				
Policy 20.3 Develop transit preferential treatments according to established guidelines.	X				
Policy 20.4 Develop transit centers according to established guidelines.	X				
Policy 20.5 Place and maintain all sidewalk elements, including passenger shelters, benches, trees, newsracks, kiosks, toilets, and utilities at appropriate transit stops according to established guidelines.	X				
Policy 20.6 Provide priority enforcement of parking and traffic regulations on all Transit Streets, particularly Transit Preferential Streets	X				
Policy 20.7 Encourage ridership and clarify transit routes by means of a city-wide plan for street landscaping, lighting and transit preferential treatments.	X				X
Policy 20.8 Intensify overall transit service in the "central area."	X				
Policy 20.9 Improve inter-district and intra-district transit service.	X				
Policy 20.10 Keep fares low enough to obtain consistently high patronage and encourage more off-peak use.	X				
Policy 20.11 Promote the electrification of bus operation.			X		
Policy 20.13 Create dedicated bus lanes and Bus Rapid Transit (BRT) lanes to expedite bus travel times and improve transit reliability.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 20.14 Engage new technologies that will emphasize and improve transit services on transit preferential streets.	X				
Objective 12. Develop transit as the primary mode of travel to and from Downtown and all major activity centers within the region.	X				
Policy 21.1 Provide transit service from residential areas to major employment centers outside the downtown area.	X				
Policy 21.2 Where a high level of transit ridership or potential ridership exists along a corridor, existing transit service or technology should be upgraded to attract and accommodate riders.	X				
Policy 21.3 Make future rail transit extensions in the city compatible with existing BART, CalTrain or Muni rail lines.	X				
Policy 21.4 Provide for improved connectivity and potential facility expansion where any two fixed-guideway transit corridors connect.	X				
Policy 21.5 Facilitate and continue ferries and other forms of water-based transportation as an alternative mode of transit between San Francisco and other communities along the Bay, and between points along the waterfront within San Francisco.	X				
Policy 21.6 Establish frequent and convenient transit service, including water-based transit, to major recreational facilities and provide special service for sports, cultural and other heavily attended events.	X				
Policy 21.7 Make convenient transfers between transit lines, systems and modes possible by establishing common or closely located terminals for local and regional transit systems	X				
Policy 21.8 Bridges and freeways should have exclusive transit lanes where significant transit service is provided by transit.	X				
Policy 21.9 Improve pedestrian and bicycle access to transit facilities.	X				
Policy 21.10 Ensure passenger and operator safety in the design and operation of transit vehicles and station facilities.	X				
Policy 21.11 Ensure the maintenance and efficient operation of the fleet of transit vehicles.	X	X			
Objective 22. Develop and improve demand-responsive onsite transit systems as a supplement to regular transit services.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 22.1 Maintain a taxi service adequate to meet the needs of the city and to keep fares reasonable.	X				
Policy 22.2 Consider possibilities for supplementary, privately operated transit services.	X				
Policy 22.3 Guarantee complete and comprehensive transit service and facilities that are accessible to all riders, including those with mobility impairments.	X				
Objective 23. Improve the City's pedestrian circulation system to provide for efficient, pleasant, and safe movement.	X				
Policy 23.1 Provide sufficient pedestrian movement space with a minimum of pedestrian congestion in accordance with a pedestrian street classification system.	X				
Policy 23.2 Widen sidewalks where intensive commercial, recreational, or institutional activity is present, sidewalks are congested and where residential densities are high.	X				
Policy 23.3 Maintain a strong presumption against reducing sidewalk widths, eliminating crosswalks and forcing indirect crossings to accommodate automobile traffic.	X				
Policy 23.4 Tow-away lanes should not be approved, and removal should be considered, if they impair existing and potential pedestrian usage and level of service on abutting sidewalks, as well as the needs of transit operation on the street.	X				
Policy 23.5 Minimize obstructions to through pedestrian movement on sidewalks by maintaining an unobstructed width that allows for passage of people, strollers and wheelchairs.	X				
Policy 23.6 Ensure convenient and safe pedestrian crossings by minimizing the distance pedestrians must walk to cross a street.	X				
Policy 23.7 Ensure safe pedestrian crossings at signaled intersections by providing sufficient time for pedestrians to cross streets at a moderate pace.	X				
Policy 23.8 Support pedestrian needs by incorporating them into regular short-range and long-range planning activities for all city and regional agencies and include pedestrian facility funding in all appropriate funding requests.	X				
Policy 23.9 Implement the provisions of the Americans with Disabilities Act and the city's curb ramp program to improve pedestrian access for all people	X				
Policy 24.2 Maintain and expand the planting of street trees and the infrastructure to support them.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 24.3 Install pedestrian-serving street furniture where appropriate.	X				
Policy 24.4 Preserve pedestrian-oriented building frontages.	X				
Policy 24.5 Where consistent with transportation needs, transform streets and alleys into neighborhood-serving open spaces or "living streets", especially in neighborhoods deficient in open space.	X				X
Objective 25. Develop a Citywide pedestrian network	X				
Policy 25.2 Utilizing the pedestrian street classification system, develop a citywide pedestrian network that includes streets devoted to or primarily oriented to pedestrian use.	X				
Policy 25.3 Develop design guidelines for pedestrian improvements in Neighborhood Commercial Districts, Residential Districts, Transit-Oriented Districts, and other pedestrian-oriented areas as indicated by the pedestrian street classification plan.	X				
Policy 25.4 Maintain a presumption against the use of demand-activated traffic signals on any well-used pedestrian street, and particularly those streets in the Citywide Pedestrian and Neighborhood Networks.	X				
Policy 25.5 Where intersections are controlled with a left-turn only traffic signal phase for automobile traffic, encourage more efficient use of the phase for pedestrians where safety permits.	X				
Policy 25.6 Provide enforcement of traffic and parking regulations to ensure pedestrian safety, particularly on streets within the Citywide Pedestrian and Neighborhood Networks.	X				
Policy 26.3 Encourage pedestrian serving uses on the sidewalk.	X				
Objective 27. Ensure that bicycles can be used safely and conveniently as a primary means of transportation, as well as for recreational purposes.	X				
Policy 27.1 Expand and improve access for bicycles on city streets and develop a well-marked, comprehensive system of bike routes in San Francisco.	X				
Policy 27.2 Develop a rational classification system of bicycle preferential streets.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 27.4 Maintain a presumption against the use of demand-activated traffic signals on designated bicycle routes.	X				
Policy 27.5 Make available bicycle route and commuter information and encourage increased use of bicycle transportation.	X				
Policy 27.6 Accommodate bicycles on regional transit facilities and important regional transportation links wherever feasible.	X				
Policy 27.7 Include bicycle facility funding in all appropriate requests.	X				
Policy 27.8 Prevent bicycle accidents through bicycle safety education and improved traffic law enforcement.	X				
Policy 27.10 Accommodate bicycles in the design and selection of traffic control facilities.	X				
Objective 28. Provide secure and convenient parking facilities for bicycles.	X				
Policy 28.1 Provide secure bicycle parking in new governmental, commercial, and residential developments.	X				
Policy 28.2 Provide secure bicycle parking at existing city buildings and facilities and encourage it in existing commercial and residential buildings.	X				
Policy 28.3 Provide parking facilities which are safe, secure, and convenient.	X				
Policy 28.4 Provide bicycle parking at all transit terminals.	X				
Objective 29. City government should play a leadership role in increasing bicycle use.	X				
Policy 29.1 Consider the needs of bicycling and the improvement of bicycle accommodations in all city decisions and improve accommodations as much as possible.	X				
Policy 29.2 Integrate bicycle planning into regular short-range and long-range planning activities for all city departments.	X				
Policy 29.4 Encourage non-cyclists to become cyclists and encourage cyclists to ride more often.	X				



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 30.2 Discourage the proliferation of surface parking as an interim land use, particularly where sound residential, commercial or industrial buildings would be demolished pending other development.	X				
Policy 30.4 Restrict long term automobile parking at rapid transit stations in the city in favor of development of effective feeder transit service	X				
Policy 30.5 In any large development, allocate a portion of the provided off-street parking spaces for compact automobiles, vanpools, bicycles and motorcycles commensurate with standards that are, at a minimum, representative of their proportion of the city's vehicle population.	X				
Objective 31. Establish parking rates and off-street parking fare structures to reflect the full cost, monetary and environmental, of parking in the City.	X				
Policy 31.2 Where off-street parking near institutions and in commercial areas outside downtown is in short supply, set parking rates to encourage higher turnover and more efficient use of the parking supply.	X				
Policy 31.3 Encourage equity between drivers and non-drivers by offering transit fare validations and/or cash-out parking programs where off-street parking is validated or subsidized.	X				
Objective 32. Limit parking in Downtown to help ensure that the number of auto trips to and from Downtown will not be detrimental to the growth or amenity of Downtown.	X				
Policy 32.1 Discourage new long-term commuter parking spaces for single-occupant automobiles in and around downtown. Limit the long-term parking spaces to the number that already exists.	X				
Policy 32.2 When it must be provided, locate any new long-term parking structures in the areas peripheral to downtown. Any new peripheral parking structures should be concentrated to make transit service convenient and efficient, connected to transit shuttle service to downtown, and provide preferred space and rates for van and car pool vehicles, bicycles and motorcycles.	X				
Policy 32.3 Encourage short-term use of existing parking spaces within and adjacent to downtown by converting all-day commuter parking to short-term parking in areas of high demand.	X				
Policy 32.4 Where residential streets that are adjacent to or within the downtown area are used for on-street, long-term commuter parking, implement measures to promote short-term parking and discourage long-term commuter parking.	X				
Policy 33.1 Limit the provision of long-term automobile parking facilities at institutions and encourage such institutions to regulate existing facilities to assure use by short-term clients and visitors.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Objective 34. Relate the amount of parking in residential areas and neighborhood commercial districts to the capacity of the City's street system and land use patterns.	X				
Policy 34.1 Regulate off-street parking in new housing so as to guarantee needed spaces without requiring excesses and to encourage low auto ownership in neighborhoods that are well served by transit and are convenient to neighborhood shopping.	X				
Policy 34.3 Permit minimal or reduced off-street parking supply for new buildings in residential and commercial areas adjacent to transit centers and along transit preferential streets.	X				
Policy 34.4 Where parking demand is greatest in city neighborhoods, consider wide-scale transit improvements as an alternative to additional parking garages as part of a balanced solution.	X				
Policy 36.3 Encourage and facilitate the bicycle as a courier vehicle in congested areas, especially in the downtown area.	X				
Objective 38. Develop and maintain selected major and secondary arterials to provide efficient and direct routes for trucks/service vehicles into and through San Francisco without disturbing neighborhood areas and inhibiting the safe movement of transit vehicles, bicycles and pedestrians.	X				
Policy 40.2 Discourage access to off-street freight loading and service vehicle facilities from transit preferential streets, or pedestrian-oriented streets and alleys by providing alternative access routes to facilities.	X				
Policy 40.3. Off-street loading facilities and spaces in the downtown area should be enclosed and accessible by private driveways designed to minimize conflicts with pedestrian, transit, and automobile traffic.	X				
<b>Urban Design</b>					
Objective 1. Emphasis of the characteristic pattern which gives the City and its neighborhoods an image, a sense of purpose, and a means of orientation.	X				X
Policy 1.2. Recognize, protect and reinforce the existing street pattern, especially as it is related to topography.	X				
Policy 1.4. Protect and promote large-scale landscaping and open space that define districts and topography.					X
Policy 1.5. Emphasize the special nature of each district through distinctive landscaping and other features.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 1.10. Indicate the purposes of streets by means of a citywide plan for street landscaping.					X
Objective 2. Conservation of resources which provide a sense of nature, continuity with the past, and freedom from overcrowding.					X
Policy 2.1. Preserve in their natural state the few remaining areas that have not been developed by man.					X
Policy 2.4. Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.		X			
Objective 3. Moderation of major new development to complement the City pattern, the resources to be conserved, and the neighborhood environment.	X				X
Objective 4. Improvement of the neighborhood environment to increase personal safety, comfort, pride and opportunity.	X				
Policy 4.1. Protect residential areas from the noise, pollution and physical danger of excessive traffic.	X				X
Policy 4.4. Design walkways and parking facilities to minimize danger to pedestrians.	X				
Policy 4.12. Install, promote and maintain landscaping in public and private areas.					X
Policy 4.13. Improve pedestrian areas by providing human scale and interest.	X				
Policy 4.15. Protect the livability and character of residential properties from the intrusion of incompatible new buildings.	X				
<b>Balboa Park Station Area Plan</b>					
Objective 1.1 Integrate the diverse uses in the Plan Area around the commercial spine and transit node.	X				
Policy 1.1.1 Strengthen the link between transportation and land use.	X				
Objective 1.2. Strengthen the Ocean Avenue neighborhood commercial district.	X				
Policy 1.2.1. Improve access to and from the commercial district.	X				
Policy 1.2.2. Encourage mixed-use residential and commercial	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
infill within the commercial district.					
Policy 1.2.3. Retain and improve the neighborhood's existing businesses while also attracting new businesses that address unmet retail and service needs of the diverse local neighborhoods.	X				
Objective 1.3. Establish an active, mixed-use neighborhood around the transit station.	X				
Policy 1.3.1. Mixed-use housing and retail should be the principal land use in the Transit Station Neighborhood.	X				
Policy 1.3.2. Encourage centers for cultural enrichment in the Transit Station Neighborhood.	X				
Objective 1.4 Develop the reservoirs in a manner that will best benefit the neighborhood, the city, and the region as a whole.		X		X	
Policy 1.4.1 Develop the east basin of the reservoir to provide additional educational facilities while enhancing existing college and community services.		X		X	
Policy 1.3.2 Develop the west basin of the reservoir the greatest benefit of the city as a whole as well as for the surrounding neighborhoods.		X		X	
Policy 1.4.1 The existing college campus, and future expansions, should be better integrated with the surrounding neighborhood and the transit station.	X				
Objective 2.1 Emphasize transit improvements that support the neighborhood.	X				
Policy 2.1.1 Redesign the Balboa Park BART Station as a regional transit hub that efficiently accommodates BART, light rail, buses, bicycles, pedestrians, taxis and automobile drop-off and pick-up.	X	X			
Policy 2.1.2 Reconfigure the Phelan Bus Loop to encourage public transit use and strengthen the connection between transit and land use.	X	X			
Objective 2.2 Reconstruct and reconfigure major streets in the Plan Area to encourage travel by non-auto modes.	X				
Policy 2.2.1 Re-design Geneva Avenue as a new front door to the BART station.	X				
Policy 2.2.2 Re-design San Jose Avenue between Ocean and Geneva Avenues to better accommodate public transit while maintaining its character as a residential street.	X				
Policy 2.2.3 Re-design Ocean Avenue as a transit and pedestrian boulevard.	X				
Objective 2.3 Reconnect the neighborhoods bisected by the Interstate 280.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 2.3.1 Minimize the prominent physical barrier of Interstate 280.	X				
Objective 2.4 Encourage walking, biking, public transit as the primary means of transportation.	X				
Policy 2.4.1 Main streets in the plan area should be civic spaces as well as movement corridors.	X				
Policy 2.4.2 Improve and expand bicycle connections throughout the plan area.	X	X			
Policy 2.4.3 Improve travel time, transit reliability, and comfort level on all modes of public transportation.	X				
Objective 3.1 Establish parking standards and controls that promote quality of place, affordable housing, and transit-oriented development.	X				
Policy 3.1.1 Provide flexibility for new residential development by eliminating minimum off-street parking requirements and establishing reasonable parking caps.	X				
Policy 3.1.2 Provide flexibility for non-residential development by eliminating minimum off-street parking requirements and establishing parking caps generally equal to the previous minimum requirements.	X				
Policy 3.1.3 Make parking costs visible to users by requiring parking to be rented, leased or sold separately from residential and commercial space for all new major development.	X				
Objective 3.2 Ensure that new development does not adversely affect parking availability for residents.	X				
Policy 3.2.1 Consider revisions to the residential permit parking program (RPP) that make more efficient use of the on-street parking supply.	X				
Policy 3.2.2 Manage the existing supply of on-street parking in the plan area to prioritize spaces for residents, shoppers and non-commute transit trips.	X				
Policy 3.2.3 Promote car-sharing programs as an important way to reduce parking needs while still providing residents with access to an automobile when needed.	X				
Policy 3.2.4 Increase the effectiveness and scope of the city's parking enforcement program.	X				
Policy 3.2.5 Carefully managed parking in the Phelan Loop Area.	X				
Objective 3.3 Ensure that new off-street parking does not adversely affect neighborhood character or the pedestrian friendliness of streets in Pan Area.		X			X
Policy 3.3.1 Prohibit garage doors and curb cuts on	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
neighborhood commercial and transit preferential streets.					
Policy 3.4.1 Improve metered parking in the Ocean Avenue Neighborhood Commercial District.	X				
Policy 3.4.2 Maximize existing off-street parking facilities in the commercial district for business owners and employees as well as for customers.	X				
Objective 3.5 Establish parking policies to support the new Transit Station Neighborhood.	X				
Policy 3.5.3 Explore the extension of the validity of the Fast Pass on BART to the Daly City station.	X				
Objective 4.1 Maximize opportunities for residential infill throughout the Plan Area.		X			
Policy 4.1.1 Housing, supported by a modest amount of neighborhood-oriented commercial establishments, should form the backbone of all new development in the plan area.	X				
Policy 4.1.2 Eliminate dwelling unit density maximums.					X
Policy 4.2.1 Encourage mixed-use commercial and residential infill within the commercial district while maintaining the district's existing fine-grained character.	X				X
Policy 4.2.2 Redevelop the parcels in the Phelan Loop Area with new mixed-use development.					X
Objective 4.3 Establish an active, mixed-use neighborhood around the Transit State that emphasizes the development of housing.	X				
Policy 4.3.4 Housing should be developed above the Muni Green Yard.					X
Objective 4.4 Consider housing as a primary component to any development on the reservoir.		X			
Objective 4.5 Provide increased housing opportunities affordable to a mix of households at varying income levels.	X				
Objective 4.6 Enhance and preserve the existing housing stock.		X			
Policy 4.6.1 Maintain a presumption against the loss of existing housing units.		X			
Policy 4.6.3 Assist lower-income homeowners in making improvements to their houses.		X			
Policy 4.7.1 New development should meet minimum levels of green construction.		X			
Objective 5.1 Create and system of public parks, plazas, and open spaces in the Plan Area.					X
Policy 5.1.1 Create a variety of new public open spaces.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 5.1.3 Ensure that new open spaces are linked to and serve as an extension of the street system	X				X
Policy 5.1.5 Use found space as public open space.					X
Objective 5.2 Create open space within new development that contributes to the open space system.					X
Policy 5.2.1 Require good quality public open space as part of major new developments.					X
Objective 5.3 Promote an urban form and architectural character that supports walking and sustains a diverse, active and safe public realm.	X				
Policy 5.3.2 Redesign the main streets -- Phelan, Ocean, Geneva, and San Jose Avenues -- to encourage walking and biking to and from the Transit Station Neighborhood, City College, and the Ocean Avenue Neighborhood Commercial District.	X				
Policy 5.3.3 Pedestrian routes, especially in commercial areas, should not be interrupted or disrupted by auto access and garage doors.	X				
Objective 5.4 Create a space system that both beautifies the neighborhood and strengthens the environment.					X
Policy 5.4.1 Make the open space system more environmentally sustainable by improving the ecological functioning of all open spaces in the plan area.					X
Policy 5.4.2 Encourage efforts to uncover and restore Islais Creek to its natural state.					X
Objective 6.1 Create strong physical and visual links between the Transit Station Neighborhood, City College, and the Ocean Avenue Neighborhood Commercial District.	X				X
Policy 6.1.1 Large parcels should emphasize the existing street pattern, by extending Harold, Brighton, and Lee avenues south across Ocean Avenue.	X				
Policy 6.1.2 Establish an east/west pedestrian pathway connection to link the BART Station to the Ocean Avenue Neighborhood Commercial District and City College.	X				
Objective 6.3 Develop the Transit Station Neighborhood to emphasize its importance as a transit hub and local landmark.	X				
Policy 6.3.1 Create a deck over the I-280 between Ocean and Geneva Avenues to integrate the Transit Station Neighborhood with City College and the Ocean Avenue Neighborhood Commercial District.	X				X
Policy 6.3.2 The Balboa Park BART Station should be reconstructed to reinforce its role as a regional and local transit node and important neighborhood landmark	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Objective 6.5 Promote the environmental sustainability, ecological function, and the overall quality of the natural environment in the Plan Area.					X
Policy 6.5.1 The connection between building form and ecological sustainability should be enhanced by promoting use of renewable energy, energy-efficient building envelopes, passive heating and cooling, and sustainable materials.		X	X	X	X
Policy 6.5.2 New buildings should comply with strict environmental efficiency standards.		X			
Objective 7.1 Protect, preserve, and reuse historic resources within the Balboa Park Station Plan Area.					X
Policy 7.1.1 The Secretary of the Interior's "Standards and Guidelines for the Treatment of Historic Properties" should be applied in conjunction with the overall neighborhood plan and objectives for all projects involving historic resources.					X
Policy 7.1.2 The rehabilitation and adaptive reuse of historic buildings in the Balboa Park Station plan area should be promoted.					X
Policy 7.1.3 Individually significant resources in the Balboa Park Station plan area should be protected from demolition or adverse alteration.					X
Policy 7.1.5 Historic resources that are less than fifty years old should be protected.					X
Objective 7.2 Integrate historic preservation with the land-use planning process for the Balboa Part Station Plan Area.					X
Policy 7.2. Revised policies, guidelines, and standards should be adopted as needed to further preservation objectives.					
Policy 7.2.3 The destruction of historic resources from owner neglect or inappropriate actions should be prevented.					
Policy 7.2.4 An emergency preparedness and response plan should be developed that considers the Balboa Park Station plan area's historic resources.					X
Objective 7.3 Foster public awareness and appreciation of historic resources within the Balboa Park Station Plan Area.					X
Policy 7.3.1 Formal designation of the Balboa Park Station's historic resources should be supported, as appropriate.					X
Policy 7.3.2 Public participation in the identification of cultural and historic resources within the Balboa Park Station plan area should be encouraged.					X
Policy 7.3.3 Education and appreciation of historic resources within the Balboa Park Station plan area should be fostered among business leaders, neighborhood groups, and the general public through outreach efforts.					X



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Objective 7.4 Provide preservation incentives, guidance, and leadership within the Balboa Part Station Plan Area.					X
<b>Bayview Hunters Point Area Plan</b>					
Policy 1.4 Encourage development of the South Basin area west of Third Street as a light industrial activity center.	X				
Objective 2 Improve use of land on Third Street by creating compact commercial areas, establishing nodes for complementary uses, and restricting unhealthy uses.	X				
Policy 2.4 Encourage new mixed-use projects in defined nodes along Third Street to strengthen the corridor as the commercial spine of the neighborhood.	X				
Policy 3.1 Improve and establish truck routes between industrial areas, including those at the Shipyard, and freeway interchanges.	X				
Objective 4 Develop and maintain a system for the easy movement of people and goods, taking into account anticipated needs of both local and through traffic.	X				
Policy 4.1 Develop a comprehensive network and schedule of roadway improvements to assure that Bayview maintains an adequate level of service at key intersections as the residential and work force population in the district increases.	X				
Policy 4.2 Develop the necessary improvements in public transit to move people efficiently and comfortably between different neighborhoods of Bayview Hunters Point, to and from Candlestick Park, and to and from Downtown and other parts of the region.	X				
Policy 4.3 Recognize the Third Street Light Rail as the nucleus for public transit improvements and socio-economic revitalization efforts in the corridor, and prioritize the efficient movement of the light rail by reducing conflicts with automobile and truck traffic.	X				
Policy 4.4 Improve parking conditions along Third Street to meet current and future parking needs of commercial uses.	X				
Policy 4.5 Create a comprehensive system for pedestrian and bicycle circulation.	X				
Policy 4.6 Provide convenient regional access to Candlestick Park stadium without negatively impacting nearby residential streets.	X				
Policy 5.2 Conserve the existing supply of Federally subsidized lower income housing.	X				X
Policy 5.3 Conserve and enhance the existing supply of public housing.	X				X
Policy 5.4 Complete modernization of Waste Water facilities, by		X		X	

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
completing the Crosstown Tunnel component of the approved Waste Water Master Plan, or another alternative which would achieve the same objective in order to enhance residential livability along the southeast shoreline.					
Objective 6 Encourage the construction of new affordable and market rate housing at locations and density levels that enhance the overall residential quality of Bayview Hunters Point.	X				
Policy 6.1 Encourage development of new moderate density affordable ownership units, appropriately designed and located and especially targeted for existing Bayview Hunters Point residents.	X				
Policy 6.2 Develop new multi-family housing in identified mixed use nodes along Third Street concurrent with the economic stabilization of surrounding existing residential neighborhoods.	X				
Policy 6.3 Encourage development of new small-scale affordable housing on infill vacant sites and through addition of second units consistent with the character of existing residential neighborhoods.	X				
Policy 6.4 Encourage development of new affordable housing on the ridge portion of Hunters Point Shipyard to help improve the residential character and circulation pattern of the Hunters Point residential area.	X				
Policy 6.5 In the vicinity of Bayview Hill, encourage well-sited housing development that complements the natural areas and open space, as well as provides for local economic development.					X
Policy 7.2 Encourage complementary development adjacent to the Third Street core commercial area.					
Policy 7.3 Develop secondary nodes of commercial activity.	X				
Policy 7.4 Encourage commercial development within the Candlestick Point Special Use District that will complement a new sports stadium and the other commercial areas within Bayview Hunters Point and the City, and that will create job opportunities for Bayview residents.	X				
Policy 8.2 Achieve reuse of Hunters Point Shipyard.					X
Policy 9.3 Support expanded role of African American firms in distribution and transportation industries.	X				
Policy 10.1 Better define Bayview's designated open space areas by enabling appropriate, quality development in surrounding areas.					X
Policy 10.2 Improve the visual quality and strengthen the pedestrian orientation of the Third Street core area.	X				
Objective 11 Improve definition of the overall urban pattern of Bayview Hunters Point.	X				
Policy 11.1 Recognize and enhance the distinctive features of	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Bayview Hunters Point as an interlocking system of diverse neighborhoods.					
Policy 11.2 Increase awareness and use of the pedestrian/bicycle trail system that links subareas in Bayview Hunters Point with the rest of the City.	X	X			
Policy 12.1 Make better use of existing facilities.		X		X	X
Policy 12.2 Maximize joint use of recreation and education facilities.		X			
Objective 13 Provide continuous public open space along the shoreline of Bayview Hunters Point unless public access clearly conflicts with maritime uses or other non-open space uses requiring a waterfront location.					X
Policy 13.1 Assure that new development adjacent to the shoreline capitalizes on the unique waterfront location by improving visual and physical access to the water in conformance with urban design policies.					X
Policy 13.2 Maintain and improve the quality of existing shoreline open space.					X
Policy 13.3 Complete the San Francisco Bay Trail around the perimeter of the City which links open space areas along the shoreline and provides for maximum waterfront access. (See Figure 14)					X
Policy 13.4 Provide new public open spaces along the shoreline -- at Islais Creek, Heron's Head, India Basin, Hunters Point Shipyard, and Candlestick Point/South Basin.					X
Policy 14.1 Assure adequate maintenance programming and resident utilization of existing multi-purpose community facilities.		X			
Objective 17 Support community economic development and revitalization through energy management and alternative energy technologies.		X	X		
Policy 17.1 Promote the Bayview as an area for implementing energy conservation and alternative energy supply initiatives.		X	X		
Policy 17.2 Strengthen linkages between district energy planning efforts and overall community development goals and objectives.		X	X		
Objective 18 Reduce the outflow of dollars from the community due to expenditures on energy through the improved energy management of transportation, housing, commerce and industry, and community facilities.	X	X			
Policy 18.1 Encourage land use patterns that will reduce transportation needs and encourage methods of transportation that will use less energy.	X	X			

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 18.2 Enhance the energy efficiency of housing in Bayview Hunters Point.		X			
Policy 18.3 Promote effective energy management practices in new and existing commercial and industrial facilities to increase energy efficiency and maintain the economic viability of businesses.		X			
Policy 18.4 Encourage energy conservation and resource management in community facilities and operations in Bayview Hunters Point.		X		X	
<b>Central Waterfront Area Plan</b>					
Objective 1.1 Encourage the transition of portions of the Central Waterfront to a more mixed-use character, while protecting the neighborhood's core of PDR uses as well as the Historic Dogpatch Neighborhood.	X				X
Policy 1.1.8 Consider the Potrero power plant site as an opportunity for reuse for larger-scale commercial and research establishments.		X			X
Policy 1.1.9 Permit and encourage greater retail uses on the ground floor on parcels that front 3rd Street to take advantage of transit service and encourage more mixed uses, while protecting against the wholesale displacement of PDR uses.	X				
Policy 1.2.2 For new construction, and as part of major expansion of existing buildings in neighborhood commercial districts, require housing development over commercial. In other mixed-use districts encourage housing over commercial or PDR where appropriate.	X				
Policy 1.2.4 Identify portions of Central Waterfront where it would be appropriate to increase maximum heights for residential development.	X				X
Objective 1.7 Retain the Central Waterfront's role as an important location for production, distribution, and repair (PDR) activities.	X				X
Policy 1.7.3 Require development of flexible buildings with generous floor-to-ceiling heights, large floor plates, and other features that will allow the structure to support various businesses.					X
Objective 1.8 Protect maritime and maritime-related activities in the Central Waterfront					X
Objective 2.1 Ensure that a significant percentage of new housing created in the Central Waterfront is affordable to people with a wide range of incomes	X				
Policy 2.1.1 Require developers in some formally industrial areas to contribute towards the City's very low, low, moderate and middle income needs as identified in the Housing Element of the	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
General Plan.					
Policy 2.1.2 Provide land and funding for the construction of new housing affordable to very low and low-income households.	X				
Policy 2.1.3 Provide units that are affordable to households at moderate and middle incomes – working households earning above traditional below-market-rate thresholds but still well below what is needed to buy a market priced home, with restrictions to ensure affordability continues.	X				
Policy 2.1.4 Allow single-resident occupancy hotels (SROs) and efficiency units to continue to be an affordable type of dwelling option, and recognize their role as an appropriate source of housing for small households.	X				
Objective 2.2 Retain and improve existing housing affordable to people of all incomes	X				
Policy 2.2.1 Adopt Citywide demolition policies that discourage demolition of sound housing, and encourage replacement of affordable units.					X
Policy 2.2.2 Preserve viability of existing rental units.		X			X
Policy 2.2.4 Ensure that at-risk tenants, including low-income families, seniors, and people with disabilities, are not evicted without adequate protection.	X				
Objective 2.3 Require that a significant number of units in new developments have two or more bedrooms except senior housing and SRO developments unless all below market rate units are two or more bedroom units.	X				
Policy 2.3.1 Target the provision of affordable units for families.	X				
Policy 2.3.2 Prioritize the development of affordable family housing, both rental and ownership, particularly along transit corridors and adjacent to community amenities.	X				
Policy 2.3.5 Explore a range of revenue- generating tools including impact fees, public funds and grants, assessment districts, and other private funding sources, to fund community and neighborhood improvements.		X			X
Policy 2.3.6 Establish an impact fee to be allocated towards an Eastern Neighborhoods Public Benefit Fund to mitigate the impacts of new development on transit, pedestrian, bicycle, and street improvements, park and recreational facilities, and community facilities such as libraries, child care and other neighborhood services in the area.	X				
Policy 2.4.1 Require developers to separate the cost of parking from the cost of housing in both for sale and rental developments.	X				X
Policy 2.4.2 Revise residential parking requirements so that structured or off-street parking is permitted up to specified	X				X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
maximum amounts in certain districts, but is not required.					
Objective 2.5 Promote health through residential development design and location	X				
Policy 2.5.1 Consider how the production of new housing can improve the conditions required for health of San Francisco residents.					
Policy 2.5.2 Develop affordable family housing in areas where families can safely walk to schools, parks, retail, and other services.	X	X			
Policy 2.5.3 Require new development to meet minimum levels of green construction.		X			X
Policy 2.5.4 Provide design guidance for the construction of healthy neighborhoods and buildings.		X			
Policy 3.1.8 New development should respect existing patterns of rear yard open space. Where an existing pattern of rear yard open space does not exist, new development on mixed-use-zoned parcels should have greater flexibility as to where open space can be located.					X
Policy 3.1.9 Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.					X
Policy 3.1.10 After results are obtained from the historic resources surveys, make necessary adjustments to these built form guidelines to ensure that new structures, particularly in historic districts, will be compatible with the surrounding historic context.					X
Objective 3.2 Promote an urban form and architectural character that supports walking and sustains a diverse, active, and safe public realm.	X				
Policy 3.2.7 Strengthen the pedestrian network by extending alleyways to adjacent streets or alleyways wherever possible, or by providing new publicly accessible mid-block rights of way.	X				
Objective 3.3 Promote the environmental sustainability, ecological functioning and the overall quality of the natural environment in the Plan Area.					X
Policy 3.3.1 Require new development to adhere to a new performance-based ecological evaluation tool to improve the amount and quality of green landscaping.		X		X	X
Policy 3.3.2 Discourage new surface parking lots and explore ways to encourage retrofitting existing surface parking lots and off-street loading areas to minimize negative effects on microclimate and stormwater infiltration. The city's Stormwater Master Plan, upon completion, will provide guidance on how best		X			

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
to adhere to these guidelines.					
Policy 3.3.3 Enhance the connection between building form and ecological sustainability by promoting use of renewable energy, energy-efficient building envelopes, passive heating and cooling, and sustainable materials.		X	X	X	X
Policy 3.3.4 Compliance with strict environmental efficiency standards for new buildings is strongly encouraged.		X			
Objective 4.1 Improve public transit to better serve existing and new development in Central Waterfront.	X				
Policy 4.1.1 Commit resources to an analysis of the transportation impacts of new zoning and mobility needs in the Central Waterfront to develop a plan that prioritizes transit while addressing needs of all modes (auto circulation, freeway traffic, bicyclists, pedestrians).	X				
Policy 4.1.2 Decrease transit travel time and improve reliability through a variety of means, such as transit-only lanes, transit signal priority, transit queue jumps, lengthening of spacing between stops, and establishment of limited or express service.	X				
Policy 4.1.3 Implement the service recommendations of the Transit Effectiveness Project (TEP).	X				
Policy 4.1.4 Reduce existing curb cuts where possible and restrict new curb cuts to prevent vehicular conflicts with transit on important transit and neighborhood commercial streets.	X				
Policy 4.1.5 Ensure Muni's storage and maintenance facility needs are met to serve increased transit demand and provide enhanced service.	X				
Policy 4.1.6 Improve public transit in the Central Waterfront including cross-town routes and connections the 22nd Street Caltrain Station and Third Street Light Rail.	X				
Objective 4.2 Increase transit ridership by making it more comfortable and easier to use.	X				
Policy 4.2.1 Improve the safety and quality of streets, stops and stations used by transit passengers.	X				
Policy 4.2.2 Provide comprehensive and real-time passenger information, both on vehicles and at stops and stations.	X				
Objective 4.3 Establish parking policies that improve the quality of neighborhoods and reduce congestion and private vehicle trips by encouraging travel by non-auto modes.	X				
Policy 4.3.1 For new residential development, provide flexibility by eliminating minimum off-street parking requirements and establishing reasonable parking caps.	X				
Policy 4.3.2 For new non-residential development, provide flexibility by eliminating minimum off-street parking requirements	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
and establishing caps generally equal to the previous minimum requirements. For office uses limit parking relative to transit accessibility.					
Policy 4.3.3 Make the cost of parking visible to users, by requiring parking to be rented, leased or sold separately from residential and commercial space for all new major development.		X			
Policy 4.3.4 Encourage, or require where appropriate, innovative parking arrangements that make efficient use of space, particularly where cars will not be used on a daily basis.	X				
Policy 4.3.5 Permit construction of public parking garages in Mixed Use districts only if they are part of shared parking arrangements that efficiently use space, are appropriately designed, and reduce the overall need for off-street parking in the area.	X	X			
Policy 4.3.6 Reconsider and revise the way that on-street parking is managed in both commercial and residential districts in order to more efficiently use street parking space and increase turnover and parking availability.	X				
Policy 4.4.3 In areas with a significant number of PDR establishments and particularly along Illinois Street, design streets to serve the needs and access requirements of trucks while maintaining a safe pedestrian and bicycle environment.	X				
Policy 4.4.4 Allow existing street encroachments in public rights-of-way to continue if their use will not significantly detract from efficient and safe public use of the street, and the use of the existing development presents strong justifications for occupying the street area.	X				
Policy 4.4.5 Maintain and enhance rail access to maritime facilities.	X				
Objective 4.5 Consider the street network in Central Waterfront as a city resource essential to multi-modal movement and public open space.	X				
Policy 4.5.1 Maintain a strong presumption against the vacation or sale of streets or alleys except in cases where significant public benefits can be achieved.	X				
Policy 4.5.2 As part of a development project's open space requirement, require publicly-accessible alleys that break up the scale of large developments and allow additional access to buildings in the project.	X				
Policy 4.5.3 Redesign underutilized streets not needed for PDR business circulation needs in the Central Waterfront for creation of Living Streets and other usable public space.	X				X
Policy 4.5.4 Extend and rebuild the street grid, especially in the direction of the Bay.	X				
Policy 4.5.5 Reclaim public rights-of-way that have been vacated	X				X



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
or incorporated into private parcels.					
Objective 4.6 Support walking as a key transportation mode by moving pedestrian circulation within Central Waterfront and to other parts of the city.	X				
Policy 4.6.1 Use established street design standards to make the pedestrian environment safer and more comfortable for walk trips.	X				
Policy 4.6.2 Prioritize pedestrian safety improvements at intersections and in areas with historically high frequencies of pedestrian injury collisions.	X				
Policy 4.6.3 Improve pedestrian access to transit stops including Third Street light rail and the 22nd Street Caltrain Station.	X	X			
Policy 4.6.4 Facilitate improved pedestrian crossings at several locations to better connect the Central Waterfront and surrounding areas – Potrero Hill, Mission Bay, and Showplace Square.	X				
Policy 4.6.6 Explore opportunities to identify and expand waterfront recreational trails and opportunities including the Bay Trail.					X
Objective 4.7 Improve and expand infrastructure for bicycling as an important mode of transportation.	X				
Policy 4.7.1 Provide a continuous network of safe, convenient and attractive bicycle facilities connecting Central Waterfront to the citywide bicycle network and conforming to the San Francisco Bicycle Plan.	X				
Policy 4.7.2 Provide secure, accessible and abundant bicycle parking, particularly at transit stations, within shopping areas and at concentrations of employment.	X				
Policy 4.7.3 Support the establishment of the Blue-Greenway by including safe, quality pedestrian and bicycle connections from Central Waterfront.	X				
Objective 4.8 Encourage alternatives to car ownership and the reduction of private vehicle trips.	X	X			
Policy 4.8.1 Continue to require car-sharing arrangements in new residential and commercial developments, as well as any new parking garages.	X				
Policy 4.8.2 Require large retail establishments, particularly supermarkets, to provide shuttle and delivery services to customers.	X				
Policy 4.8.3 Develop a Transportation Demand Management (TDM) program for the Eastern Neighborhoods that provides information and incentives for employees, visitors and residents to use alternative transportation modes and travel times.	X				
Objective 4.9 Facilitate movement of automobiles while striving	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
to reduce negative impacts of vehicle travel.					
Policy 4.9.1 Introduce traffic calming measures where warranted to improve pedestrian safety and comfort, reduce speeding and traffic spillover from arterial streets onto residential streets and alleyways.	X				
Policy 4.9.2 Decrease auto congestion through implementation of Intelligent Traffic Management Systems (ITMS) strategies such as smart parking technology, progressive metering of traffic signals and the SFMTA SFGO program.	X				
Objective 4.10 Develop a comprehensive funding plan for transportation improvements.	X				
Policy 4.10.1 As part of the Eastern Neighborhoods Public Benefits Program, pursue funding for transit, pedestrian, bicycle and auto improvements through developer impact fees, in-kind contributions, community facilities districts, dedication of tax revenues, and state or federal grant sources.	X				
Objective 5.1 Provide public parks and open spaces that meet the needs of residents, workers and visitors.					X
Policy 5.1.1 Identify opportunities to create new public open spaces and provide at least one new public open space serving the Central Waterfront.					X
Policy 5.1.2 Require new residential and commercial development to provide, or contribute to the creation of public open space.					X
Objective 5.2 Ensure that new development includes high quality private open space.					X
Policy 5.2.1 Require new residential and mixed-use residential development to provide on-site private open space designed to meet the needs of residents.					X
Policy 5.2.2 Establish requirements for commercial development to provide on-site open space.					X
Policy 5.2.3 Encourage private open space to be provided as common spaces for residents and workers of the building wherever possible.					X
Policy 5.2.4 Encourage publicly accessible open space as part of new residential and commercial development.					X
Policy 5.2.5 New development will respect existing patterns of rear yard open space. Where an existing pattern of rear yard open space does not exist, new development on mixed-use-zoned parcels has flexibility as to where open space can be located.					X
Policy 5.2.6 Ensure quality open space is provided in flexible and creative ways, adding a well used, well-cared for amenity for residents of a highly urbanized neighborhood. Private open		X			X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
space should meet the following design guidelines: A. Designed to allow for a diversity of uses, including elements for children, as appropriate. B. Maximize sunlight exposure and protection from wind C. Adhere to the performance-based evaluation tool.					
Objective 5.3 Create a network of green streets that connects open spaces and improves the walkability, aesthetics, and ecological sustainability of the neighborhood.	X	X			X
Policy 5.3.1 Redesign underutilized portions of streets as public open spaces, including widened sidewalks or medians, curb bulb-outs, living streets or green connector streets.					X
Policy 5.3.2 Maximize sidewalk landscaping, street trees and pedestrian scale street furnishing to the greatest extent feasible.					X
Policy 5.3.3 Design the intersections of major streets to reflect their prominence as public spaces.	X				X
Policy 5.3.4 Enhance the pedestrian environment by requiring new development to plant street trees along abutting sidewalks. When this is not feasible, plant trees on development sites or elsewhere in the plan area.	X				X
Policy 5.3.5 Significant above grade infrastructure, such as freeways, should be retrofitted with architectural lighting to foster pedestrian connections beneath.	X				
Policy 5.3.6 Where possible, transform unused freeway and rail rights-of-way into landscaped features that provide a pleasant and comforting route for pedestrians.	X				X
Policy 5.3.7 Develop a continuous loop of public open space along Islais Creek.					X
Policy 5.3.8 Pursue acquisition or conversion of the Tubbs Cordage Factory alignment to public access. Should it be infeasible to purchase the necessary property, future development should include the following improvements: -Good night-time lighting for pedestrian safety and comfort. -Limit ground cover to maximize visibility. -If benches are provided, they should be placed only at the street.	X				
Policy 5.3.9 Explore opportunities to identify and expand waterfront recreational trails and opportunities including the Bay Trail and Blue-Greenway.					
Objective 5.4 The open space system should both beautify the neighborhood and strengthen the environment.					X
Policy 5.4.1 Increase the environmental sustainability of Central Waterfronts system of public and private open spaces by improving the ecological functioning of all open space.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 5.4.2 Explore ways to retrofit existing parking and paved areas to minimize negative impacts on microclimate and allow for storm water infiltration.				X	X
Objective 5.5 Ensure that existing open space, recreation and park facilities are well maintained.					X
Policy 5.5.1 Prioritize funds and staffing to better maintain existing parks and obtain additional funding for a new park and new open space facilities.					X
Policy 5.5.2 Renovate run-down or outmoded park facilities to provide high quality, safe and long-lasting facilities. Identify at least one existing park or recreation facility in the Central Waterfront for renovation.					X
Policy 5.5.3 Explore opportunities to use existing recreation facilities, such as school yards, more efficiently.		X			
Policy 7.1.3 Ensure child care services are located where they will best serve neighborhood workers and residents.	X				
Policy 7.1.4 Seek the San Francisco Unified School District's consideration of middle school options in this neighborhood, or in the Showplace Square/Potrero Hill or East SoMa neighborhoods, or the expansion of existing schools to accommodate middle school demand from projected population growth in the Eastern Neighborhoods.	X		X		
Objective 8.1 Identify and evaluate historic and cultural resources within the Central Waterfront Area Plan.					X
Policy 8.1.2 Pursue formal designation of the Pier 70 Waterfront, the Third Street Industrial District and other historic and cultural resources for Article 10 designation, as appropriate.					X
Policy 8.1.3 Recognize and evaluate historic and cultural resources that are less than fifty years old and may display exceptional significance to the recent past.					X
Policy 8.1.4 Protect important examples of engineering achievements such as bridges and tunnels in the Central Waterfront.					X
Objective 8.2 Protect, preserve, and reuse historic resources within the Central Waterfront Area Plan.		X			X
Policy 8.2.1 Protect individually significant historic and cultural resources and historic districts in the Central Waterfront area plan from demolition or adverse alteration, particularly those elements of the Maritime and Industrial Area east of Illinois Street.					X
Policy 8.2.2 Apply the Secretary of the Interior's Standards for the Treatment of Historic Properties in conjunction with the Central Waterfront area plan and objectives for all projects involving historic or cultural resources.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 8.2.3 Promote and offer incentives for the rehabilitation and adaptive reuse of historic buildings in the Central Waterfront area plan.					X
Objective 8.3 Ensure that historic preservation concerns continue to be an integral part of the ongoing planning processes for the Central Waterfront Area Plan.					X
Policy 8.3.1 Pursue and encourage opportunities, consistent with the objectives of historic preservation, to increase the supply of affordable housing within the Central Waterfront plan area.	X				
Policy 8.3.2 Ensure a more efficient and transparent evaluation of project proposals which involve historic resources and minimize impacts to historic resources per CEQA guidelines.					X
Policy 8.3.3 Prevent destruction of historic and cultural resources resulting from owner neglect or inappropriate actions.					X
Policy 8.3.4 Consider the Central Waterfront's historic and cultural resources in emergency preparedness and response efforts.					X
Policy 8.3.5 Protect and retrofit local, state, or nationally designated UMB (Unreinforced Masonry Buildings) found in the Plan Area.					X
Objective 8.4 Promote the principles of sustainability for the built environment through the inherently green strategy of historic preservation.		X			X
Policy 8.4.1 Encourage the retention and rehabilitation of historic and cultural resources as an option for increased sustainability and consistency with the goals and objectives of the Sustainability Plan for the City and County of San Francisco.					X
Objective 8.5 Provide preservation incentives, guidance, and leadership within the Central Waterfront Area Plan.					X
Policy 8.5.1 Disseminate information about the availability of financial incentives for qualifying historic preservation projects.		X			X
Policy 8.5.2 Encourage use of the California Historic Building Code for qualifying historic preservation projects.					X
Policy 8.5.3 Demonstrate preservation leadership and good stewardship by the city of publicly owned historic and cultural resources.					X
<b>Chinatown Area Plan</b>					
Objective 1 Preserve the distinctive urban character, physical environment and cultural heritage of Chinatown.					X
Policy 1.1 Maintain the low-rise scale of Chinatown's buildings.		X			
Policy 1.4 Protect the historic and aesthetic resources of Chinatown.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Objective 2 Retain and reinforce Chinatown's mutually supportive functions as a neighborhood, capital city and visitor attraction.	X				
Policy 2.1 Define mixed use subdistricts based on the predominant type of ground level use.	X				
Policy 2.2 Base zoning on the generalized land use and density map.	X				
Objective 3 Stabilize and where possible increase the supply of housing.	X				
Policy 3.1 Conserve existing housing.	X				
Policy 3.2 Increase the supply of housing.	X				
Policy 3.3 Seismically upgrade unreinforced masonry buildings without imposing undue financial burdens or permanent displacement of residents.		X			X
Objective 4 Preserve the urban role of Chinatown as a residential neighborhood.					X
Policy 4.1 Protect and enhance neighborhood serving character of commercial uses in predominantly residential areas.					X
Policy 4.4 Expand open space opportunities.					X
Objective 7 Manage transportation impacts to stabilize or reduce the difficulties of walking, driving, delivering goods, parking or using transit in Chinatown.	X				
Policy 7.1 Implement measures responsive to pedestrian needs such as scramble system intersections, increased duration of walk signals, and limits on auto use in alleys	X				
Policy 7.2 Make MUNI routes more reflective of and responsive to Chinatown ridership, including bilingual signage, schedules, maps.	X				
Policy 7.3 Improve and increase parking enforcement; use enforcement and rate structures to encourage short term parking; operate meters seven days a week. Improve and increase parking enforcement; use enforcement and rate. Improve and increase parking enforcement; use enforcement and rate structures to encourage short term parking; operate meters seven days a week.	X				
Policy 7.4 Increase public short-term parking opportunities; set rates to discourage long-term parking.	X				
Policy 7.5 Minimize truck loading/unloading conflicts.	X				
Policy 7.6 Implement concentrated commercial loading zones and uniform truck delivery schedules.	X				
<b>Civic Center Area Plan</b>					

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 1.3 Design Civic Center buildings and open spaces to serve as public gathering places for ceremonial, cultural, recreational, and other community activities.					X
Policy 1.5 Maintain existing streets as vehicular, pedestrian or open space corridors.					X
Policy 2.1 Design the Civic Center to promote efficiency and convenience within and between the governmental entities represented, and provide for their orderly expansion.		X			
Policy 2.3 Encourage governmental activities of each level of government to locate within a "sphere of influence" within the Civic Center to avoid inefficient dispersal of these activities throughout the area.	X				
Policy 2.4 Encourage administrative-oriented governmental functions (executive, legislative, and judicial) to locate in new consolidated facilities rather than being dispersed throughout the adjacent area in leased or rented quarters.	X				
Objective 3 Provide convenient access to and circulation within the Civic Center, and support facilities and services.	X				
Policy 3.1 Locate buildings employing large numbers of employees and/or attracting large numbers of visitors in convenient pedestrian proximity to public transit and off-street parking facilities.	X				
Policy 3.2 Allow an increase in short term parking supply when it builds on existing supply and does not consume additional land.	X				X
Policy 3.3 Provide and price parking for short-term visitor use, and discourage long-term parking. Encourage transit use as the primary means of access to the Civic Center.	X				
Objective 4 Protect and enhance the housing resources in the Civic Center Area.	X				
Policy 4.1 Conserve and upgrade existing low and moderate income housing stock.	X				
Policy 4.2 Encourage new infill housing at a compatible density.	X				
<b>Downtown Area Plan</b>					
Policy 2.2 Guide location of office development to maintain a compact downtown core and minimize displacement of other uses.	X				
Policy 3.4 Limit the amount of downtown retail space outside the retail district to avoid detracting from its economic vitality.	X				
Policy 4.1 Guide the location of new hotels to minimize their adverse impacts on circulation, existing uses, and scale of development.	X	X			X
Objective 6 Within acceptable levels of density, provide space for	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
future office, retail, hotel service and related uses in Downtown San Francisco.					
Policy 6.1 Adopt a downtown land use and density plan which establishes subareas of downtown with individualized controls to guide the density and location of permitted land use.	X				
Objective 7 Expand the supply of housing in and adjacent to downtown.	X				
Policy 7.1 Promote the inclusion of housing in downtown commercial developments.	X				
Policy 7.2 Facilitate conversion of underused industrial and commercial areas to residential use.	X				X
Objective 8 Protect residential uses in and adjacent to downtown from encroachment by commercial uses.	X				
Policy 8.1 Restrict the demolition and conversion of housing in commercial areas.	X				
Policy 8.2 Preserve existing residential hotels.	X				
Objective 9 Provide quality open space in sufficient quantity and variety to meet the needs of downtown workers, residents, and visitors.					X
Policy 9.1 Require usable indoor and outdoor open space, accessible to the public, as part of new downtown development.					X
Policy 9.2 Provide different kinds of open space downtown.					X
Policy 9.3 Give priority to development of two categories of highly valued open space; sunlit plazas and parks.					X
Policy 9.4 Provide a variety of seating arrangements in open spaces throughout downtown.					X
Policy 9.5 Improve the usefulness of publicly owned rights-of-way as open space.					X
Objective 10 Assure that open spaces are accessible and usable.					X
Policy 10.1 Develop an open space system that gives every person living and working downtown access to a sizable sunlit open space within convenient walking distance.					X
Policy 10.2 Encourage the creation of new open spaces that become a part of an interconnected pedestrian network.					X
Policy 10.3 Keep open space facilities available to the public.					X
Policy 10.4 Provide open space that is clearly visible and easily reached from the street or pedestrian way.					X
Policy 10.5 Address the need for human comfort in the design of open spaces by minimizing wind and maximizing sunshine.					X



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Objective 11 Provide contrast and form by consciously treating open space as a counterpoint to the built environment.					X
Policy 11.1 Place and arrange open space to complement and structure the urban form by creating distinct openings in the otherwise dominant streetwall form of downtown.					X
Policy 11.2 Introduce elements of the natural environment in open space to contrast with the built-up environment.					X
Objective 12 Conserve resources that provide continuity with San Francisco's past.					X
Policy 12.1 Preserve notable landmarks and areas of historic, architectural, or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.					X
Policy 12.2 Use care in remodeling significant older buildings to enhance rather than weaken their original character.		X			X
Policy 14.1 Promote building forms that will maximize the sun access to open spaces and other public areas.					X
Policy 16.2 Provide setbacks above a building base to maintain the continuity of the predominant streetwalls along the street.	X				
Policy 16.3 Maintain and enhance the traditional downtown street pattern of projecting cornices on smaller buildings and projecting belt courses of taller buildings.	X				
Policy 16.4 Use designs and materials and include activities at the ground floor to create pedestrian interest.	X				
Objective 17 Develop transit as the primary mode of travel to and from downtown.	X				
Policy 17.1 Build and maintain rapid transit lines from downtown to all suburban corridors and major centers of activity in San Francisco.	X				
Policy 17.2 Expand existing non-rail transit service to downtown.	X				
Policy 17.3 Establish exclusive transit lanes on bridges, freeways and city streets where significant transit service exists.	X				
Policy 17.4 Coordinate regional and local transportation systems and provide for interline transit transfers.	X				
Policy 17.5 Provide for commuter bus loading at off-street terminals and at special curbside loading areas at non-congested locations.	X				
Policy 17.6 Make convenient transfers possible by establishing common or closely located terminals for local and regional transit systems.	X				
Policy 17.7 Continue ferries and other forms of water-based	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
transportation as an alternative method of travel between San Francisco and the other communities along the Bay, and between points along the waterfront within San Francisco.					
Objective 18 Ensure that the number of auto trips to and from downtown will not be detrimental to the growth or amenity of downtown.	X				
Policy 18.1 Do not increase (and where possible reduce) the existing automobile capacity of the bridges, highways and freeways entering the city.	X				
Policy 18.2 Provide incentives for the use of transit, carpools and vanpools, and reduce the need for new or expanded automobile parking facilities.	X				
Policy 18.3 Discourage new long-term commuter parking spaces in and around downtown. Limit long-term parking spaces serving downtown to the number that already exists.	X				
Policy 18.4 Locate any new long-term parking structures in areas peripheral to downtown only if these areas are not transit-oriented neighborhoods. Any new peripheral parking structures should: be concentrated to make transit service efficient and convenient; be connected to transit shuttle service to downtown; provide preferred space and rates for van and car pool vehicles.	X				
Policy 18.5 Discourage proliferation of surface parking as an interim land use, particularly where sound residential, commercial or industrial buildings would be demolished.	X				
Objective 19 Provide for safe and convenient bicycle use as a means of transportation.	X				
Policy 19.1 Include facilities for bicycle users in governmental, commercial, and residential developments.	X				
Policy 19.2 Accommodate bicycles on regional transit facilities and important regional transportation links.	X				
Policy 19.3 Provide adequate and secure bicycle parking at transit terminals.	X				
Objective 20 Provide for the efficient, convenient and comfortable movement of people and goods, transit vehicles and automobiles within the downtown.	X				
Policy 20.1 Develop the downtown core as an automobile control area.	X				
Policy 20.2 Organize and control traffic circulation to reduce congestion in the core caused by through traffic and to channel vehicles into peripheral parking facilities.	X				
Policy 20.3 Locate drive-in, automobile-oriented, quick-stop and other auto-oriented uses on sites outside the office retail, and general commercial districts of downtown.	X				
Policy 20.4 Improve speed of transit travel and service by giving	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
priority to transit vehicles where conflicts with auto traffic occur, and by establishing a transit preferential streets system.					
Policy 20.5 Develop shuttle transit systems to supplement trunk lines for travel within the greater downtown area.	X				
Policy 20.6 Maintain a taxi service adequate to meet the needs of the city and to keep far as reasonable.	X				
Policy 20.7 Encourage short-term use of existing parking spaces within and adjacent to the downtown core by converting all-day commuter parking to short-term parking in areas of high demand. Provide needed additional short-term parking structures in peripheral locations around but not within the downtown core	X				
Policy 20.8 Make existing and new accessory parking available to the general public for evening and weekend use.		X			X
Objective 21 Improve facilities for freight deliveries and business services.	X				
Policy 21.1 Provide off-street facilities for freight loading and service vehicles on the site of new buildings sufficient to meet the demands generated by the intended uses. Seek opportunities to create new existing buildings.	X				
Policy 21.2 Discourage access to off-street freight loading and service vehicle facilities from transit preferential streets, or pedestrian-oriented streets and alleys.	X				
Policy 21.3 Encourage consolidation of freight deliveries and night-time deliveries to produce greater efficiency and reduce congestion.	X				
Policy 21.4 Provide limited loading spaces on street to meet the need for peak period or short-term small deliveries and essential services, and strictly enforce their use.	X				
Policy 21.5 Require large new hotels to provide off-street passenger loading and unloading of tour buses.	X				
Objective 22 Implement a downtown streetscape plan to improve the downtown pedestrian circulation system, especially within the core, to provide for efficient, comfortable, and safe movement.	X				
Policy 22.1 Provide sufficient pedestrian movement space.	X				
Policy 22.2 Through the development of streetscape standards and guidelines, minimize obstructions to through pedestrian movement on sidewalks in the downtown core.	X				
Policy 22.3 Ensure convenient and safe pedestrian crossings.	X				
Policy 22.4 Create a pedestrian network in the downtown core area that includes streets devoted to or primarily oriented to pedestrian use.	X				
Policy 22.5 Improve the ambience of the pedestrian environment.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 22.6 Future decisions about street space, both in this plan and beyond, should give equal, if not greater, consideration to pedestrian needs.	X				
Objective 23 Reduce hazards to life safety and minimize property damage and economic dislocation resulting from future earthquakes.	X				
Policy 23.1 Apply a minimum level of acceptable risk to structures and uses of land based upon the nature of the use, importance of the use to public safety and welfare, and density of occupancy.	X				X
<b>East SoMa (South of Market) Area Plan</b>					
Objective 1.1 Encourage production of housing and other mixed-use development in East SoMa while maintaining its existing special mixed-use character.					X
Policy 1.1.1 Retain the existing zoning in the SLI-zoned area of East SoMa. Revisit land use controls in this area once more is known about future needs for downtown San Francisco, the specific configuration of the Central Subway and the outcome of the Western SoMa planning process.	X				X
Policy 1.1.2 Encourage small flexible, office space throughout East SoMa and encourage larger office in the 2nd Street Corridor.					
Policy 1.1.3 Encourage housing development, especially affordable housing, by requiring housing and an increased inclusionary requirement in the area between 5th and 6th and Folsom and Howard Streets, extending along Folsom to 3rd Street.	X				
Policy 1.1.4 Retain the existing flexible zoning in the area currently zoned SLR, but also allow small offices.	X				
Policy 1.4.1 Permit limited office space throughout East SoMa to support a flexible space for all types of office users.		X			
Policy 2.2.1 Adopt citywide demolition policies that discourage demolition of sound housing, and encourage replacement of affordable units.		X			X
Policy 2.2.4 Ensure that at-risk tenants, including low-income families, seniors, and people with disabilities, are not evicted without adequate protection.	X				
Objective 2.3 Ensure that new residential developments satisfy an array of housing needs with respect to tenure, unit mix and community service.	X				
Policy 2.3.1 Target the provision of affordable units for families	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 2.3.2 Prioritize the development of affordable family housing, both rental and ownership, particularly along transit corridors and adjacent to community amenities.	X				
Policy 2.3.3 Require that a significant number of units in new developments have two or more bedrooms, except Senior Housing and SRO developments unless all Below Market Rate Units are two or more bedrooms.	X				
Policy 2.3.6 Establish an Eastern Neighborhoods Public Benefit Fund to mitigate the impacts of new development on transit, pedestrian, bicycle, and street improvements, park and recreational facilities, and community facilities such as libraries, child care and other neighborhood services in the area.	X				
Policy 2.4.1 Require developers to separate the cost of parking from the cost of housing in both for sale and rental developments.	X				
Policy 2.5.2 Develop affordable family housing in areas where families can safely walk to schools, parks, retail, and other services.	X	X			
Policy 2.5.3 Require new development to meet minimum levels of green construction.		X			
Policy 2.5.4 Provide design guidance for the construction of healthy neighborhoods and buildings.		X			
Objective 2.6 Continue and expand the city's efforts to increase permanently affordable housing production and availability.	X				
Policy 2.6.1 Continue and strengthen innovative programs that help to make both rental and ownership housing more affordable and available.	X				
Policy 2.6.2 Explore housing policy changes at the Citywide level that preserve and augment the stock of existing rental and ownership housing.	X	X			
Policy 2.6.4 Recognize the concentration of low-income families and youth in the South of Market, particularly in the area generally bounded by 4th Street and LapuLapu Street on the northeast, Langton Street on the southwest, Harrison Street on the southeast, and Natoma Street on the northwest by encouraging affordable, family housing.	X				
Policy 3.1.6 New buildings should epitomize the best in contemporary architecture, but should do so with full awareness of, and respect for, the height, mass, articulation and materials of the best of the older buildings that surrounds them.		X			
Policy 3.1.8 New development should respect existing patterns					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
of rear yard open space. Where an existing pattern of rear yard open space does not exist, new development on mixed-use-zoned parcels should have greater flexibility as to where open space can be located.					
Policy 3.1.9 Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.					X
Objective 3.2 Promote an urban form and architectural character that supports walking and sustains a diverse, active and safe public realm.	X				
Policy 3.2.7 Strengthen the pedestrian network by extending alleyways to adjacent streets or alleyways wherever possible, or by providing new publicly accessible mid-block rights of way.	X				
Objective 3.3 Promote the environmental sustainability, ecological functioning and the overall quality of the natural environment in the plan area.					X
Policy 3.3.1 Require new development to adhere to a new performance-based ecological evaluation tool to improve the amount and quality of green landscaping.					X
Policy 3.3.2 Discourage new surface parking lots and explore ways to encourage retrofitting existing surface parking lots and off-street loading areas to minimize negative effects on microclimate and stormwater infiltration. The city's Stormwater Master Plan, upon completion, will provide guidance on how best to adhere to these guidelines.		X		X	
Policy 3.3.3 Enhance the connection between building form and ecological sustainability by promoting use of renewable energy, energy-efficient building envelopes, passive heating and cooling, and sustainable materials.		X	X		X
Policy 3.3.4 Compliance with strict environmental efficiency standards for new buildings is strongly encouraged.		X			
Objective 4.1 Improve public transit to better serve existing and new development in the South of Market.	X				
Policy 4.1.1 Commit resources to an analysis of the street grid, the transportation impacts of new zoning, and mobility needs in the South of Market / Eastern Neighborhoods to develop a plan that prioritizes transit while addressing needs of all modes (transit, vehicle traffic, bicyclists, pedestrians).	X				
Policy 4.1.2 Decrease transit travel time and improve reliability through a variety of means, such as transit-only lanes, transit signal priority, transit queue jumps, lengthening of spacing between stops, and establishment of limited or express service.	X				
Policy 4.1.3 Implement the service recommendations of the Transit Effectiveness Project (TEP).	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 4.1.4 Reduce existing curb cuts where possible and restrict new curb cuts to prevent vehicular conflicts with transit on important transit and neighborhood commercial streets.	X				
Policy 4.1.5 Ensure Muni's storage and maintenance facility needs are met to serve increased transit demand and provide enhanced service.	X				
Policy 4.1.6 Improve public transit linking the eastern and western portions of the South of Market and strengthen SoMa's overall transit connections to the Market Street corridor, BART stations, and 4th & King Caltrain station.	X				
Policy 4.1.7 If the proposed Central Subway is built along the Fourth Street corridor, consider the inclusion of a stop on 4th Street between Bryant and Brannan.	X				
Policy 4.1.8 Support planning and implementation of the proposed E-line historic streetcar line from Fisherman's Wharf to the 4th & King Caltrain Station.	X				
Objective 4.2 Increase transit ridership by making it more comfortable and easier to use.	X				
Policy 4.2.1 Improve the safety and quality of streets, stops and stations used by transit passengers.	X				
Policy 4.2.2 Provide comprehensive and real-time passenger information, both on vehicles and at stops and stations.	X				
Objective 4.3 Establish parking policies that improve the quality of neighborhoods and reduce congestion and private vehicle trips by encouraging travel by non-auto modes.	X				
Policy 4.3.1 For new residential development, provide flexibility by eliminating minimum off-street parking requirements and establishing reasonable parking caps.	X				
Policy 4.3.2 For new non-residential development, provide flexibility by eliminating minimum off-street parking requirements and establishing caps generally equal to the previous minimum requirements. For office uses in East SoMa, parking requirements should be commensurate with general downtown parking standards.	X				
Policy 4.3.3 Make the cost of parking visible to users, by requiring parking to be rented, leased or sold separately from residential and commercial space for all new major development.	X				
Policy 4.3.4 Encourage, or require where appropriate, innovative parking arrangements that make efficient use of space, particularly where cars will not be used on a daily basis.	X				
Policy 4.3.5 Permit construction of new parking garages in Mixed Use districts only if they are part of shared parking arrangements that efficiently use space, are appropriately designed, and reduce the overall need for off-street parking in the area.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 4.3.6 Reconsider and revise the way that on-street parking is managed in both commercial and residential districts in order to more efficiently use street parking space and increase turnover and parking availability.	X				
Policy 4.4.1 Provide an adequate amount of short-term, on-street curbside freight loading spaces throughout East SoMa.	X				
Policy 4.4.2 Continue to require off-street facilities for freight loading and service vehicles in new large non-residential developments.	X				
Policy 4.4.3 In areas with a significant number of PDR establishments, design streets to serve the needs and access requirements of trucks while maintaining a safe pedestrian environment.	X				
Objective 4.5 Consider the street network in the East SoMa as a city resource essential to multi-modal movement and public open space.	X				
Policy 4.5.1 Maintain a strong presumption against the vacation or sale of streets or alleys except in cases where significant public benefits can be achieved.	X				
Policy 4.5.2 As part of a development project's open space requirement, require publicly-accessible alleys that break up the scale of large developments and allow additional access to buildings in the project.	X				X
Objective 4.6 Support walking as a key transportation mode by improving pedestrian circulation within East SoMa and to other parts of the city.	X				
Policy 4.6.1 Use established street design standards and guidelines to make the pedestrian environment safer and more comfortable for walk trips.	X				
Policy 4.6.2 Prioritize pedestrian safety improvements in areas and at intersections with historically high frequencies of pedestrian injury collisions.	X				
Policy 4.6.3 Consider improvements that target barriers to walking in SoMa such as long blocks and closed crosswalks, particularly at freeway on and off-ramps.	X				
Policy 4.6.4 Consider pedestrian and streetscape improvements to major pedestrian streets and commercial corridors connecting downtown to Mission Bay, especially Pedestrian Streets identified in the General Plan.	X				
Policy 4.6.5 Facilitate completion of the sidewalk network in East SoMa, especially where new development is planned to occur.	X				
Objective 4.7 Improve and expand infrastructure for bicycling as an important mode of transportation.	X				
Policy 4.7.1 Provide a continuous network of safe, convenient	X				



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
and attractive bicycle facilities connecting SoMa to the citywide bicycle network and conforming to the San Francisco Bicycle Plan.					
Policy 4.7.2 Provide secure, accessible and abundant bicycle parking, particularly at transit stations, within shopping areas and at concentrations of employment.	X				
Objective 4.8 Encourage alternatives to car ownership and the reduction of private vehicle trips.	X				
Policy 4.8.1 Continue to require car-sharing arrangements in new residential and commercial developments, as well as any new parking garages.	X				
Policy 4.8.2 Require large retail establishments, particularly supermarkets, to provide shuttle and delivery services to customers.	X				
Policy 4.8.3 Develop a Transportation Demand Management (TDM) program for the Eastern Neighborhoods that provides information and incentives for employees, visitors and residents to use alternative transportation modes and travel times.	X				
Objective 4.9 Facilitate movement of automobiles by managing congestion and other negative impacts of vehicle traffic.	X				
Policy 4.9.1 Introduce traffic calming measures where warranted to improve pedestrian safety and comfort, reduce speeding and traffic spillover from arterial streets onto residential streets and alleyways	X				
Policy 4.9.2 Decrease auto congestion through implementation of Intelligent Traffic Management Systems (ITMS) strategies such as smart parking technology, progressive metering of traffic signals and the SFMTA SFGO program.	X				
Objective 4.10 Develop a comprehensive funding plan for transportation improvements.	X				
Policy 4.10.1 As part of the Eastern Neighborhoods Public Benefits Program, pursue funding for transit, pedestrian, bicycle and auto improvements through developer impact fees, in-kind contributions, community facilities districts, dedication of tax revenues, and state or federal grant sources.	X				
Objective 5.1 Provide public parks and open spaces that meet the needs of residents, workers, and visitors.					X
Policy 5.1.1 Identify opportunities to create new public parks and open spaces and provide at least one new public park or open space serving the East SoMa.					X
Policy 5.1.2 Require new residential and commercial development to contribute to the creation of public open space.					X
Objective 5.2 Ensure that new development includes high quality private open space.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 5.2.1 Require new residential and mixed-use residential development to provide on-site private open space designed to meet the needs of residents.					X
Policy 5.2.2 Strengthen requirements for commercial development to provide on-site open space.					X
Policy 5.2.3 Encourage private open space to be provided as common spaces for residents and workers of the building wherever possible.					X
Policy 5.2.4 Encourage publicly accessible open space as part of new residential and commercial development.					X
Policy 5.2.5 New development should respect existing patterns of rear yard open space. Where an existing pattern of rear yard open space does not exist, new development on mixed-use-zoned parcels should have flexibility as to where open space can be located.					X
Policy 5.2.6 Ensure quality open space is provided in flexible and creative ways, adding a well used, well-cared for amenity for residents of a highly urbanized neighborhood. Private open space should meet the following design guidelines: A. Designed to allow for a diversity of uses, including elements for children, as appropriate. B. Maximize sunlight exposure and protection from wind C. Adhere to the performance-based evaluation tool.					X
Objective 5.3 Create a network of green streets that connect open spaces and improves the walkability, aesthetics and ecological sustainability of the neighborhood.					X
Policy 5.3.1 Redesign underutilized portions of streets as public open spaces, including widened sidewalks or medians, curb bulb-outs, living streets or green connector streets.					X
Policy 5.3.2 Maximize sidewalk landscaping, street trees and pedestrian scale street furnishing to the greatest extent feasible.					X
Policy 5.3.3 Design the intersections of major streets to reflect their prominence as public spaces.					X
Policy 5.3.4 Enhance the pedestrian environment by requiring new development to plant street trees along abutting sidewalks. When this is not feasible, plant trees on development sites or elsewhere in the plan area.					X
Policy 5.3.5 Significant above grade infrastructure, such as freeways, should be retrofitted with architectural lighting to foster pedestrian connections beneath.	X				
Policy 5.3.6 Where possible, transform unused freeway and rail rights-of-way into landscaped features that provide a pleasant and comforting route for pedestrians.					X
Policy 5.3.7 Develop a comprehensive public realm plan for East SoMa that reflects the differing needs of streets based upon their predominant land use, role in the transportation network, and	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
building scale.					
Policy 5.3.8 Consider transforming a major east-west street in the South of Market into a civic boulevard, connecting the Bay to the Mission District.					X
Policy 5.3.9 Explore opportunities to identify and expand connections to the Bay Trail.					X
Objective 5.4 The open space system should both beautify the neighborhood and strengthen the environment.					X
Policy 5.4.1 Increase the environmental sustainability of East SoMa's system of public and private open spaces by improving the ecological functioning of all open space.					X
Policy 5.4.2 Explore ways to retrofit existing parking and paved areas to minimize negative impacts on microclimate and allow for storm water infiltration.		X			
Objective 5.5 Ensure that existing open space, recreation and park facilities are well maintained.					X
Policy 5.5.1 Prioritize funds and staffing to better maintain existing parks and obtain additional funding for a new park and new open space facilities.					X
Policy 5.5.2 Renovate run-down or outmoded park facilities to provide high quality, safe and long-lasting facilities. Identify at least one existing park or recreation facility in East SoMa for renovation.					X
Policy 5.5.3 Explore opportunities to use existing recreation facilities, such as school yards, more efficiently.		X			X
Policy 5.5.4 Encourage public art in existing and proposed open spaces.					X
Policy 7.1.2 Recognize the value of existing facilities and support their expansion and continued use.		X			
Policy 7.1.3 Ensure childcare services are located where they will best serve neighborhood workers and residents	X				
Policy 7.1.4 Seek the San Francisco Unified School District's consideration of new middle school options in this neighborhood, or in the Central Waterfront or Potrero Hill neighborhoods, or the expansion of existing schools to accommodate middle school demand from projected population growth in the Eastern Neighborhoods.	X				
Policy 8.1.2 Pursue formal designation of the East SoMa historic and cultural resources, as appropriate.					X
Policy 8.1.3 Recognize and evaluate historic and cultural resources that are less than fifty years old and may display exceptional significance to the recent past.					X
Objective 8.2 Protect, preserve, and reuse historic resources					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
within the East SoMa Area Plan.					
Policy 8.2.1 Protect individually significant historic and cultural resources and historic districts in the East SoMa area plan from demolition or adverse alteration.					X
Policy 8.2.2 Apply the Secretary of the Interior's Standards for the Treatment of Historic Properties in conjunction with the East SoMa area plan and objectives for all projects involving historic or cultural resources.					X
Policy 8.2.3 Promote and offer incentives for the rehabilitation and adaptive reuse of historic buildings in the East SoMa area plan.					X
Objective 8.3 Ensure that historic preservation concerns continue to be an integral part of the ongoing planning processes for the East SoMa Plan Area as they evolve over time.					X
Policy 8.3.1 Pursue and encourage opportunities, consistent with the objectives of historic preservation, to increase the supply of affordable housing within the East SoMa plan area.					X
Policy 8.3.2 Ensure a more efficient and transparent evaluation of project proposals which involve historic resources and minimize impacts to historic resources per CEQA guidelines.					X
Policy 8.3.3 Prevent destruction of historic and cultural resources resulting from owner neglect or inappropriate actions.					X
Policy 8.3.4 Consider the East Soma area plan's historic and cultural resources in emergency preparedness and response efforts.					X
Policy 8.3.5 Protect and retrofit local, state, or nationally designated UMB (Unreinforced Masonry Buildings) found in the Plan Area.					X
Policy 8.3.6 Adopt and revise land use, design and other relevant policies, guidelines, and standards, as needed to further preservation objectives.					X
Objective 8.4 Promote the principles of sustainability for the built environment through the inherently green strategy of historic preservation.		X	X		X
Policy 8.4.1 Encourage the retention and rehabilitation of historic and cultural resources as an option for increased sustainability and consistency with the goals and objectives of the Sustainability Plan for the City and County of San Francisco.					
Objective 8.5 Provide preservation incentives, guidance, and leadership within the East SoMa Plan Area.					X
Policy 8.5.1 Disseminate information about the availability of financial incentives for qualifying historic preservation projects.					X
Policy 8.5.2 Encourage use of the California Historic Building					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Code for qualifying historic preservation projects.					
Policy 8.5.3 Demonstrate preservation leadership and good stewardship of publicly owned historic and cultural resources.					X
Objective 8.6 Foster public awareness and appreciation of historic and cultural resources within the East SoMa Area Plan.					X
Policy 8.6.1 Encourage public participation in the identification of historic and cultural resources within the East SoMa area plan.					X
Policy 8.6.2 Foster education and appreciation of historic and cultural resources within the East Soma plan area among business leaders, neighborhood groups, and the general public through outreach efforts.					X
<b>Market and Octavia Area Plan</b>					
Objective 1.1 Create and land use plan that embraces the Market and Octavia Neighborhood's potential as a mixed-use urban neighborhood.	X				
Policy 1.1.1 Repair the damage caused by the Central Freeway by encouraging mixed-use infill on the former freeway lands.	X				
Policy 1.1.2 Concentrate more intense uses and activities in those areas best served by transit and most accessible on foot.	X				
Policy 1.1.3 Encourage housing and retail infill to support the vitality of the Hayes-Gough, Upper Market, and Valencia Neighborhood Commercial Districts.	X				
Policy 1.1.4 As SoMa West evolves into a high-density mixed-use neighborhood, encourage the concurrent development of neighborhood-serving uses to support an increasing residential population.	X				
Policy 1.1.8 Reinforce continuous retail activities on Market, Church, and Hayes Streets, as well as on Van Ness Avenue.	X				
Policy 1.1.10 Recognize the importance of public land and preserve it for future uses.					X
Objective 1.2 Encourage urban form that reinforces the Plan Area's unique place in the city's larger urban form and strengthens its physical fabric and character.					X
Objective 2.1 Require development of mixed-use residential infill on the former freeway parcels.	X				
Policy 2.1.1 Develop the Central Freeway parcels with mixed-use, mixed-income (especially low income) housing.	X				
Objective 2.2 Encourage construction of residential infill throughout the Plan Area.	X				
Policy 2.2.1 Eliminate housing density maximums close to transit and services.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 2.2.2 Ensure a mix of unit sizes is built in new development and is maintained in existing housing stock.	X				
Policy 2.2.3 Eliminate residential parking requirements and introduce a maximum parking cap.	X				
Policy 2.2.4 Encourage new housing above ground-floor commercial uses in new development and in expansion of existing commercial buildings.	X				
Policy 2.2.5 Encourage additional units in existing buildings.	X				
Policy 2.2.6 Where possible, simplify zoning and planning controls to expedite the production of housing.	X				
Policy 2.2.7 Without rendering new projects infeasible, increase affordable housing or other requirements on market rate residential and commercial development projects to provide additional affordable housing.	X				
Objective 2.3 Preserve and enhance existing sound housing stock.	X				
Policy 2.3.1 Prohibit residential demolitions unless they would result in sufficient replacement of existing housing units. Even when replacement housing is provided, demolitions should further be restricted to ensure affordable housing and historic resources are maintained.		X		X	
Objective 2.4 Provide increased housing opportunities affordable to households at varying income levels.	X				
Policy 2.4.1 Disaggregate the cost of parking from the cost of housing.	X				
Policy 2.4.2 Encourage lending institutions to expand the existing location efficient mortgage (LEM) program and allow residents to leverage the plan area's advantages as a walkable, transit-accessible neighborhood.	X				
Objective 3.2 Promote the preservation of notable historic landmarks, individual historic buildings, and features that help to provide continuity with the past.					X
Policy 3.2.1 Prepare an historic survey for the Market and Octavia Plan Area in a timely manner.					X
Policy 3.2.2 Until the survey is completed, a high degree of scrutiny should be applied to any project proposals in the plan area.					X
Policy 3.2.3 Particularly sensitive areas identified in this plan should be treated as potential historic districts while the comprehensive survey is underway.					X
Policy 3.2.4 Once an historic survey of the neighborhood is complete, review the policies of this plan and revise and refine them as necessary.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 3.2.5 Preserve landmark and other buildings of historic value as invaluable neighborhood assets.					X
Policy 3.2.6 Encourage rehabilitation and adaptive reuse of historic buildings and resources.					X
Policy 3.2.7 The addition of garages to historic buildings should be strongly discouraged.	X				X
Policy 3.2.8 Protect and preserve groupings of cultural resources that have integrity, convey a period of significance, and are given recognition as groupings through the creation of historic or conservation districts.					X
Policy 3.2.9 Preserve resources in identified historic districts.					X
Policy 3.2.10 Support future preservation efforts, including the designation of historic landmarks and districts, should they exist, throughout the plan area.					X
Policy 3.2.11 Ensure that changes in the built environment respect the historic character and cultural heritage of the area, and that resource sustainability is supported.					X
Policy 3.2.13 Promote preservation incentives that encourage reusing older buildings.		X			
Policy 3.2.14 Apply the Secretary of the Interior's Standards for the Treatment of Historic Properties for all projects that affect individually designated buildings at the local, state, or national level.		X			X
Policy 3.2.15 Apply the Secretary of the Interior's Standards for the Treatment of Historic Properties for infill construction in Historic Districts and Conservation Districts (designated at the local, state, or national level) to assure compatibility with the character of districts.					X
Policy 3.2.16 Preserve the cultural and socio-economic diversity of the plan area through preservation of historic resources.					XX
Policy 3.2.17 To maintain the City's supply of affordable housing, historic rehabilitation projects may need to accommodate other considerations in determining the level of restoration.					
Objective 4.1 Provide safe and comfortable public rights-of-way for pedestrian use and improve the public life of the neighborhood.	X				
Policy 4.1.1 Widen sidewalks and shorten pedestrian crossings with corner plazas and boldly marked crosswalks where possible without affecting traffic lanes. Where such improvements may reduce lanes, the improvements should first be studied.	X				
Policy 4.1.2 Enhance the pedestrian environment by planting trees along sidewalks, closely planted between pedestrians and vehicles.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 4.1.3 Establish and maintain a seamless pedestrian right-of-way throughout the plan area.	X				
Policy 4.1.4 Encourage the inclusion of public art projects and programs in the design of streets and public spaces.	X				
Policy 4.1.5 Prohibit the vacation of public rights-of-way, especially alleys; where new development creates the opportunity, extend the area's alley network.	X				
Policy 4.1.6 Pursue the extension of alleys where it would enhance the existing network.	X				
Policy 4.1.7 Introduce traffic-calming measures on residential alleys and consider making improvements to alleys with a residential character to create shared, multipurpose public space for the use of residents.	X				
Policy 4.1.8 Consider making improvements to non-residential alleys that foster the creation of a dynamic, mixed-use place.	X				
Objective 4.2 Accommodate regional through traffic on surface streets that also serve local needs, thereby repairing areas disrupted by large infrastructure projects of the past.	X				
Policy 4.2.1 Create new public open spaces around the freeway touchdown, including a plaza on Market Street and a plaza in the McCoppin Street right-of-way, west of Valencia Street.					X
Policy 4.2.2 Improve the pedestrian character of Hayes Street, between Franklin and Laguna Streets, by creating an unobstructed, linear pedestrian thoroughfare linking commercial activities along Hayes Street to the new Octavia Boulevard.	X				
Policy 4.2.3 Re-introduce a public right-of-way along the former line of Octavia Street, between Fulton Street and Golden Gate Avenue for use by pedestrians and bicycles.	X				
Policy 4.2.4 Study further dismantling of the Central Freeway, similar to removal of the freeway ramps between Market and Hayes Streets.	X				
Policy 4.3.2 Improve the visual appearance and integrity of Market Street within the plan area through more consistent tree planting, better tree maintenance, de-cluttering sidewalks, and installing new pedestrian amenities.	X				
Policy 4.3.3 Mark the intersections of Market Street with Van Ness Avenue, Octavia Boulevard, and Dolores Street with streetscape elements that celebrate their particular significance.	X				
Policy 4.3.4 Enhance the transit hub at Market and Church Street.	X				
Policy 4.3.5 Reclaim excess right-of-way around the Muni portal on Duboce Avenue, west of Market Street, to create a focal point museum that celebrates the reconstruction of historic streetcars.					X



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 4.3.6 Improve BART and Muni entrances and exits to give them a sense of identity and make them less intrusive on sidewalk space.	X				
Objective 5.1 Improve public transit to make it more reliable, attractive, convenient, and responsive to increasing demand.	X				
Policy 5.1.1 Implement transit improvements on streets designated as Transit Preferential Streets in this plan.	X				
Policy 5.1.3 Establish a Market Octavia neighborhood improvement fund to subsidize transit, pedestrian, bicycle, and other priority improvements in the area.	X				
Policy 5.1.4 Support innovative transit solutions that improve service, reliability, and overall quality of the transit rider's experience.	X				
Policy 5.1.5 Monitor transit service in the plan area as part of the one and five year monitoring reports.	X				
Objective 5.2 Develop and implement parking policies for areas well served by public transit that encourage travel by public transit and alternative transportation and reduce traffic congestion.	X				
Policy 5.2.1 Eliminate minimum off-street parking requirements and establish parking caps for residential and commercial parking.	X				
Policy 5.2.2 Encourage the efficient use of space designated for parking.	X				
Policy 5.2.3 Minimize the negative impacts of parking on neighborhood quality.	X				
Policy 5.2.4 Support the choice to live without a car.	X				
Policy 5.2.5 Retire minimum off-street loading requirements for residential uses and establish maximums based on the existing minimums.	X				
Policy 5.2.6 Make parking cost transparent to users.	X				
Policy 5.2.7 Establish parking pricing in city-owned facilities that supports short-term use.	X				
Policy 5.2.8 Strongly discourage construction of new public parking facilities.	X				
Objective 5.3 Eliminate or reduce the negative impact of parking on the physical character and quality of the neighborhood.	X				
Policy 5.3.1 Encourage the fronts of buildings to be lined with active uses and, where parking is provided, require that it be setback and screened from the street.	X				X
Objective 5.4 Manage existing parking resources to maximize service and accessibility to all.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 5.4.1 Consider revisions to the Residential Parking Permit (RPP) program that make more efficient use of the on-street parking supply.	X				
Policy 5.4.2 Prioritize access to available publicly-owned parking (on- and off-street) based on user needs.	X				
Policy 5.4.3 Permit off-street parking only where loss of on-street parking is adequately offset, and pursue recovering the full costs of new curb cuts to the city.	X				
Policy 5.4.4 Consider recovering the full costs of new parking to the neighborhood and using the proceeds to improve transit.	X				
Policy 5.4.6 Require permitting for surface parking as a temporary use.	X				
Policy 5.4.7 Support innovative mechanisms for local residents and businesses to share automobiles.	X				
Policy 5.4.8 Monitor parking supply in Time Series Monitoring reports.	X				
Objective 5.5 Establish a bicycle network that provides a safe and attractive alternative to driving for both local and citywide travel needs.	X				
Policy 5.5.1 Improve bicycle connections, accessibility, safety, and convenience throughout the neighborhood, concentrating on streets most safely and easily traveled by bicyclists.	X				
Policy 5.5.2 Provide secure and convenient bicycle parking throughout the area.	X				
Policy 5.5.3 Support and expand opportunities for bicycle commuting throughout the city and the region.	X				
Objective 5.6 Improve vehicular circulation through the area.	X				
Policy 5.6.1 Re-evaluate the larger street network in Hayes Valley.	X				
Objective 6.1 Ensure that new development is innovative and yet carefully integrated into the fabric of the area.	X				
Objective 6.2 Encourage new development on the Central Freeway parcels and the Market Street Safeway site to heal the physical fabric of the neighborhood and improve neighborhood character.	X				
Policy 6.2.1 Provide guidelines for new development that respond to the opportunities presented by the Central Freeway parcels.	X				
Policy 6.2.2 Encourage the redesign of the Church and Market Street Safeway site with a mix of housing and commercial uses, supportive of Church Street's importance as one of the city's most well-served and important transit centers and integrated into the urban character of the area.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 6.2.3 Any future reuse of the UC Berkeley Laguna Campus should balance the need to reintegrate the site with the neighborhood and to provide housing, especially affordable housing, with the provision for public uses such as education, community facilities, and open space.	X				
Objective 7.1 Create a vibrant new mixed-use neighborhood in SoMa West.	X				
Policy 7.1.1 Maintain a strong preference for housing as a desired use.	X				
Policy 7.1.2 Encourage residential towers on selected sites.	X				
Objective 7.2 Establish a functional, attractive and well-integrated system of public streets and open spaces in the SoMa West Area to improve the public realm.	X				
Policy 7.2.1 Study a redesign of South Van Ness Avenue from Mission Street to Division Street as a surface boulevard serving regional as well as local traffic.	X				
Policy 7.2.2 Embark on a study to redesign Mission and Otis Streets from South Van Ness Avenue to Duboce Avenue.	X				
Policy 7.2.3 Redesign Gough Street between Otis and Market Streets with widened sidewalks and a community gathering space or garden at the northeastern side of the Gough, Otis and McCoppin Streets intersection.	X				
Policy 7.2.4 Redesign McCoppin Street as a linear green street with a new open space west of Valencia Street.					X
Policy 7.2.5 Make pedestrian improvements within the block bounded by Market, Twelfth, Otis, and Gough Streets and redesign Twelfth Street between Market and Mission Streets, creating a new park and street spaces for public use, and new housing opportunities.	X				X
Policy 7.2.6 Embark on a study to redesign 12th Street between Market and Mission to recapture space for pedestrian use.	X				X
Policy 7.2.7 Embark on a study to reconfigure major intersections to make them safer for vehicles and pedestrians alike, to facilitate traffic movement, and to take advantage of opportunities to create public spaces.	X				
<b>Mission Area Plan</b>					
Objective 1.1 Strengthen the Mission's existing mixed use character, while maintaining the neighborhood as a place to live and work.	X				
Policy 1.1.2 Revise land use controls in portions of the Northeast Mission Industrial Zone outside the core industrial area to create new mixed use areas, allowing mixed income housing as a principal use, as well as limited amounts of retail, office, and	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
research and development uses, while protecting against the wholesale displacement of PDR uses.					
Policy 1.1.3 Maintain the successful Mission Street, 24th Street, and Valencia Street Neighborhood Commercial districts; recognize the proximity to good transit service by eliminating residential density limits and minimum parking requirements.	X				
Policy 1.1.4 In higher density residential areas of the Mission, recognize proximity to good transit service by eliminating density limits and minimum parking requirements; permit small neighborhood-serving retail.	X				
Policy 1.1.5 In lower density residential areas of the Mission, generally further from good transit service, maintain existing residential controls.	X				
Policy 1.1.6 Permit and encourage small and moderate size retail establishments in neighborhood commercial areas of the Mission, while allowing larger retail in the formerly industrial areas when part of a mixed-use development.	X				
Policy 1.1.7 Permit and encourage greater retail uses on the ground floor on parcels that front 16th Street to take advantage of transit service and encourage more mixed uses, while protecting against the wholesale displacement of PDR uses.	X				
Policy 1.1.8 While continuing to protect traditional PDR functions that need large, inexpensive spaces to operate, also recognize that the nature of PDR businesses is evolving gradually so that their production and distribution activities are becoming more integrated physically with their research, design and administrative functions.	X				
Policy 1.1.9 Maximize active ground floor uses that open to the BART plazas in any redevelopment of the parcels surrounding the plazas.	X				
Policy 1.2.2 For new construction, and as part of major expansion of existing buildings in neighborhood commercial districts, require ground floor commercial uses in new housing development. In other mixed-use districts encourage housing over commercial or PDR where appropriate.	X				
Policy 1.2.3 In general, where residential development is permitted, control residential density through building height and bulk guidelines and bedroom mix requirements.	X				
Policy 1.2.4 Identify portions of the Mission where it would be appropriate to increase maximum heights for residential development.	X				
Objective 1.3 Institute flexible legal nonconforming use provisions to ensure a continue mix of uses in the Mission.	X				
Policy 1.7.3 Require development of flexible buildings with generous floor-to-ceiling heights, large floor plates, and other features that will allow the structure to support various		X		X	X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
businesses.					
Policy 1.8.1 Direct new mixed-use residential development to the Mission's neighborhood commercial districts to take advantage of the transit and services available in those areas.	X				
Objective 2.1 Ensure that a significant percentage of new housing created in the Mission is affordable to people with a wide range of incomes.	X				
Policy 2.1.1 Require developers in some formally industrial areas to contribute towards the City's very low-, low-, moderate- and middle-income needs as identified in the Housing Element of the General Plan.	X				
Policy 2.1.2 Provide land and funding for the construction of new housing affordable to very low- and low-income households.					
Policy 2.1.3 Provide units that are affordable to households at moderate and middle incomes – working households earning above traditional below-market-rate thresholds but still well below what is needed to buy a market-priced home, with restrictions to ensure affordability continues.	X				
Policy 2.1.4 Allow single-resident occupancy hotels (SROs) and efficiency units to continue to be an affordable type of dwelling option, and recognize their role as an appropriate source of housing for small households.	X				
Objective 2.2 Retain and improve existing housing affordable to people of all incomes.	X	X		X	
Policy 2.2.1 Adopt Citywide demolition policies that discourage demolition of sound housing, and encourage replacement of affordable units.		X		X	
Policy 2.2.2 Preserve viability of existing rental units.		X		X	
Policy 2.2.3 Consider acquisition of existing housing for rehabilitation and dedication as permanently affordable housing.	X	X		X	
Policy 2.3.2 Prioritize the development of affordable family housing, both rental and ownership, particularly along transit corridors and adjacent to community amenities.	X				
Policy 2.3.6 Establish an impact fee to be allocated towards an Eastern Neighborhoods Public Benefit Fund to mitigate the impacts of new development on transit, pedestrian, bicycle, and street improvements, park and recreational facilities, and community facilities such as libraries, child care and other neighborhood services in the area.	X				
Policy 2.4.1 Require developers to separate the cost of parking from the cost of housing in both for sale and rental developments.	X				
Policy 2.4.2 Revise residential parking requirements so that structured or off-street parking is permitted up to specified	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
maximum amounts in certain districts, but it is not required.					
Policy 2.5.2 Develop affordable family housing in areas where families can safely walk to schools, parks, retail, and other services.					
Policy 2.5.3 Require new development to meet minimum levels of green construction.	X	X			X
Objective 2.6 Continue and expand the city's efforts to increase permanently affordable housing production and availability.	X				
Policy 2.6.3 Research and pursue innovative revenue sources for the construction of affordable housing, such as tax increment financing, or other dedicated City funds.	X				
Objective 3.1 Promote an urban form that reinforces the Mission's distinctive place in the city's larger form and strengthens its physical fabric and character.	X				X
Policy 3.1.1 Adopt heights that are appropriate for the Mission's location in the city, the prevailing street and block pattern, and the anticipated land uses, while preserving the character of its neighborhood enclaves.					X
Policy 3.1.8 New development should respect existing patterns of rear yard open space. Where an existing pattern of rear yard open space does not exist, new development on mixed-use-zoned parcels should have greater flexibility as to where open space can be located.					X
Policy 3.1.9 Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.					X
Policy 3.1.10 After results are obtained from the historic resources surveys, make necessary adjustments to these built form guidelines to ensure that new structures, particularly in historic districts, will be compatible with the surrounding historic context.					X
Objective 3.2 Promote an urban form and architectural character that supports walking and sustains a diverse, active and safe public realm.	X				
Policy 3.2.3 Minimize the visual impact of parking.	X				
Policy 3.2.4 Strengthen the relationship between a building and its fronting sidewalk.	X				
Policy 3.2.6 Sidewalks abutting new developments should be constructed in accordance with locally appropriate guidelines based on established best practices in streetscape design.		X			
Policy 3.2.7 Strengthen the pedestrian network by extending alleyways to adjacent streets or alleyways wherever possible, or by providing new publicly accessible mid-block rights of way.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Objective 3.3 Promote the environmental sustainability, ecological functioning and the overall quality of the natural environment in the plan area.					X
Policy 3.3.1 Require new development to adhere to a new performance-based ecological evaluation tool to improve the amount and quality of green landscaping.					X
Policy 3.3.2 Discourage new surface parking lots and explore ways to encourage retrofitting existing surface parking lots and off-street loading areas to minimize negative effects on microclimate and stormwater infiltration. The city's Stormwater Master Plan, upon completion, will provide guidance on how best to adhere to these guidelines.				X	
Policy 3.3.3 Enhance the connection between building form and ecological sustainability by promoting use of renewable energy, energy-efficient building envelopes, passive heating and cooling, and sustainable materials.		X	X	X	
Policy 3.3.5 Compliance with strict environmental efficiency standards for new buildings is strongly encouraged.		X		X	
Objective 4.1 Improve public transit to better serve existing and new development in the Mission.	X				
Policy 4.1.1 Commit resources to an analysis of the street grid, the transportation impacts of new zoning, and mobility needs in the Mission / Eastern Neighborhoods to develop a plan that prioritizes transit while addressing needs of all modes (transit, vehicle traffic, bicyclists, pedestrians).	X				
Policy 4.1.2 Decrease transit travel time and improve reliability through a variety of means, such as transit-only lanes, transit signal priority, transit queue jumps, lengthening of spacing between stops, and establishment of limited or express service.	X				
Policy 4.1.3 Implement the service recommendations of the Transit Effectiveness Project (TEP).	X				
Policy 4.1.4 Reduce existing curb cuts where possible and restrict new curb cuts to prevent vehicular conflicts with transit on important transit and neighborhood commercial streets.	X				
Policy 4.1.5 Ensure Muni's storage and maintenance facility needs are met to serve increased transit demand and provide enhanced service.	X				
Policy 4.1.6 Enhance existing public transit service linking the Mission to downtown and BART.	X				
Policy 4.1.7 Balance competing land use and transportation-related priorities for 16th Street in the Mission to improve transit speed and reliability.	X				
Policy 4.1.8 Study the possibility of creating a premium transit service such as Bus Rapid Transit or implementing high-level transit preferential treatments for segments of Mission Street,	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
16th Street and Potrero Avenue.					
Objective 4.2 Increase transit ridership by making it more comfortable and easy to use.	X				
Policy 4.2.1 Improve the safety and quality of streets, stops and stations used by transit passengers.	X				
Policy 4.2.2 Provide comprehensive and real-time passenger information, both on vehicles and at stops and stations.	X				
Objective 4.3 Establish parking policies that improve the quality of neighborhoods and reduce congestion and private vehicle trips by encouraging travel by non-auto modes.	X				
Policy 4.3.1 For new residential development, provide flexibility by eliminating minimum off-street parking requirements and establishing reasonable parking caps.	X				
Policy 4.3.2 For new non-residential development, provide flexibility by eliminating minimum off-street parking requirements and establishing caps generally equal to the previous minimum requirements. For office uses, parking should be limited relative to transit accessibility.	X				
Policy 4.3.3 Make the cost of parking visible to users, by requiring parking to be rented, leased or sold separately from residential and commercial space for all new major development.	X				
Policy 4.3.4 Encourage, or require where appropriate, innovative parking arrangements that make efficient use of space, particularly where cars will not be used on a daily basis.	X				
Policy 4.3.5 Permit construction of new parking garages in Mixed Use districts only if they are part of shared parking arrangements that efficiently use space, are appropriately designed, and reduce the overall need for off-street parking in the area.	X				
Policy 4.3.6 Reconsider and revise the way that on-street parking is managed in both commercial and residential districts in order to more efficiently use street parking space and increase turnover and parking availability.	X				
Policy 4.4.1 Provide an adequate amount of short-term, on-street curbside freight loading spaces in PDR areas of the Mission.					
Policy 4.4.2 Continue to require off-street facilities for freight loading and service vehicles in new large non-residential developments.	X				
Objective 4.5 Consider the street network in the Mission as a city resource essential to multi-modal movement and public open space.	X				
Policy 4.5.1 Maintain a strong presumption against the vacation or sale of streets or alleys except in cases where significant public benefits can be achieved.					X
Policy 4.5.2 As part of a development project's open space					X



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
requirement, require publicly-accessible alleys that break up the scale of large developments and allow additional access to buildings in the project.					
Objective 4.6 Support walking as a key transportation mode by improving pedestrian circulation within the Mission and to other parts of the city.	X				
Policy 4.6.1 Implement recommendations from the Mission Public Realm Plan, Southeast Mission Pedestrian Safety Plan and established street design standards and guidelines to make the pedestrian environment safer and more comfortable for walk trips.	X				
Policy 4.6.2 Prioritize pedestrian safety improvements at intersections and in areas with historically high frequencies of pedestrian injury collisions.	X				
Policy 4.6.3 Improve pedestrian access to major transit stops and stations such as the 16th and 24th Street BART Stations.	X				
Objective 4.7 Improve and expand infrastructure for bicycling as an important mode of transportation.	X				
Policy 4.7.1 Provide a continuous network of safe, convenient and attractive bicycle facilities connecting the Mission to the citywide bicycle network and conforming to the San Francisco Bicycle Plan.	X				
Policy 4.7.2 Provide secure, accessible and abundant bicycle parking, particularly at transit stations, within shopping areas and at concentrations of employment.	X				
Policy 4.7.3 Explore feasibility of the Mission Creek Bikeway project.	X				
Objective 4.8 Encourage alternatives to car ownership and the reduction of private vehicle trips.	X				
Policy 4.8.1 Continue to require car-sharing arrangements in new residential and commercial developments, as well as any new parking garages.	X				
Policy 4.8.2 Require large retail establishments, particularly supermarkets, to provide shuttle and delivery services to customers.	X				
Policy 4.8.3 Develop a Transportation Demand Management (TDM) program for the Eastern Neighborhoods that provides information and incentives for employees, visitors and residents to use alternative transportation modes and travel times.	X				
Objective 4.9 Facilitate movement of automobiles by managing congestion and other negative impacts of vehicle travel.	X				
Policy 4.9.1 Introduce traffic calming measures where warranted to improve pedestrian safety and comfort, reduce speeding and traffic spillover from arterial streets onto residential streets and	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
alleyways.					
Policy 4.9.2 Decrease auto congestion through implementation of Intelligent Traffic Management Systems (ITMS) strategies such as progressive metering of traffic signals and the SFMTA SFGO program.	X				
Objective 4.10 Develop and comprehensive funding plan for transportation improvements.	X				
Policy 4.10.1 As part of the Eastern Neighborhoods Public Benefits Program, pursue funding for transit, pedestrian, bicycle and auto improvements through developer impact fees, in-kind contributions, community facilities districts, dedication of tax revenues, and state or federal grant sources.	X				
Objective 5.1 Provide public parks and open spaces that meet the needs of residents, workers and visitors.					X
Policy 5.1.1 Identify opportunities to create new public parks and open spaces and provide at least one new public park or open space serving the Mission.					X
Policy 5.1.2 Require new residential and commercial development to contribute to the creation of public open space.					X
Objective 5.2 Ensure that new development includes high-quality, private open space.					X
Policy 5.2.1 Require new residential and mixed-use residential development to provide on-site, private open space designed to meet the needs of residents.	X				
Policy 5.2.2 Establish requirements for commercial development to provide on-site open space.					X
Policy 5.2.3 Encourage private open space to be provided as common spaces for residents and workers of the building wherever possible.					X
Policy 5.2.4 Encourage publicly accessible open space as part of new residential and commercial development.					X
Policy 5.2.5 New development should respect existing patterns of rear yard open space. Where an existing pattern of rear yard open space does not exist, new development on mixed-used parcels has flexibility as to where open space can be located.					X
Policy 5.2.6 Ensure quality open space is provided in flexible and creative ways, adding a well used, well-cared for amenity for residents of a highly urbanized neighborhood. Private open space should meet the following design guidelines: A. Designed to allow for a diversity of uses, including elements for children, as appropriate. B. Maximize sunlight exposure and protection from wind C. Adhere to the performance-based evaluation tool.					X
Objective 5.3 Create a network of green streets that connect					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
open spaces and improves the walkability, aesthetics and ecological sustainability of the neighborhood.					
Policy 5.3.1 Redesign underutilized portions of streets as public open spaces, including widened sidewalks or medians, curb bulb-outs, living streets or green connector streets.					X
Policy 5.3.2 Maximize sidewalk landscaping, street trees and pedestrian scale street furnishing to the greatest extent feasible.					X
Policy 5.3.3 Design the intersections of major streets to reflect their prominence as public spaces.					X
Policy 5.3.4 Enhance the pedestrian environment by requiring new development to plant street trees along abutting sidewalks. When this is not feasible, plant trees on development sites or elsewhere in the Plan Area.	X				X
Policy 5.3.5 Significant above grade infrastructure, such as freeways should be retrofitted with architectural lighting to foster pedestrian connections beneath.	X				
Policy 5.3.6 Where possible, transform unused freeway and rail rights-of-way into landscaped features that provide a pleasant and comforting route for pedestrians.	X				
Policy 5.3.7 Develop a comprehensive public realm plan for the Mission that reflects the differing needs of streets based upon their predominant land use, role in the transportation network, and building scale.	X				
Objective 5.4 The open space system should both beautify the neighborhood and strengthen the environment.					X
Policy 5.4.1 Increase the environmental sustainability of the Mission's system of public and private open spaces by improving the ecological functioning of all open space.					X
Policy 5.4.2 Explore ways to retrofit existing parking and paved areas to minimize negative impacts on microclimate and allow for storm water infiltration.		X		X	X
Policy 5.4.4 Explore opportunities to uncover Mission Creek's historic channel through the Mission.					X
Objective 5.5 Ensure that existing open space, recreation and park facilities are well maintained.					X
Policy 5.5.1 Prioritize funds and staffing to better maintain existing parks and obtain additional funding for a new park and new open space facilities.					X
Policy 5.5.2 Renovate run-down or outmoded park facilities to provide high quality, safe and long-lasting facilities. Identify at least one existing park or recreation facility in the Mission for renovation.					X
Policy 5.5.3 Explore opportunities to use existing recreation facilities, such as school yards, more efficiently.		X			X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 8.1.2 Pursue formal designation of the Mission's historic and cultural resources, as appropriate.					X
Policy 8.1.3 Recognize and evaluate historic and cultural resources that are less than fifty years old and may display exceptional significance to the recent past.					X
Objective 8.2 Protect, preserve and reuse historic resources within the Mission Plan Area.					X
Policy 8.2.1 Protect individually significant historic and cultural resources and historic districts in the Mission plan area from demolition or adverse alteration.					X
Policy 8.2.2 Apply the Secretary of the Interior's Standards for the Treatment of Historic Properties in conjunction with the Mission Area Plan objectives and policies for all projects involving historic or cultural resources.					X
Policy 8.2.3 Promote and offer incentives for the rehabilitation and adaptive reuse of historic buildings in the Mission plan area.					X
Objective 8.3 Ensure that historic preservation concerns continue to be an integral part of the ongoing planning processes for the Mission Plan Area as the evolve over time.					X
Policy 8.3.1 Pursue and encourage opportunities, consistent with the objectives of historic preservation, to increase the supply of affordable housing within the Mission plan area.					X
Policy 8.3.2 Ensure a more efficient and transparent evaluation of project proposals which involve historic resources and minimize impacts to historic resources per CEQA guidelines.					X
Policy 8.3.3 Prevent destruction of historic and cultural resources resulting from owner neglect or inappropriate actions.					X
Policy 8.3.4 Consider the Mission area plan's historic and cultural resources in emergency preparedness and response efforts.					X
Policy 8.3.5 Protect and retrofit local, state, or nationally designated UMB (Unreinforced Masonry Buildings) found in the Plan Area.					X
Policy 8.3.6 Adopt and revise land use, design and other relevant policies, guidelines, and standards, as needed to further preservation objectives.					X
Objective 8.4 Promote the principles of sustainability for the built environment through the inherently green strategy of historic preservation.					X
Policy 8.4.1 Encourage the retention and rehabilitation of historic and cultural resources as an option for increased sustainability and consistency with the goals and objectives of the Sustainability Plan for the City and County of San Francisco.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Objective 8.5 Provide preservation incentives, guidance, and leadership within the Mission Plan Area.					X
Policy 8.5.1 Disseminate information about the availability of financial incentives for qualifying historic preservation projects.					X
Policy 8.5.2 Encourage use of the California Historic Building Code for qualifying historic preservation projects.					X
Policy 8.5.3 Demonstrate preservation leadership and good stewardship of publicly owned historic and cultural resources.					X
Objective 8.6 Foster public awareness and appreciation of historic and cultural resources within the Mission Plan Area.					X
Policy 8.6.1 Encourage public participation in the identification of historic and cultural resources within the Mission plan area.					X
Policy 8.6.2 Foster education and appreciation of historic and cultural resources within the Mission plan area among business leaders, neighborhood groups, and the general public through outreach efforts.					X
<b>Northeastern Waterfront Area Plan</b>					
Objective 1 To develop and maintain activities that will contribute significantly to the city's economic vitality and provide additional activities which strengthen the predominant uses in each subarea of the Northeastern Waterfront, while limiting their concentration to preserve the environmental quality of the area.		X			X
Objective 2 To diversify uses in the Northeaster Waterfront, to expand the period of use in each subarea to promote maximum public use of the waterfront while enhancing its environmental quality.					X
Policy 2.1 Develop uses which generate activity during a variety of time periods rather than concentrating activity during the same peak periods.	X				
Policy 2.3 Encourage land uses having different peak periods of activity within each subarea of the Northeastern Waterfront to contribute to the area's diversity, to expand the period of use, to decrease peak period traffic congestion, to facilitate efficient use of the transit system and to preserve and enhance the environmental quality of the waterfront.	X				
Policy 2.4 Promote the development of new maritime activities, public open space and public access improvements as part of major new development on piers.					X
Policy 2.5 Emphasize water-related recreation, Bay-oriented commercial recreation and Bay-oriented public assembly uses in non-maritime development adjacent to, or over, the water.					X
Policy 3.2 Maintain adequate transportation access to, and the efficient movement of goods between, Port piers and the local	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
and regional transportation system.					
Policy 3.3 Encourage the retention and expansion of the commercial fishing and related industries in Fisherman's Wharf.					X
Objective 5 To develop limited additional office and commercial space in order to serve the city's economic needs and to encourage a mixture of uses and activities along the Northeastern Waterfront.	X				
Policy 5.1 Permit additional general office and commercial development on sites inland of the seawall adjacent to the Downtown Office District, which complements the downtown but which is of a lesser intensity and which reflects the transition between the City and the water.	X				
Policy 5.2 Encourage service retail uses in combination with other uses.	X				
Objective 6 To develop and maintain residential uses along the Northeastern Waterfront in order to assist in satisfying the city's housing needs and capitalize on the area's potential as a desirable living environment.					X
Policy 6.1 Strengthen, preserve and protect existing residential uses.					X
Policy 6.3 Preserve and expand the supply of low and moderate income housing and encourage the economic integration of housing.	X				X
Policy 6.4 Encourage the development of a variety of unit types for households of all sizes where practical.	X				
Objective 7 To strengthen and expand the recreation character of the Northeastern Waterfront and to develop a system of public open spaces and recreation facilities that recognizes it's recreational potential, provides unity and identity to the urban area and establishes and overall waterfront character of openness of views, water and sky and public accessibility to the water's edge.					X
Policy 7.1 Develop recreation facilities attractive to residents and visitors of all ages and income groups.					X
Policy 7.2 Provide a continuous system of parks, urban plazas, water-related public recreation, shoreline pedestrian promenades, pedestrian walkways and street greenways throughout the entire Northeastern Waterfront.					X
Policy 7.3 Connect the recreation and open space facilities of the Northeastern Waterfront with those of the Golden Gate National Recreation Area.					X
Policy 7.4 Encourage and provide open space and public recreation facilities as part of any development, to provide facilities for people residing and working in the Northeastern Waterfront and in adjoining neighborhoods.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 7.5 Provide overlooks and public viewing areas with convenient pedestrian access wherever possible. Every attempt should be made to provide such viewing facilities in areas of maritime and fish processing activities without interfering with the operation of those activities, consistent with the Port's Waterfront Design & Access policies. Remove or create openings in buildings between piers wherever feasible, consistent with their historic character and use, in order to construct such overlooks and to create a balanced rhythm of buildings and views.					X
Policy 7.6 With new development, create new views between buildings and/or physical access to (1) the Bay, (2) water-dependent maritime activities or (3) open space or other public attractions that invite the public onto pier areas and provide access to the Bay.					X
Policy 7.7 Where desirable and feasible, provide amenities which enhance public enjoyment of open spaces and public access areas by providing public restrooms, drinking fountains, information kiosks, sales of refreshments from push carts and other services.					X
Policy 7.8 Require the inclusion of a substantial amount of public open space and peripheral public access to the water's edge when major new mixed-use developments occur. Provide connections between these open spaces and public access areas to create a 'PortWalk' which is integrated with sidewalk and pedestrian improvements along The Embarcadero (Herb Caen Way/Embarcadero Promenade) which, between King and Jefferson Streets, coincides with the regional Bay Trail. Public access should be located at ground or platform level, but minor variations in elevation intended to enhance design of open space may be permitted. Public access should also be open to the sky, although some covering may be allowed if it serves the public areas and does not support structures. Particular attention should be given to the provision of perimeter public access along the platform edge. Other uses may extend to the platform edge subject to the following conditions: (a) Such uses should enhance the total design of the project, should serve to make the public access more interesting, and should not divert the public way along more than twenty percent (20%) of the total platform edge. (b) Deviations of the public way from the platform edge should be limited to short distances.					X
Policy 7.9 Provide as much public open space and peripheral access as is feasible in areas of maritime activity without interfering with the operation of this activity.					X
Policy 7.11 Develop a continuous bicycle path along the Northeastern Waterfront that is linked with the city-wide bicycle route system.	X				
Objective 8 To facilitate the movement of people and goods within the Northeastern Waterfront in such a way as the minimize	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
the adverse impact of this movement.					
Policy 8.1 Intercept and divert as much automobile traffic as feasible away from the water's edge and areas of intense pedestrian activity in order to make conditions more pleasurable, safe, and interesting for the pedestrian, and in order to facilitate the commercial and recreational development of the area.	X				
Policy 8.2 Limit additional parking facilities in the Northeastern Waterfront and minimize the impact of this parking. Discourage long-term parking for work trips which could be accommodated by transit. Restrict additional parking to: (a) Short-term (less than four hour) parking facilities to meet needs of additional business, retail, restaurant, marina, and entertainment activities; (b) Long-term parking facilities for maritime activities, hotel and residential uses. To the extent possible, locate parking away from areas of intense pedestrian activity. Encourage shared parking at adjacent or nearby facilities.	X				
Policy 8.3 Allow parking over the water for public and commercial recreation uses only if: (a) no alternative location is feasible; (b) the parking is located within a structure devoted to a permitted use and is necessary to such use or to other permitted uses in the same project area; and (c) it is the minimum amount necessary.	X				
Policy 8.4 Prohibit parking over the water for marinas in the Fisherman's Wharf through Ferry Building areas. In other areas, allow parking for marinas over water only if: (a) no alternative upland location is feasible; (b) the total fill for a marina does not exceed a land-water ratio of 1/2:1; and (c) it is the minimum necessary. Encourage loading and unloading areas adjacent to marinas to minimize the need for parking over the water.	X				
Policy 8.5 Base the determination of the amount of parking allowed for permitted uses on the desirability of reducing automobiles along the waterfront and, to the maximum extent feasible, consider the use of existing public transit and inland parking, as well as public transit and inland parking which could reasonably be provided in the future.	X				
Policy 8.6 Remove or relocate inland those existing parking facilities on or near the water's edge or within areas of intense pedestrian activity.	X				
Policy 8.7 Facilitate pedestrian access to the shoreline, including access for the handicapped, through the provision of convenient, safe pedestrian crossings along The Embarcadero. Provide promenades and walkways of sufficient width to accommodate comfortably and safely the movement of pedestrians throughout the Northeastern Waterfront.	X				
Policy 8.8 Facilitate the movement of goods into and out of the maritime piers where possible in the design of the road system.	X				
Objective 9 To accommodate the regional movement of people and goods, permitting the through movement of traffic, access to	X				



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
the regional system from the maritime and other industrial areas of the city, facilitating the movement of regional transit while minimizing the adverse impact of this system on the Northeastern Waterfront Area.					
Policy 9.1 To the extent feasible, accommodate regional traffic movement inland from the Northeastern Waterfront area.	X				
Policy 9.2 Prohibit any increase to the capacity of the roadway system along the shoreline to accommodate automobiles between the Bay Bridge-downtown area and the Golden Gate Bridge. Improve transit service in this corridor to encourage the reduction of automobile traffic.	X				
Policy 9.3 Minimize the impact of regional transportation movement along the Northeastern Waterfront by encouraging transit use through the addition and improvement of service and through the use, wherever possible, of exclusive rights-of-way and other types of transit preferential treatment.	X				
Policy 9.4 To the extent feasible, facilitate and expand the operation of passenger ferry systems to minimize traffic impacts.	X				
Policy 9.5 Improve transit service to, and along, the Northeastern Waterfront. Provide a connection between the F-line and the MUNI Metro Extension to allow for continuous transit rail service in an exclusive right-of-way along the Embarcadero between Fisherman's Wharf and China Basin, which also connects with or provides easy transfers to numerous other transit lines.	X				
Policy 9.6 Make transfers among transit systems as easy, safe and pleasant as possible, and clearly identify loading areas and routes. In particular in the Ferry Building Subarea, design the relationship between the ferries, BART, MUNI surface and subsurface lines, and the Transbay Terminal to facilitate connections among the systems.	X				
Objective 10 To develop the full potential of the Northeastern Waterfront in accord with the unusual opportunities presented by its relation to the bay, to the operating port, fishing industry, and downtown, and to enhance its unique aesthetic qualities offered by water, topography, views of the city and bay, and its historic maritime character.					X
Policy 10.1 Preserve the physical form of the waterfront and reinforce San Francisco's distinctive hill form by maintaining low structures near the water, with an increase in vertical development near hills or the downtown core area. Larger buildings and structures with civic importance may be appropriate at important locations.					X
Policy 10.2 Preserve and create view corridors which can link the City and the Bay.					X
Policy 10.3 Use continuous planting and other ground surface treatment to physically and visually link the waterfront with adjacent inland areas.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 10.4 In major pedestrian areas (such as the Fisherman's Wharf and Ferry Building Subareas), develop generally continuous ground floor retail or other pedestrian-oriented uses.					X
Policy 10.5 Permit non-maritime development bayward of the sea wall only if the following qualifications are met: a. Maximum feasible public access is provided to the water's edge. b. Important Bay and waterfront views along The Embarcadero and level inland streets are preserved and improved. Minor encroachment into the view corridors from level inland streets may be permitted: (1) Where the encroaching element has a distinct maritime character and adds variety to the views along the waterfront; (2) Where minor structures (such as kiosks) are desirable to provide public amenities contributing to a continuity of interest and activity along the waterfront; (3) Where essential maritime facilities cannot reasonably be located and designed to avoid view blockage; and (4) Where the public enjoyment of the Bay will be enhanced by providing a place of public assembly and recreation which allows unique vistas and overviews that include portions that are publicly accessible during daytime and evenings consistent with ensuring public safety.					X
Policy 10.6 Retain older buildings of architectural merit or historical significance to preserve the architectural and historical character of the waterfront and ensure the compatibility of new development.		X			X
Policy 10.7 Enhance and maintain the physical prominence of the Ferry Building.					X
Policy 10.10 Retain and reuse those arched bulkhead building structures identified in the Port's Waterfront Design & Access policies which exist at the main entrance to most piers and which add an important character to The Embarcadero. They should be retained so long as maritime uses exist behind them or when new development occurs which could incorporate these structures without disadvantage.					X
Policy 10.13 Remove exposed surface parking from over water, and along the Embarcadero roadway to improve shoreline appearance and access to the Bay.	X				
Policy 10.14 Design open spaces to maximize sun exposure, wind protection, noise buffering, and to create a sense of security.					X
Policy 10.18 Select and locate trees, shrubs and ground covers to preserve, dramatize and enhance Bay views for waterfront users. Use plant materials which should have a demonstrated capacity to remain viable, with minimum maintenance under such conditions as frequent high wind speeds, high atmospheric salt content, a high salt water table, and sub-surface fill material with varying drainage capacities. Install trees of at least two inches in diameter and 15 feet in height in the ground.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 10.19 On non-maritime piers with sheds, provide continuous peripheral pedestrian public access ways for walking, viewing and fishing. Provide benches and street furniture. Prohibit use of designated public access areas for valet parking, auto drop-off or trash storage, but allow emergency vehicle access and, if no feasible alternatives exist, service vehicle access.	X				
Policy 10.20 Provide continuous public pedestrian access to the Bay on the east side of the Ferry Building that is separate from any service vehicle access to the Building.	X				
Policy 10.25 Establish a joint interagency design review process for non-maritime projects on piers involving new development or substantial exterior alterations, to be conducted by the Planning Department, Port of San Francisco and Bay Conservation and Development Commission, consistent with the Port's Waterfront Land Use Plan and Waterfront Design & Access policies.					X
Policy 10.27 Locate buildings to minimize shadows and wind on public open spaces.					X
Policy 10.34 Assure that new buildings use the most cost-effective energy efficient measures feasible.		X		X	
Policy 11.5 Encourage preservation and restoration of the maritime character of Fish Alley, and provide a museum of the fishing industry, or Wharf history, here or elsewhere in the Wharf.					X
Policy 14.1 Improve the roadway system to facilitate truck access to the fishing industry and other Wharf businesses, to discourage through-traffic from entering the area and to divert as much automobile traffic as possible before reaching the water's edge and areas of intense pedestrian activity such as Jefferson Street. Do not increase the capacity of the roadway system to accommodate the automobile.	X				
Policy 14.2 Provide efficiently planned parking and loading facilities to serve the Wharf's maritime activities, particularly fishing related loading and unloading operations.	X				
Policy 14.3 Minimize the intensity of automobile activity and discourage or prohibit commercial-tourist uses from relying heavily on the automobile for their success. Strictly control the development of additional parking by using existing facilities more efficiently instead of building new off-street parking facilities. If new facilities are necessary, seek to locate them as far inland as possible to intercept traffic before reaching the water's edge and areas of intense pedestrian activity. Manage vehicular access to existing parking facilities from Jefferson Street to minimize congestion. Coordinate new development with improvements to vehicular access and circulation to minimize traffic impacts.	X				
Policy 14.4 Study and, if feasible, implement measures to reduce parking and congestion problems at the Wharf, which could	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
include 1) greater utilization of existing parking garages in the Wharf area; 2) shuttle bus, motorized cable car, and pedicab service to accommodate people who take public transit or park outside the Wharf; 3) shared parking facilities for uses with different time needs; and 4) parking vouchers for swim clubs and sport fishing patrons.					
Policy 14.5 Facilitate access into and within the Fisherman's Wharf area by transit through the provision of exclusive rights-of-way and other preferential treatment, through the extension of additional transit lines, improving frequency, speed, hours of operation, and providing clearly identified loading areas and routes. Establish a rail/bus transit line on Jefferson and Beach Streets, providing access to the Ferry Building and the South of Market area. Extend the Powell and Mason Cable Car line on Taylor Street to a location north of Jefferson Street. Allow truck access in Fish Alley.	X				
Policy 14.6 Establish water taxi service from Fisherman's Wharf to other points along the waterfront.	X				
Objective 15 To provide maximum opportunities for enjoying the bay and its related activities by enhancing and increasing public open space and access areas which safely and comfortably accommodate the movement the movement of pedestrians.	X				
Policy 15.1 Develop generally continuous public pedestrian access to the water's edge, excepting areas where such access would interfere with maritime activities. In those areas, provide that public viewing and access which will not substantially interfere with these activities.	X				
Policy 15.2 Remove of existing parking over the water or near the water's edge to minimize conflicts between vehicles and pedestrians and enhance perimeter access which would require resolving long-term Port lease issues.	X				
Policy 15.3 Develop new public open space areas in Fisherman's Wharf to provide a relief from the intense level of activity. Work with the community to develop the design of a major new open space on approximately 70% of the surface area of the 'Triangle' lot bounded by Taylor and Jefferson Streets and The Embarcadero and relocate the existing surface parking. Address interim parking and construction-related issues during the design process. Rationalize and improve pedestrian and transit movement at the center of Fisherman's Wharf in a manner which also meets the parking needs of existing businesses that depend on adjacent parking. Extend open space from the Triangle lot to the Bay on Pier 43 if further funding sources become available and long-term lease issues can be resolved. Maintain the East Wharf Waterfront Park at Pier 39. Maintain and enhance the Joseph Conrad Park at the foot of Columbus Avenue, bounded by Leavenworth and Beach Streets, which provides a visual and functional termination of Columbus Avenue. Create exterior service or pedestrian walkways to allow					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
views or access to water where compatible with fishing industry operations.					
Objective 16 To retain existing cargo shipping and related services and to promote commercial and recreational maritime activities.					X
Policy 16.1 Continue to encourage maritime use on Piers 35 through 9.					X
Policy 16.2 Promote commercial and recreational maritime activities (e.g. a cruise terminal, excursion boats, historic ships, recreational boat mooring) which may be complemented with water-oriented commercial recreation and public assembly uses and public access improvements on piers no longer needed or suitable for cargo shipping facilities.					X
Policy 16.3 Improve existing Pier 35 cruise facilities. If feasible, renovate the facility to provide a modern, functional passenger terminal with associated commercial recreation and public assembly uses. If Pier 35 is determined to be an infeasible location, allow the development of a new cruise terminal on another pier in the Northeastern Waterfront.	X				X
Objective 17 To preserve the historic maritime character of the area.					X
Policy 17.1 Retain architecturally interesting and historically significant buildings or buildings which contribute substantially to the overall architectural character of the area. In particular, every effort should be made to preserve the Italian Swiss Colony Building, the Pelican Paper Company Warehouse, the Trinidad Bean and Elevator Company Warehouse, and the Beltline Roundhouse. Historic bulkhead and connector buildings should be retained and reused as set forth in the Waterfront Design & Access policies of the Port of San Francisco's Waterfront Land Use Plan.					X
Policy 17.2 Ensure the compatibility of new development with the historic and architectural maritime character of the Northeast Waterfront Historic District in terms of scale, materials and design.					X
Objective 18 To develop a diversity of additional activities which would strengthen the existing predominant uses in the base of Telegraph Hill subarea and activities which would expand the period of use, but of an intensity which would provide a relief from the adjacent downtown and Fisherman's Wharf areas.					X
Policy 18.6 Minimize the intensity of automobile activity by promoting mass transit as a primary transportation mode. Maximize efficient use of existing parking facilities in order to limit the amount of new parking necessary as part of new development.	X				
Policy 18.7 Encourage the provision of landscaping and publicly accessible open space in new development in the Base of					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Telegraph Hill area.					
Policy 18.8 Maintain permanent public open space on Pier 7. Allow limited improvements such as convenience food and beverage sales from pushcart vendors, which increase active use and enjoyment of the open space, and nearby public information kiosks and public restrooms, provided that they maintain an uncluttered appearance in the area. Take advantage of views of Pier 7 from new development on adjacent piers or inland sites to Pier 7 and maintain city views from Pier 7.					X
Objective 19 To develop a balanced transportation system which accommodates regional and local movement while causing minimum adverse impact to the environment.	X				
Policy 19.1 Maintain The Embarcadero between Beach Street and Broadway as an attractive landscaped roadway having two moving lanes in each direction, an exclusive transit right-of-way, and improved pedestrian and bicycle access.	X				
Policy 19.2 Discourage through traffic except in those limited areas designated for this movement.	X				
Policy 19.3 Design transportation access to new developments on seawall lots to minimize congestion on Bay Street, Broadway and The Embarcadero.	X				
Policy 19.4 Encourage a portion of the surface regional transit to use inland routes to the downtown to minimize the impact on the waterfront.	X				
Objective 20 To develop the area in such a way as to preserve and enhance the physical form of the waterfront and Telegraph Hill, and to preserve views from the hill.					X
Policy 20.1 Maintain low structures near the water, with an increase in vertical development towards Telegraph Hill.	X				
Objective 21 To develop a major resource of open space and public access connects providing maximum access to and along the waterfront for the large number of people who live in, work in, and use the adjacent downtown area, providing relief from the intensely developed downtown.					X
Objective 22 To develop a mixture of uses which will provide a transition between the intense concentration of office activity in the downtown area and the recreation activities of the waterfront, which will general activity during evenings and weekends to complement the weekday office uses in the adjacent downtown area.	X				
Objective 23 To allow commercial and recreational maritime uses, public access improvements and non-maritime commercial recreation development on piers and along the seawall to generate waterfront activity, to provide visual and access improvements and to produce revenue for the port.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Objective 24 To restore and rehabilitate the Ferry Building and agriculture building to preserve the historic maritime character of the area.		X		X	
Objective 26 To further develop the Ferry Building area as a major transit center, improving and expanding transit access by, and transfers among, landside and waterside transit systems.	X				
Policy 26.1 Maintain the Golden Gateway residential community and neighborhood-serving retail uses.	X				
Policy 26.2 Maintain the Sidney Walton Park as an urban park serving downtown workers and residents.	X				
Policy 26.3 Provide views of the water from the Embarcadero through or alongside the building and use the central archway for access to major bulkhead uses.	X				
Policy 26.6 Preserve and rehabilitate the historic bulkhead building, allowing for the enhancement or creation of waterfront or Bay views through existing openings or new openings which do not adversely affect the building's historic architectural character. Permit an extension of the bulkhead building onto the pier if consistent with historic preservation criteria, providing a pedestrian walkway around it.					X
Policy 26.7 Promote new maritime attractions and waterside access, such as water taxi and excursion boat stops, historic ships and temporary mooring areas as part of new development.	X				
Policy 26.8 Preserve and rehabilitate the bulkhead building for museum, commercial recreation and public assembly, community facilities, artist/designer studios and galleries and/or office uses.		X			
Policy 26.13 Restore and adaptively reuse the Ferry Building in general accord with the "Design Guidelines for the Restoration and Adaptive Reuse of the Ferry Building," dated July 1978.		X			X
Policy 26.14 Reuse the Ferry Building as follows: predominantly commercial recreation (shops and restaurants), public spaces (e.g. exhibit, civic displays, passenger waiting areas, community facilities) and transportation services on the ground floor, and office, commercial recreation and/or public assembly activities on the second and third floors. Permit an additional partial fourth floor east of the existing nave for office use; limit its height to the height of the peak of the existing nave monitors.					X
Policy 26.15 Replace or remove the dilapidated portions of the Pier 1/2 bulkhead wharf between Pier 1 and the Ferry Building. Maintain and enhance public access and passenger areas serving the ferry and excursion boat operations at Pier 1/2.	X				X
Policy 26.16 Design a grand civic plaza to create a forecourt for the Ferry Building and a symbolic terminus to Market Street by removing parking in the middle of The Embarcadero roadway. This plaza should be designed to serve a multitude of activities,	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
to re-establish physical and visual connections between the City and the waterfront, and to tie together existing and future open spaces along The Embarcadero, including Justin Herman Plaza. Provide complementary, smaller plazas at the front of the Ferry Building, replacing short-term parking. If found to be feasible after further analysis, extend the California Street cable car down Market Street to the plaza and create a MUNI bus stop adjacent to the east-west axis of the plaza along the Embarcadero. Use street furniture that provides weather protection and install additional ornamental double light fixtures like those presently used along the Embarcadero.					
Policy 26.18 Improve pedestrian access through the Ferry Building to the Downtown Ferry Terminal including the Golden Gate Ferry Terminal. Create a continuous walkway along the eastern side of the Ferry Building that is separate from service vehicle access, to improve public access and to provide expanded space for ferry, excursion boat, water taxi and other waterborne transit riders.	X				
Policy 26.19 Allow on the Ferry Plaza, immediately east of and related to the Ferry Building, minor amounts of outdoor commercial recreation uses which are consistent with the use of the Plaza as open space and a regional transportation center (e.g. a cafe, outdoor dining, flower vendors and other convenience retail services for commuters and visitors). Retain the existing restaurant, plaza, and ferry terminal.					X
Policy 26.20 Rehabilitate and adaptively reuse the Agriculture Building, consistent with the Secretary of the Interior's Standards for Rehabilitation, for the following types of potential activities: museum, community facilities, commercial recreation and public assembly, artist/designer studios and galleries, and general office. In addition, allow for the creation of a passenger waiting area for possible future airport and Treasure Island ferry shuttle service. Extend a continuous walkway from the Ferry Building to the eastern side of the Agriculture Building which connects with The Embarcadero Promenade south of the Agriculture Building.					X
Policy 26.21 Limit parking on the platform adjacent to the existing restaurant to restaurant service only. Allow vehicular pick-up and drop-off usage if associated with ferry service expansion. Retain the existing restaurant. Consider architectural improvements to enhance the restaurant's waterfront identity, improve views from The Embarcadero and provide perimeter public access.	X				
Policy 26.23 Maintain open water where dilapidated Piers 14 through 22 have been removed as a visual relief to the intensely developed Downtown. Allow transient mooring at minimum cost for approximately 50 boats and include a boat shuttle service. Locate these facilities to avoid operational conflict with other waterborne transportation services in the area.					X
Policy 26.25 Reroute The Embarcadero roadway onto Steuart	X				



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Street between Howard and Harrison Streets. In the strip vacated by the Embarcadero and on Blocks 3742 and 3743, build a public park adjacent to and inland of the Herb Caen Way/Embarcadero Promenade. Orient the park to the Bay and relate the park to the recreational preferences of residents and workers in the City and Bay Area, rather than tourists. Provide large grassy open areas, a range of recreational equipment including a play structure, a tot lot, benches, game tables under shelter, and restrooms.					
Objective 29 To promote a continuous system of open spaces throughout the subarea by creating public access improvements as part of major new pierside developments, which connect with and expand upon the network of landscaped areas and public parks already developed or underway.					X
Policy 30.7 Encourage activities that do not generate peak traffic volumes during commute periods in order to minimize congestion on roadway and transit systems.	X				
Policy 30.10 Improve shoreline appearance, provide public access and open space, and expand views of open water by removing deteriorating Piers 34 and 36 and extending the PortWalk out over the water to create a Brannan Street Wharf public open space. Develop the layout, design, improvements, and any allowances for accessory uses to promote the use of this open space in coordination with the community.					X
Policy 30.15 Develop South Beach Park, between King and Second Streets and the Seawall, predominantly as a soft-surface park for public recreational use.					X
Policy 30.16 Include areas for active sports such as volleyball and separate areas for passive activities such as sitting, game tables under shelter, and a tot lot. Include toilet and drinking facilities. Buffer the park from the Embarcadero with devices such as landscaping, berms, and changes in elevation. Provide for drop-off parking to serve the Dolphin P. Rempp Restaurant. Provide appropriate transitions towards the proposed ballpark with its overlooks. Maintain a hard-surface pedestrian promenade along the water's edge with opportunities for sitting and viewing. Connect the promenade to the peripheral public access areas on Pier 40 and to the South Beach Harbor breakwater, and continue the promenade to Third Street and Lefty O'Doul Bridge. Permit pedestrian access to the marina only from the pier and breakwater and not directly from the park. Give special care to the location of a boat ramp. Prohibit commercial activities in the park but allow a limited amount of commercial recreation use incidental to and supportive of the open space. Provide promenade railings and other elements of a design compatible with the pier and breakwater. Coordinate the design of South Beach Park and the creation of public access with the ballpark development on Pier 46B.					X
Policy 30.17 Develop and maintain mixed-income housing, with	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
appropriate open space and neighborhood support uses on Blocks 3773, 3792, 3793 and portions of Blocks 3774 and 3789.					
Policy 30.18 Develop housing in small clusters of 100 to 200 units. Provide a range of building heights with no more than 40 feet in height along the Embarcadero and stepping up in height on the more inland portions to the maximum of 160 feet. In buildings fronting on Brannan Street in the 160 foot height area, create a strong base which maintains the street wall created by the residential complex to the east and the warehouse buildings to the west. Orient the mix of unit types to one and two bedrooms and include some three and four bedroom units. Pursue as the income and tenure goals, a mix of 20 percent low, 30 percent moderate and 50 percent middle and upper income, and a mix of rental, cooperative, and condominium units.	X				
Policy 30.21 Incorporate most parking as part of the building within housing clusters. Because garages may be only a half level below grade due to the high water table, landscape or buffer exposed garage edges. Locate residences above parking structures to stabilize them and minimize differential settlement. To the extent feasible, improve the portions of the garage roof not covered by structures for walkways and recreation areas. Use tree wells to allow large trees to grow within residential clusters. Design parking structures to have controlled vehicular access points and direct access to residential units for increased security. Provide additional guest and service parking for the residential units in street rights-of-way or adjacent to the clusters.	X				
Policy 30.22 Do not permit buildings to exceed 65 percent coverage of land or parking podium. To the maximum extent feasible, provide open space at ground level and provide planting in the ground. Ensure that any open space on top of a podium provides easy pedestrian and visual transition from the sidewalk.					X
Policy 30.23 Design structures to protect views of the water down street corridors from the residential areas. Carefully consider roof design and conceal roof equipment because of its visibility from adjacent residences. Landscape flat roofs and finish sloped roofs in attractive materials. Allow exposed parking only if the parking areas are extensively landscaped. Consider the use of turf block instead of asphalt paving.					X
Policy 30.24 Retain and historically restore for adaptive reuse the Cape Horn and Japan Street warehouses and allow small scale offices, neighborhood commercial and warehousing uses. Keep in industrial use that portion of Block 3774, Lot 24 which is needed to expand the manufacturing operation of the abutting industrial activity. If Lot 24 remains in industrial use, the structure on Lot 18 may remain and be used for warehousing. As an alternate use, develop the sites of the Cape Horn and Japan Street warehouses with housing provided that, to the maximum extent feasible, the street-facing facades of the existing structures are incorporated in the new development.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 30.25 Historically restore the Oriental Warehouse as the focal point of the residential community; include a combination of such uses as live-work, day care, recreation, and neighborhood services, professional offices and shopping. Remove the building to the north along the line of Brannan Street to enhance the form and visibility of the warehouse. Maintain the exterior facade and remove those windows that have been added without regard to the general exterior. Preserve portions of the existing paving as a public plaza and setting for the warehouse and remove unused spur tracks.					X
Policy 30.26 Close the following streets completely: Berry east of Third Street, and Second south of King Street. Close the following streets to through traffic, improve them as walkways and allow only limited local and service vehicle access: Townsend between Second and the Embarcadero, Colin P. Kelly Jr. between Townsend and Brannan, First between Brannan and the Embarcadero, and Beale between Bryant and Brannan.					X
Policy 30.27 Develop a plaza next to the Oriental Warehouse which is centrally located, and connect it to smaller open spaces within the proposed neighborhood. Have walkways open onto small plazas to create intimacy and spatial definition and orient them to be protected from winds. Enhance the feeling of outdoor security through use of lighting, walkways design, ingress and egress points and good surveillance by building orientation.					X
Policy 30.28 Develop an open-air ballpark with a maximum of 45,000 seats with related commercial uses including, but not limited to, office, retail, restaurants, live music performances and other forms of live entertainment, in a setting of waterfront public spaces.					X
Policy 30.29 Encourage waterside public access improvements alongside the ballpark on Pier 46B which connect with the South Beach Harbor and South Beach Park and provide a link to the Lefty O'Doul Bridge, thereby extending public access over China Basin Channel to the open space network planned for Mission Bay.	X				
Objective 31 To improve the Embarcadero corridor in order to facilitate the movement of people and goods, and enhance public access to and along the water.	X				
Policy 31.1 Realign the Embarcadero roadway between Broadway and Berry Street as follows: a. Widen the sidewalks in front of Ferry Building and create a major plaza in the roadway median as an appropriate terminus to Market Street; b. Reroute the roadway inland to Steuart Street from Howard to Harrison Streets to reduce its impact on the waterfront and to create opportunities for water-related activities; close Steuart Street between Mission and Howard to through traffic. c. Divert roadway traffic from Berry to King Streets to create opportunities for future water-related uses and to provide a direct	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
transit link to the CalTrain Station.					
<p>Policy 31.2 Maintain and improve the Embarcadero Roadway as follows:</p> <p>a. Provide two lanes each for southbound and northbound traffic with right and left turn channelization at selected intersections;</p> <p>b. Include an exclusive right-of-way for transit within the public right-of-way;</p> <p>c. Provide a promenade for pedestrians and joggers along the water side of the roadway and a bikeway for cyclists on the roadway;</p> <p>d. Provide signalized pedestrian crossings, integrated with transit stops along the Embarcadero at Bay, Sansome, Filbert, Green, Broadway, Washington, Market, Folsom, and Brannan Streets and on King Boulevard at Second and Fourth Streets. Establish traffic signals and speed limits which give priority to pedestrian movement across the Embarcadero roadway; and</p> <p>e. Light the roadway with ornamental fixtures similar to those presently found along the Embarcadero. Lighting levels should be sufficient for public safety while avoiding unnecessary glare. Plant street trees with an irrigation system along the right-of-way, transit way and promenade in a way that protects the urban, maritime character of the waterfront and preserves the views of the bay.</p>	X				
Policy 31.3 Provide rail transit service in an exclusive transit way from Fort Mason to the Southern Pacific Depot. An extension of Market Street surface rail, the F-Line should operate north of Market Street; the vehicles should be historic in character in order to provide a special waterfront transit identity. South of Market Street the transit service should be a surface extension of the MUNI Metro. Allow for continuous rail transit service along the length of the waterfront.	X				
Policy 31.4 Provide a MUNI Metro storage and maintenance facility in the Third Street Corridor.	X				
Policy 31.5 Provide transit stops at Bay, Sansome, Filbert, Green, Broadway, Washington, Market, Folsom, Brannan, Second and Fourth Streets.	X				
Policy 31.6 If found to be feasible after further analysis, extend certain trolley and bus lines and the California Street Cable Car to the Ferry Building. Facilitate pedestrian movement from Justin Herman Plaza to the Ferry Building.	X				
Policy 31.7 Prohibit heliports or STOL ports, but continue to allow for emergency landings.	X				
<b>Showplace Square / Potrero Area Plan</b>					
Objective 1.1 Encourage the transition of portions of Showplace/Potrero to a more mixed use and neighborhood-serving character, while protecting the core of design-related PDR uses.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 1.1.3 Allow for active ground floor uses and a more neighborhood commercial character in newly designated mixed use areas within Showplace Square.	X				
Policy 1.1.4 Permit and encourage greater retail use on the ground floor on parcels that front 16th Street to take advantage of transit service and encourage more mixed uses, while protecting against the wholesale displacement of PDR uses.	X				
Policy 1.1.5 While continuing to protect traditional PDR functions that need large, inexpensive spaces to operate, also recognize that the nature of PDR businesses is evolving gradually so that their production and distribution activities are becoming more integrated physically with their research, design and administrative functions.	X				
Objective 1.2 In areas of Showplace/ Potrero where housing and mixed use is encouraged, maximize development potential in keeping with neighborhood character.	X				
Policy 1.2.1 Ensure that in-fill housing development is compatible with its surroundings.	X				
Policy 1.2.2 In general, where residential development is permitted, control residential density through building height and bulk guidelines and bedroom mix requirements.	X				
Policy 1.2.3 Identify parts of Showplace Square where it would be appropriate to increase maximum heights for residential development.	X				
Objective 1.3 Institute flexible legal nonconforming use provisions to ensure a continued mix of uses in Showplace Square/ Potrero.	X				
Policy 1.3.1 Continue existing legal nonconforming rules, which permit pre-existing establishments to remain legally even if they no longer conform to new zoning provisions, as long as the use was legally established in the first place.	X				
Policy 1.3.2 Provide flexibility for legal housing units to continue in districts where housing is no longer permitted.	X				
Policy 1.7.3 Require development of flexible buildings with generous floor-to-ceiling heights, large floor plates, and other features that will allow the structure to support various businesses.		X			X
Objective 2.1 Ensure that a significant percentage of new housing created in the Showplace/ Potrero is affordable to people with a wide range of incomes.	X				
Policy 2.1.1 Require developers in some formally industrial areas to contribute towards the City's very low, low, moderate and middle income needs as identified in the Housing Element of the General Plan.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 2.1.2 Provide land and funding for the construction of new housing affordable to very low and low income households.	X				
Policy 2.1.3 Provide units that are affordable to households at moderate and middle incomes – working households earning above traditional below-market rate thresholds but still well below what is needed to buy a market priced home, with restrictions to ensure affordability continues.	X				
Policy 2.1.4 Allow single-resident occupancy hotels (SROs) and efficiency units to continue to be an affordable type of dwelling option, and recognize their role as an appropriate source of housing for small households.	X				
Policy 2.2.1 Adopt Citywide demolition policies that discourage demolition of sound housing, and encourage replacement of affordable units.					X
Policy 2.2.5: Facilitate the redevelopment of the Potrero View Public Housing through the HopeSF program.	X				
Policy 2.3.2 Prioritize the development of affordable family housing, both rental and ownership, particularly along transit corridors and adjacent to community amenities.	X				
Policy 2.3.3 Require that a significant number of units in new developments have two or more bedrooms, except Senior Housing and SRO developments.	X				
Policy 2.3.4 Encourage the creation of family supportive services, such as childcare facilities, parks and recreation, or other facilities, in affordable housing or mixed use developments.	X				
Policy 2.3.6 Establish an impact fee to be allocated towards an Eastern Neighborhoods Public Benefit Fund to mitigate the impacts of new development on transit, pedestrian, bicycle, and street improvements, park and recreational facilities, and community facilities such as libraries, child care and other neighborhood services in the area.	X				
Policy 2.4.1 Require developers to separate the cost of parking from the cost of housing in both for sale and rental developments.	X				
Policy 2.4.2 Revise residential parking requirements so that structured or off-street parking is permitted up to specified maximum amounts in certain districts, but is not required.	X				
Policy 2.5.2 Develop affordable family housing in areas where families can safely walk to schools, parks, retail, and other services.	X				
Policy 2.5.3 Require new development to meet minimum levels of green construction.		X	X		
Policy 3.1.8 New development should respect existing patterns of rear yard open space. Where an existing pattern of rear yard open space does not exist, new development on mixed-use-					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
zoned parcels should have greater flexibility as to where open space can be located.					
Policy 3.1.9 Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.					X
Policy 3.1.10 After results are obtained from the historic resources surveys, make necessary adjustments to these built form guidelines to ensure that new structures, particularly in historic districts, will be compatible with the surrounding historic context.					X
Objective 3.2 Promote an urban form and architectural character that supports walking and sustains a diverse, active, and safe public realm.	X				X
Policy 3.2.1 Require high quality design of street-facing building Exteriors.	X				
Policy 3.2.2 Make ground floor retail and PDR uses as tall, roomy and permeable as possible.	X				
Policy 3.2.3 Minimize the visual impact of parking.	X				
Policy 3.2.4 Strengthen the relationship between a building and its fronting sidewalk.	X				
Policy 3.2.5 Building form should celebrate corner locations.	X				
Policy 3.2.6 Sidewalks abutting new developments should be constructed in accordance with locally appropriate guidelines based on established best practices in streetscape design.	X				
Policy 3.2.7 Strengthen the pedestrian network by extending alleyways to adjacent streets or alleyways wherever possible, or by providing new publicly accessible mid-block rights of way.	X				
Objective 3.3 Promote the environmental sustainability, ecological functioning, and the overall quality of the natural environment in the Plan Area.					X
Policy 3.3.1 Require new development to adhere to a new performance-based evaluation tool to improve the amount and quality of green landscaping.		X			X
Policy 3.3.2 Discourage new surface parking lots and explore ways to encourage retrofitting existing surface parking lots and off-street loading areas to minimize negative effects on microclimate and stormwater infiltration. The city's Stormwater Master Plan, upon completion, will provide guidance on how best to adhere to these guidelines.		X		X	
Policy 3.3.3 Enhance the connection between building form and ecological sustainability by promoting use of renewable energy, energy-efficient building envelopes, passive heating and cooling, and sustainable materials.	X	X			

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 3.3.4 Compliance with strict environmental efficiency standards for new buildings is strongly encouraged.		X		X	
Objective 4.1 Improve the public transit to better serve existing and new development in the Showplace Square / Potrero Hill.	X				
Policy 4.1.1 Commit resources to an analysis of the street grid, the transportation impacts of new zoning, and mobility needs in Showplace Square Potrero /Eastern Neighborhoods to develop a plan that prioritizes transit while addressing needs of all modes (auto circulation, freeway traffic, bicyclists, pedestrians).	X				
Policy 4.1.2 Decrease transit travel time and improve reliability through a variety of means, such as transit-only lanes, transit signal priority, transit queue jumps, lengthening of spacing between stops, and establishment of limited or express service.	X				
Policy 4.1.3 Implement the service recommendations of the Transit Effectiveness Project (TEP).	X				
Policy 4.1.4 Reduce existing curb cuts where possible and restrict new curb cuts to prevent vehicular conflicts with transit on important transit and commercial streets.	X				
Policy 4.1.5 Ensure Muni's storage and maintenance facility needs are met to serve increased transit demand and provide enhanced service.	X				
Policy 4.1.6 Improve public transit service linking Showplace / Potrero to the downtown core and regional transit hubs including Market Street, 4th and King Caltrain station, Civic Center BART station, 16th Street BART station, and the Transbay Terminal.	X				
Policy 4.1.7 Improve direct transit connectivity from downtown and Mission Bay to Potrero Hill.	X				
Policy 4.1.8 To the extent possible, balance competing land use and transportation-related priorities for 16th Street in Showplace Square to improve transit speed and reliability.	X				
Policy 4.1.9 Study the possibility of creating a premium transit service such as Bus Rapid Transit or implementing high-level transit preferential treatments for segments of Mission Street, 16th Street and Potrero Avenue.	X				
Policy 4.1.10 Consider grade separation of the Caltrain tracks at 16th Street as part of a future high speed rail project.	X				
Objective 4.2 Increase transit ridership by making it more comfortable and easier to use.	X				
Policy 4.2.1 Improve the safety and quality of streets, stops and stations used by transit passengers.	X				
Policy 4.2.2 Provide comprehensive and real-time passenger information, both on vehicles and at stops and stations.	X				
Objective 4.3 Establish parking policies that improve the quality to neighborhoods and reduce congestion and private vehicle	X				



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
trips by encouraging travel by non-auto modes.					
Policy 4.3.1 For new residential development, provide flexibility by eliminating minimum off-street parking requirements and establishing reasonable parking caps.	X				
Policy 4.3.2 For new non-residential development, provide flexibility by eliminating minimum off-street parking requirements and establishing caps generally equal to the previous minimum requirements. For office uses, parking should be limited relative to transit accessibility.	X				
Policy 4.3.3 Make the cost of parking visible to users, by requiring parking to be rented, leased or sold separately from residential and commercial space for all new major development	X				
Policy 4.3.4 Encourage, or require where appropriate, innovative parking arrangements that make efficient use of space, particularly where cars will not be used on a daily basis.	X				
Policy 4.3.5 Permit construction of new parking garages only if they are part of shared parking arrangements that efficiently use space, are appropriately designed, and reduce the overall need for off-street parking in the area.	X				
Policy 4.3.6 Reconsider and revise the way that on-street parking is managed in both commercial and residential districts in order to more efficiently use street parking space and increase turnover and parking availability.	X				
Objective 4.4 Support the circulation needs of existing and new PDR uses in Showplace Square/ Potrero Hill.	X				
Policy 4.4.1 Provide an adequate amount of short-term, on-street curbside freight loading spaces throughout Showplace Square.	X				
Policy 4.4.2 Continue to require off-street facilities for freight loading and service vehicles in new large non-residential developments.	X				
Policy 4.4.3 In areas with a significant number of PDR establishments, design streets and sidewalks to serve the needs and access requirements of trucks while maintaining a safe pedestrian environment.	X				
Objective 4.5 Consider the street network in Showplace Square/ Potrero Hill as a city resource essential to multi-modal movement and public open space.	X				X
Policy 4.5.1 Maintain a strong presumption against the vacation or sale of streets or alleys except in cases where significant public benefits can be achieved.					X
Policy 4.5.2 As part of a development project's open space requirement, require publicly-accessible alleys that break up the scale of large developments and allow additional access to buildings in the project.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 4.5.3 Redesign underutilized streets in the Showplace Square area for creation of Living Streets and other usable public space or to facilitate transit movement.					X
Objective 4.6 Support walking as a key transportation mode by improving pedestrian circulation within Showplace Square/ Potrero Hill and to other parts of the city.	X				
Policy 4.6.1 Use established street design standards and guidelines to make the pedestrian environment safer and more comfortable for walk trips.	X				
Policy 4.6.2 Prioritize pedestrian safety improvements at intersections and in areas with historically high frequencies of pedestrian injury collisions.	X				
Policy 4.6.3 Improve pedestrian connections between Showplace Square / Potrero Hill and Mission Bay.	X				
Policy 4.6.4 Facilitate improved pedestrian crossings at several locations along 16th Street to better connect Potrero Hill to the Showplace Square area.	X				
Policy 4.6.5 Facilitate completion of the sidewalk network in Showplace Square / Potrero Hill, especially where new development is planned to occur.	X				
Objective 4.7 Improve and expand infrastructure for bicycling as an important mode of transportation.	X				
Policy 4.7.1 Provide a continuous network of safe, convenient and attractive bicycle facilities connecting Showplace Square / Potrero Hill to the citywide bicycle network and conforming to the San Francisco Bicycle Plan.	X				
Policy 4.7.2 Provide secure, accessible and abundant bicycle parking, particularly at transit stations, within shopping areas and at concentrations of employment.	X				
Policy 4.7.3 Explore feasibility of the Mission Creek Bikeway project.	X				
Objective 4.8 Encourage alternatives to car ownership and the reduction of private vehicle trips.	X				
Policy 4.8.1 Continue to require car-sharing arrangements in new residential and commercial developments, as well as any new parking garages.	X				
Policy 4.8.2 Require large retail establishments, particularly supermarkets, to provide shuttle and delivery services to customers.	X				
Policy 4.8.3 Develop a Transportation Demand Management (TDM) program for the Eastern Neighborhoods that provides information and incentives for employees, visitors and residents to use alternative transportation modes and travel times.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Objective 4.9 Facilitate movement of automobiles by managing congestion and other negative impacts of vehicle traffic.	X				
Policy 4.9.1 Introduce traffic calming measures where warranted to improve pedestrian safety and comfort, reduce speeding and traffic spillover from arterial streets onto residential streets and alleyways.	X				
Policy 4.9.2 Decrease auto congestion through implementation of Intelligent Traffic Management Systems (ITMS) strategies such as smart parking technology, progressive metering of traffic signals and the SFMTA SFGO program.	X				
Objective 4.10 Develop a comprehensive funding plan for transportation improvements.	X				
Policy 4.10.1 As part of the Eastern Neighborhoods Public Benefits Program, support funding for transit, pedestrian, bicycle and auto improvements through developer impact fees, in-kind contributions, community facilities districts, dedication of tax revenues, and state or federal grant sources.	X				
Objective 5.1 Provide public parks and open spaces that meet the needs of residents, workers and visitors.					X
Policy 5.1.1 Identify opportunities to create new public parks and open spaces and provide at least one new public park or open space serving the Showplace / Potrero.					X
Policy 5.1.2 Require new residential development and commercial development to provide, or contribute to the creation of publicly accessible open space.					X
Objective 5.2 Ensure that new development includes high quality private open space.					X
Policy 5.2.1 Require new residential and mixed-use residential development to provide on-site private open space designed to meet the needs of residents.					X
Policy 5.2.2 Establish requirements for commercial development to provide on-site open space.					X
Policy 5.2.3 Encourage private open space to be provided as common spaces for residents and workers of the building wherever possible.					X
Policy 5.2.4 Encourage publicly accessible open space as part of new residential and commercial development.					X
Policy 5.2.5 New development should respect existing patterns of rear yard open space. Where an existing pattern of rear yard open space does not exist, new development on mixed-use-zoned parcels should have flexibility as to where open space can be located.					X
Policy 5.2.6 Ensure quality open space is provided in flexible and creative ways, adding a well used, well-cared for amenity for					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
residents of a highly urbanized neighborhood. Private open space should meet the following design guidelines: A. Designed to allow for a diversity of uses, including elements for children, as appropriate. B. Maximize sunlight exposure and protection from wind C. Adhere to the performance-based evaluation tool.					
Objective 5.3 Create a network of green streets that connects open spaces and improves the walkability, aesthetics, and ecological sustainability of the neighborhood.					X
Policy 5.3.1 Redesign underutilized portions of streets as public open spaces, including widened sidewalks or medians, curb bulb-outs, living streets or green connector streets.					X
Policy 5.3.2 Maximize sidewalk landscaping, street trees and pedestrian scale street furnishing to the greatest extent feasible.					X
Policy 5.3.3 Design the intersections of major streets to reflect their prominence as public spaces.					X
Policy 5.3.4 Enhance the pedestrian environment by requiring new development to plant street trees along abutting sidewalks. When this is not feasible, plant trees on development sites or elsewhere in the plan area.	X				X
Policy 5.3.5 Significant above grade infrastructure, such as freeways, should be retrofitted with architectural lighting to foster pedestrian connections beneath.	X				
Policy 5.3.6 Where possible, transform unused freeway and rail rights-of-way into landscaped features that provide a pleasant and comforting route for pedestrians.	X				X
Policy 5.3.7 Develop a comprehensive public realm plan for Showplace Square that reflects the differing needs of streets based upon their predominant land use, role in the transportation network, and building scale.					X
Objective 5.4 The open space system should both beautify the neighborhood and strengthen the environment.					X
Policy 5.4.1 Increase the environmental sustainability of Showplace Square/Potrero Hill system of public and private open spaces by improving the ecological functioning of all open space.		X	X	X	X
Policy 5.4.2 Explore ways to retrofit existing parking and paved areas to minimize negative impacts on microclimate and allow for storm water infiltration.		X		X	X
Objective 5.5 Ensure that existing open space, recreation and park facilities are well maintained.					X
Policy 5.5.1 Prioritize funds and staffing to better maintain existing parks and obtain additional funding for a new park and open space facilities.					X
Policy 5.5.2 Renovate run-down or outmoded park facilities to					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
provide high quality, safe and long-lasting facilities. Identify at least one existing park or recreation facility in Showplace Square/Potrero Hill area for renovation.					
Policy 5.5.3 Explore opportunities to use existing recreation facilities, such as school yards, more efficiently.		X			
Policy 8.1.2 Pursue formal designation of the Showplace Square historic and cultural resources, as appropriate.					X
Policy 8.1.3 Recognize and evaluate historic and cultural resources that are less than fifty years old and may display exceptional significance to the recent past.					X
Objective 8.2 Protect, preserve, and reuse historic resources within the Showplace Square Area Plan.					X
Policy 8.2.1 Protect individually significant historic and cultural resources and historic districts in the Showplace Square Area Plan from demolition or adverse alteration.					X
Policy 8.2.2 Apply the Secretary of the Interior's Standards for the Treatment of Historic Properties in conjunction with the Showplace Square Area Plan objectives and policies for all projects involving historic or cultural resources.					X
Policy 8.2.3 Promote and offer incentives for the rehabilitation and adaptive reuse of historic buildings in the Showplace Square plan area.					X
Objective 8.3 Ensure that historic preservation concerns continue to be an integral part of the ongoing planning processes for the Showplace Square Plan Area as they evolve over time.					X
Policy 8.3.1 Pursue and encourage opportunities, consistent with the objectives of historic preservation, to increase the supply of affordable housing within the Showplace Square plan area.					
Policy 8.3.2 Ensure a more efficient and transparent evaluation of project proposals which involve historic resources and minimize impacts to historic resources per CEQA guidelines.					X
Policy 8.3.3 Prevent destruction of historic and cultural resources resulting from owner neglect or inappropriate actions.					X
Policy 8.3.4 Consider the Showplace Square Area Plan's historic and cultural resources in emergency preparedness and response efforts.					X
Policy 8.3.5 Protect and retrofit local, state, or nationally designated UMB (Unreinforced Masonry Buildings) found in the Plan Area.					X
Policy 8.3.6 Adopt and revise land use, design and other relevant policies, guidelines, and standards, as needed to further preservation objectives.					X
Objective 8.4 Promote the principles of sustainability for the built environment through the inherently green strategy of historic		X		X	X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
preservation.					
Policy 8.4.1 Encourage the retention and rehabilitation of historic and cultural resources as an option for increased sustainability and consistency with the goals and objectives of the Sustainability Plan for the City and County of San Francisco.					X
Objective 8.5 Provide preservation incentives, guidance, and leadership within the Showplace Square Area Plan.					X
Policy 8.5.1 Disseminate information about the availability of financial incentives for qualifying historic preservation projects.					X
Policy 8.5.2 Encourage use of the California Historic Building Code for qualifying historic preservation projects.					X
Policy 8.5.3 Demonstrate preservation leadership and good stewardship of publicly owned historic and cultural resources.					X
Objective 8.6 Foster public awareness and appreciation of historic and cultural resources within the Showplace Square Area Plan.					X
Policy 8.6.1 Encourage public participation in the identification of historic and cultural resources within the Showplace Square plan area.					X
Policy 8.6.2 Foster education and appreciation of historic and cultural resources within the Showplace Square plan area among business leaders, neighborhood groups, and the general public through outreach efforts.					X
<b>South of Market Area Plan</b>					
Objective 2 Preserve existing housing.				X	
Policy 2.1 Discourage the demolition of existing dwelling units or their conversion to non-residential use.				X	
Policy 2.2 Promote making existing rental housing permanently affordable for low- and moderate-income residents.	X			X	
Policy 2.3 Preserve South Park as a small scale, mixed use neighborhood.	X				
Objective 3 Encourage the development of new housing, particularly affordable housing.	X				
Policy 3.2 Facilitate in-fill housing development on small or irregularly-shaped parcels within the predominantly residential neighborhoods.	X				
Policy 3.3 Encourage new, in-fill residential hotel development along Sixth Street.	X				
Policy 3.4 Encourage high density, predominantly residential mixed-use development on vacant parcels between Stevenson, Harrison, Sixth and Fourth Streets.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 3.5 Encourage small scale in-fill residential or mixed use development west of Sixth Street.	X				
Objective 4 Develop transit as the primary mode of travel to and from other parts of the city and region.	X				
Policy 4.1 Expand local transit lines linking the South of Market to all regional transit facilities and to the rest of the City.	X				
Objective 5 Minimize the impact on the livability of the area of auto traffic through and to/from the South of Market.	X				
Policy 5.1 Provide incentives for the use of transit, taxi, carpools and vanpools, and reduce the dependence on automobile parking facilities, particularly by area workers.	X				
Policy 5.2 Promote the more efficient use of existing parking resources throughout the South of Market.	X				
Policy 5.3 Institute a residential preferential parking program.	X				
Policy 5.4 Provide adequate parking and loading resources for new South of Market residential and business development.	X				
Policy 5.5 Provide an adequate amount of on-street curbside freight loading spaces throughout the South of Market.	X				
Policy 5.6 Emphasize short-term parking over long-term parking in parking facilities that exist or are proposed for the South of Market.	X				
Objective 6 Maintain and insure the availability of rail freight service through the South of Market Area to the Port of San Francisco.	X				
Policy 6.1 Establish a rail service program.	X				
Objective 7 Preserve existing amenities which make the South of Market a pleasant place to live, work, and play.					X
Policy 7.1 Establish height and building intensity limits for new development which would preserve the existing scale and strengthen the physical form of areas appropriate for new development, enhance the character of adjacent landmark buildings, maintain sun exposure to open space resources, and preserve view corridors.					X
Policy 7.2 Preserve the architectural character and identity of South of Market residential and commercial/industrial buildings.					X
Policy 7.3 Preserve areas which contain groups of buildings of historic, architectural, or aesthetic value and which are linked by important historical or architectural characteristics.					X
Policy 7.4 Preserve individual architecturally and/or historically significant buildings which contribute to the area's identity, give visual orientation, and which impart a sense of continuity with San Francisco's past.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 7.5 Provide incentives for preservation of landmark quality buildings and contributory buildings in historic districts.					X
Policy 8.2 Encourage the location of neighborhood-serving retail and community service activities throughout the South of Market.	X				
Policy 8.3 Make better use of existing recreation and open space resources and facilities within the South of Market.					X
Policy 8.4 Create new parks and recreational facilities for the enjoyment by area residents, workers, and visitors.					X
Policy 8.5 Create a visually prominent, safe and clean pedestrian circulation network throughout the South of Market.	X				
Policy 8.6 Restore sidewalks as pedestrian circulation spaces and establish a pedestrian network to improve the safety and convenience of pedestrian travel to and throughout the South of Market (see Map 7).	X				
Policy 8.7 Improve street and sidewalk maintenance including enforcement of parking regulations, regular street and sidewalk cleaning, rodent eradication, and trash removal.	X				
<b>Rincon Hill Area Plan</b>					
Objective 1.1 Encourage the development of a unique dynamic, mixed-use residential neighborhood close to downtown, which will contribute significantly to the city's housing supply.	X				
Objective 1.2 Maximize housing in Rincon Hill to capitalize on Rincon Hill's central location adjacent to downtown employment and transit service, while still retaining the district's livability.	X				
Objective 1.3 Create space for additional uses to provide needed services for the resident population by transforming Folsom Street into a walkable neighborhood center to serve the Rincon Hill and Transbay neighborhoods.	X				
Objective 1.4 Allow existing industrial service and office uses to remain but require any major redevelopment to incorporate housing.	X				
Objective 1.5 Add life and activity to the district's public spaces by providing active uses on street-facing ground floors.	X				
Policy 1.1 Allow housing as a principal permitted use throughout the district.	X				
Policy 1.2 Require six net square feet of housing for every one net square foot of non-residential use, and permit only residential uses above 85 feet in height.	X				
Policy 1.3 Eliminate the residential density limit to encourage the maximum amount of housing possible within the allowable building envelope.	X				
Policy 1.4 Require parking to be located primarily underground	X				



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
so that the allowable above-ground building envelope can be used for housing.					
Objective 2.4 Preserve existing housing units on Guy Place and Lansing Street.					X
Policy 2.1 Require all new developments of 10 or more units in the Rincon Hill district to meet the City's affordable housing requirement of at least 12 percent on-site or 17 percent off-site, regardless of whether a Conditional Use permit is required.	X				
Policy 2.2 Require that inclusionary housing be built within the South of Market district, in areas designated for the encouragement of new housing. See Map 5.	X				
Policy 2.3 Develop publicly owned lands with 100 percent affordable housing.	X				
Objective 3.3 Respect the natural topography of the hill and follow the policies already established in the Urban Design Element that restrict height near the water and allow increased height on the top of hills.					X
Objective 3.6 Ensure adequate light and air to the district and minimize wind and shadow on public streets and open space.		X			
Objective 3.10 Relate the height and bulk of podium buildings to the width of the street, to define a consistent streetwall and ensure adequate sun and sky access to streets and alleys.		X			
Policy 3.9 Minimize shadows on streets, open spaces and residential units, and the creation of surface winds near the base of buildings.					X
Objective 4.1 Create a variety of new open spaces and community facilities for active and passive recreation to meet the needs of a significant new residential population.					X
Objective 4.2 Create a new neighborhood park to serve the district.					X
Objective 4.3 Link the area via pedestrian improvements to other public open spaces such as the waterfront promenade at the foot of the hill and planned open spaces in the Transbay district.	X				X
Objective 4.4 Ensure adequate sunlight and minimize wind and shadow on public streets and open spaces.					X
Objective 4.5 Use excess street space on Spear, Main, and Beale Streets for sidewalk widenings that provide usable open spaces and recreational amenities.					X
Objective 4.6 Create an inviting and pleasant mid-block pedestrian corridor to the waterfront.					X
Objective 4.7 Require private development to contribute to the creation and on-going maintenance and operations of public open spaces and community facilities through in-kind contribution, a community facilities district, and/or developer					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
fees.					
Objective 4.8 Ensure that there are adequate school facilities to serve existing and future residents of the Rincon Hill and Transbay neighborhoods.	X				
Policy 4.1 Purchase parcels of adequate size for a neighborhood park. Parcels that should be prioritized for acquisition include 009, 010, 011, and 018 of Block 3766, at the southeast corner of Harrison and Fremont Streets, currently owned by CalTrans, and Parcel 005 of Block 3749, on Guy Place, currently a privately-owned vacant lot. Other parcels within the district may also be considered for a neighborhood park if a park of adequate size that is useable for Rincon Hill residents would be feasible on those sites.					X
Policy 4.2 Significantly widen sidewalks by removing a lane of traffic on Spear, Main, and Beale Streets between Folsom and Bryant Streets per the Rincon Hill Streetscape Plan in order to create new "Living Streets," with pocket park and plaza spaces for active and passive recreational use, decorative paving, lighting, seating, trees and other landscaping.	X				X
Policy 4.3 Create publicly accessible open space along Essex Street, including the hillside and useable space at the top of the hill.					X
Policy 4.4 Include community recreation, arts and educational facilities as part of a rehabilitated Sailor's Union of the Pacific building.					X
Policy 4.5 Continue to look for additional sites for acquisition and development of open space in the Rincon Hill district.					
Policy 4.6 Create a community facilities district to fund capital improvements, operation and maintenance of new public spaces, including the Living Streets, the Harrison/Fremont park, and community spaces in the Sailor's Union of the Pacific building.					X
Policy 4.7 Require new development to implement portions of the streetscape plan adjacent to their development, and additional relevant in-kind contributions, as a condition of approval.	X				X
Policy 4.8 Require new development to provide private open space in relation to a development's residential area at a ratio of 75 square feet of open space per unit.					X
Policy 4.9 Allow up to 50 percent of private open space requirements to be provided off-site, provided that this space is publicly accessible. Off-site open spaces should adhere to and implement the Rincon Hill Streetscape Plan.					X
Objective 5.1 Create safe and pleasant pedestrian networks within the Rincon Hill area, to downtown, and to the Bay.	X				X
Objective 5.2 Widen sidewalks, reduce street widths, and make other pedestrian and street improvements, while retaining the	X				X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
necessary space for traffic movements, per the Rincon Hill Streetscape Plan.					
Objective 5.3 Prioritize pedestrian safety through street and intersection improvements, especially at intersections adjacent to freeway ramps, and intersections with a history of vehicle/pedestrian collisions.	X				
Objective 5.4 Improve transit service to and from Rincon Hill.	X				
Objective 5.5 Manage parking supply and pricing to encourage travel by foot, public transportation, and bicycle.	X				
Objective 5.6 Improve local and regional traffic flows and transit movements by separating bridge-bound traffic from local lanes in appropriate locations.	X				
Objective 5.7 Maintain the potential for a Bay Bridge bicycle/pedestrian/maintenance path, and ensure that all options for the path touchdown and alignment are kept open.	X				
Objective 5.8 Encourage state agencies to allow the re-opening of Beale Street under the Bay Bridge as soon as security concerns can be met.	X				
Objective 5.9 Require private development to contribute to the creation and on-going maintenance and operations of special streetscapes through in-kind contribution, a community facilities district, and/or developer fees.	X				
Policy 5.1 Implement the Rincon Hill Streetscape Plan.	X				
Policy 5.2 Significantly widen sidewalks by removing a lane of traffic on Spear, Main and Beale Streets between Folsom and Bryant Streets per the Rincon Hill Streetscape Plan in order to create new "Living Streets," with pocket park and plaza spaces for active and passive recreational use, decorative paving, lighting, seating, trees and other landscaping. See Figure 6.	X				
Policy 5.3 Transform Folsom Street into a grand civic boulevard, per this plan and the Transbay Redevelopment Plan.	X				X
Policy 5.4 Widen sidewalks, narrow lanes and remove lanes, where feasible, on Harrison, First and Fremont Streets.	X				
Policy 5.5 Separate bridge-bound traffic from local traffic and transit through physical design strategies such as planted medians.	X				
Policy 5.6 Implement streetscape improvements on Guy Place and Lansing Street that prioritize pedestrian use for the entire right-of-way.	X				
Policy 5.7 Ensure the creation of a safe, inviting, and pleasant publicly accessible pedestrian/open space mid-block pathway through Assessors Blocks 3744-3748 from First Street to the Embarcadero by requiring new developments along the alignment of the proposed path to provide a publicly-accessible	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
easement through their property.					
Policy 5.8 Explore the feasibility of and implement if feasible the following transit improvements for Rincon Hill.	X				
Policy 5.9 Eliminate the minimum off-street parking requirement for all uses.	X				
Policy 5.10 Permit parking up to one space per two units by right, and up to one car per unit, provided that any parking spaces above one space per two units are not independently accessible.	X				
Policy 5.11 Permit parking for office use up to 7 percent of the gross leasable area, and for retail uses greater than 5,000 square feet up to one space per 1,500 square feet of occupiable floor area.	X				
Policy 5.12 Require that parking be sold or rented separately from residential units and commercial spaces in perpetuity.	X				
Policy 5.13 Require that parking will only serve those uses for which it is accessory in perpetuity, and under no circumstances will be sold, rented or otherwise made available as commuter parking.	X				
Policy 5.14 Prohibit parking as a principal use.	X				
Policy 5.15 Require new development over 50 units to offer at least one parking space to a car-sharing organization for the right of first refusal	X				
Policy 5.16 Require parking for bicycles at a ratio of one space per two units for buildings with 50 units or fewer, and one space per four units for buildings with greater than 50 units.	X				
Objective 6.1 Preserve and adaptively reuse those buildings in the area which have particular architectural or historical merit or which provide a scale and character of development consistent with the plan.					X
Objective 6.2 Rehabilitate the Sailor's Union of the Pacific building so that it may be used for publicly-accessible community recreation, arts and educational facilities.					X
Objective 7.1 Ensure that private development provides funding for public improvements, and their on-going maintenance and operations, in proportion to the need for those improvements that it generates.					X
Objective 7.2 Minimize the amount of direct public funding that must be used to fund and maintain public improvements.				X	
Objective 7.3 Use local South of Market residents and First Source employees and provide adequate job training, especially for South of Market residents, for new construction and post-construction jobs created from new development to the maximum extent feasible.	X	X			
Policy 7.1 Require new development to implement portions of	X				X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
the streetscape plan adjacent to their development, and additional relevant in-kind contributions, as a condition of approval.					
Policy 7.2 Create a community facilities district to fund capital improvements, operation and maintenance of new public spaces, including the Living Streets, the Harrison/Fremont park, and community spaces in the Sailor's Union of the Pacific building.					X
Policy 7.3 Require new development fee to pay an additional per square foot fee to cover features of the public realm plan, based on the need for the public improvements created by new development, that cannot be paid for through the community facilities district.					X
Policy 7.5 Ensure that new residential development projects in Rincon Hill comply with First Source Hiring requirements for construction and post-construction employment pursuant to San Francisco Administrative Code Chapter 83.	X				
Policy 7.6 Encourage new development to make good faith efforts to hire San Francisco residents comprising at least 50 percent of the total construction workforce measured in labor work hours.	X				
<b>Van Ness Avenue Area Plan</b>					
Objective 1 Continue the existing of the avenue and add a significant increment of new housing.	X				
Policy 1.1 Encourage development of high density housing above a podium of commercial uses in new construction or substantial expansion of existing buildings.	X				
Policy 1.2 Allow existing structures to remain in non-residential use.				X	X
Policy 1.3 Allow residential densities to be established by building volume rather than lot size.		X			
Policy 1.5 Employ various techniques to provide more affordable housing.	X				
Objective 2 Maintain the scale, character and density of this predominately residential neighborhood.	X				
Policy 2.1 Infill with carefully designed, medium density new housing.	X				
Objective 3 Transform the area into an attractive gateway to the residential boulevard and a transition from Fisherman's Wharf and the Golden Gate National Recreation Area.	X				X
Policy 3.1 Create a tree-lined and landscaped median strip within the Van Ness street space and plant rows of trees in the sidewalk space.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 3.2 Support National Park Service plans for improvements of the area within the boundaries of the Golden Gate National Recreation Area (GGNRA) boundaries.					X
Objective 4 Permit densities and land uses that are compatible with existing land uses and proposed residential development of the avenue.					X
Policy 4.1 Adopt zoning controls that conform to the Van Ness Avenue generalized Land Use and Density Plan.					X
Objective 5 Encourage development which reinforces topography and urban pattern, and defines and gives variety to the avenue.					X
Policy 5.1 Establish height controls to emphasize topography and adequately frame the great width of the Avenue.	X				
Policy 5.2 Encourage a regular street wall and harmonious building forms along the Avenue.	X				
Policy 5.3 Continue the street wall heights as defined by existing significant buildings and promote an adequate enclosure of the Avenue.	X				
Policy 5.4 Preserve existing view corridors.					X
Policy 5.5 Encourage full lot development resulting in a maximum number of dwelling units.		X			
Policy 5.6 Encourage separation of towers for buildings involving more than one tower.		X			
Policy 7.2 Provide wind protection and sun exposure to private and common open space areas.					X
Policy 7.3 Generally maintain existing open space requirements for residential use. Allow common open space requirements to be met by a variety of recreation and open space features.					X
Policy 7.4 Design mixed use developments to create a quiet residential environment with a variety of intimate, personal spaces well insulated from the intrusion of noises from street or commercial activities.	X				
Objective 8 Create an attractive street and sidewalk which contributes to the transformation of Van Ness Avenue into a residential boulevard.	X				
Policy 8.1 Require sponsors of major renovation or new development projects to improve and maintain the sidewalk space abutting their properties according to the guidelines contained in this Plan.	X				
Policy 8.2 Where there are no trees, plant trees within the sidewalk space and the median strip. Maintain existing healthy trees and replace unhealthy ones.	X				X
Policy 8.3 Provide street trees with tree grates that have					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
removable sections to adequately accommodate tree growth.					
Policy 8.4 Incorporate low-growing ground cover around the tree plantings within the median strip.					X
Policy 8.5 Maintain existing sidewalk widths.	X				
Policy 8.6 Incorporate uniform sidewalk paving material, color, pattern and texture throughout the length of the Avenue.	X				
Policy 8.9 Provide attractive street furniture at convenient locations and intervals throughout the length of the street.	X				
Policy 8.10 Cluster newspaper racks at specific corner locations.	X				
Policy 8.11 Permit general advertising signs, business signs and other identifying signs. Permitted signs should meet the following design criteria.	X				
Objective 9 Provide safe and efficient movement among all users on Van Ness Avenue.	X				
Policy 9.1 Reduce conflicts between transit vehicles and other moving and parked vehicles. Aggressively enforce no parking regulations in bus zones.	X				
Policy 9.2 Provide clearly visible and readable street signs and bus stop signs to improve the legibility of bus stops for riders within the bus and for pedestrians. Such signage, however, should not overwhelm the design of the landscape/streetscape system. Provide safe and comfortable waiting areas for patrons by using well-directed street lighting and bus shelters.	X				
Policy 9.3 Investigate the feasibility of extending the California Street Cable Car line to the Nihonmachi Center via California Street, Webster or Buchanan Street to Sutter Street. Pending such an extension, provide a safe, comfortable and attractive terminus to the line at Van Ness Avenue. Extension of the cable car, if financially feasible, would provide more efficient use of the Cable Car line as a transit system for residents as well as an attractive means of transporting visitors to special places of interest.	X				
Policy 9.4 Investigate the feasibility and desirability of creating a MUNI Metro line along the Van Ness Corridor which would connect with a proposed light rail line along the northeastern waterfront.	X				
Policy 9.5 Whenever feasible, provide access to parking from minor east-west streets. Prohibit new parking access from Van Ness Avenue. For development of lots with no direct access to an east-west street, allow of-site provision of required parking as set forth in Section 159(c) of the Planning Code.	X				
Policy 9.6 Prohibit any new drive-up facilities.	X				
Policy 9.7 Require residential parking at a ratio of one parking space per dwelling unit.	X				

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 9.8 Adopt short-term parking rate structures for existing and new commercial parking resources to discourage commuter parking and provide visitor — shopper parking. Make accessory parking spaces available to the general public for use as short-term day or evening parking whenever possible.	X				
Policy 9.9 Encourage use of upper-story auto storage spaces within existing auto showrooms along Van Ness Avenue as community parking facilities for adjacent projects.	X				
Policy 9.10 Improve the efficient and free flowing use of sidewalk space in new development.	X				
Policy 9.11 Orient building entrances to enhance pedestrian circulation.	X				
Policy 9.12 Unify the design of trash bins, benches, news racks, street lighting fixtures, sidewalk surface treatment, canopies, awnings and bus shelters throughout the length of the street.	X				
Policy 9.13 Discourage access to freight loading facilities from Van Ness Avenue.	X				
Objective 10 Conserve existing housing resources.	X				X
Policy 10.1 Encourage preservation of existing housing structures unless adequate mitigation measures are initiated.	X				X
Objective 11 Preserve the fine architectural resources of Van Ness Avenue.					X
Policy 11.1 Avoid demolition or inappropriate alteration of historically and architecturally significant buildings.				X	X
Policy 11.2 Allow relaxation of the residential use requirements and of parking requirements for buildings designated as city landmarks.	X				X
Policy 11.3 Encourage the retention and appropriate alteration of contributory buildings.					X
Policy 11.4 Encourage architectural integration of new structures with adjacent significant and contributory buildings.					X
<b>Western Shoreline Area Plan</b>					
Objective 1 Improve public transit access to the coast.					
Policy 1.1 Improve crosstown public transit connections to the coastal area, specifically Ocean Beach, the Zoo and the Cliff House.	X				
Policy 1.2 Provide transit connections amongst the important coastal recreational destinations.	X				
Policy 1.3 Connect local transit routes with regional transit, including BART, Golden Gate Transit, and the Golden Gate National Recreation Transit.	X				



General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 1.4 Provide incentives for transit usage.	X				
Policy 1.5 Consolidate the Municipal Railway turnaround at the former Playland-at-the-Beach site.	X				
Policy 1.6 Provide transit shelters at the beach for transit patrons.	X				
Objective 2 Redesign the Great Highway to enhance its scenic qualities and recreational use.	X				
Policy 2.1 Develop the Great Highway right-of-way as a four lane straight highway with recreational trails for bicycle, pedestrian, landscaping, and parking. Emphasize slow pleasure traffic and safe pedestrian access to beach.	X				
Policy 2.2 Maintain the landscaped recreational corridor adjacent to the development at the former Playland-at-the-Beach site to provide a link between Golden Gate park and Sutro Heights park.	X				
Policy 2.3 Provide for a continuation of the bicycle trail by an exclusive bicycle lane on public streets between the Great Highway and Point Lobos.	X				
Policy 2.4 Improve public access to Ocean Beach from Golden Gate Park by providing a landscaped bridge over vehicular underpass, if funds are not available improve public access by providing grade crossings with signals, walkways, lighting and landscaping.	X				
Policy 2.5 Locate parking for users of Ocean Beach and other coastal recreational areas so that the Great Highway need not be crossed. Provide limited parking east of the highway for park use. Design parking to afford maximum protection to the dune ecosystem.	X				
Policy 2.6 Provide permanent parking for normal use required by beach users in the Great Highway corridor (taking into account the increased accessibility by transit); provide multiple use areas which could be used for parking at peak times, but could be used for recreational uses when not needed for parking.	X				
Policy 2.7 Improve pedestrian safety by providing clearly marked crossings and installing signalization.	X				
Policy 2.8 Enhance personal safety by lighting parking areas and pedestrian crossings.	X				
Policy 2.9 Improve public access to Ocean Beach south of Lincoln Avenue by providing grade crossing with signals and walkways at every other block.	X				X
Objective 3 Enhance the recreational connection between Golden Gate Park and the beach frontage.					X
Policy 3.1 Strengthen the visual and physical connection between the park and beach. Emphasize the naturalistic					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
landscape qualities of the western end of the park for visitor use. When possible eliminate the Richmond-Sunset sewer treatment facilities.					
Policy 3.2 Continue to implement a long-term reforestation program at the western portion of the park.					X
Policy 3.3 Develop and periodically revise a Master Plan for Golden Gate Park to include specific policies for the maintenance and improvement of recreational access in the western portion of the park.					X
Policy 3.4 Rehabilitate the Beach Chalet for increased visitor use.					X
Objective 4 Improve the quality of the zoo and its relationship to the coastal zone recreational system.					X
Policy 4.1 Maintain the landscaped park-like atmosphere of the Zoo.					X
Policy 4.2 Enhance visitor interest in the Zoo by pursuing a specific Zoo Master Plan for modernization and improvement of Zoo facilities and enhancement of the animal collection.					X
Policy 4.3 Allow location of a sewage treatment plant and a pump station to serve the western area of San Francisco on Zoo property. Locate and design the facilities to maximize their joint use by the Zoo.					X
Policy 4.4 Expand the existing Zoo area west toward the Great Highway and south toward Skyline Boulevard.					X
Policy 4.5 Provide a wind berm along the Great Highway for protection and public viewing of Ocean Beach and the Pacific Ocean.					X
Policy 4.6 Enhance the entrance to the Zoo by providing visitor amenities at the northwest corner.					X
Policy 4.7 Provide parking near the entrance to the Zoo for those visitors who cannot reasonably use public transportation.					X
Policy 4.8 Provide for the reasonable expansion of the Recreation Center for the Handicapped for recreation purposes. Accommodate that expansion in a way that will not inhibit the development of either the Zoo or the treatment plant.					X
Objective 5 Preserve the recreational and natural habitat of Lake Merced.					X
Policy 5.1 Preserve in a safe, attractive and usable condition the recreational facilities, passive activities, playgrounds and vistas of Lake Merced area for the enjoyment of citizens and visitors to the city.					X
Policy 5.2 Maintain a recreational pathway around the lake designed for multiple use.					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
Policy 5.3 Allow only those activities in Lake Merced area which will not threaten the quality of the water as a standby reservoir for emergency use.					X
Policy 5.4 As it becomes obsolete, replace the police pistol range on the southerly side of South Lake with recreational facilities.					X
Objective 6 Maintain and enhance the recreational use of San Francisco's Ocean Beach shoreline.					X
Policy 6.1 Continue Ocean Beach as a natural beach area for public recreation.					X
Policy 6.2 Improve and stabilize the sand dunes where necessary with natural materials to control erosion.					X
Policy 6.3 Keep the natural appearance of the beach and maximize its usefulness by maintaining the beach in a state free of litter and debris.					X
Policy 6.4 Maintain and improve the physical condition and appearance of the Esplanade between Lincoln Way and the Cliff House.	X				X
Policy 6.5 Enhance the enjoyment of visitors to Ocean Beach by providing convenient visitor-oriented services, including take-out food facilities.	X				
Policy 6.6 Extend the seawall promenade south to Sloat Boulevard as funds become available.					X
Objective 7 Preserve and restore Sutro Heights Park.					X
Policy 7.1 Continue the use of Sutro Heights Park as a park, preserve its natural features, and retain its quiet neighborhood orientation.					X
Policy 7.2 Restore elements of the historic garden and landscaping and include minor interpretive displays and seating areas.					X
Policy 7.3 Improve access between Golden Gate Park and Sutro Heights Park by providing a new trail system up the south slope of Sutro Heights Park within the La Playa Street right-of-way for equestrians, pedestrians and joggers.					X
Policy 7.4 Protect the natural bluffs below Sutro Heights Park. Keep the hillside undeveloped in order to protect the hilltop landform, and maintain views to and from the park. Acquire the former Playland-at-the-Beach site north of Balboa if funds become available.					X
Objective 8 Maintain the visitor attractiveness of the Cliff House and Sutro Bath Complex.					X
Policy 8.1 Develop the Cliff House/Sutro Bath area as a nature-oriented shoreline park. Permit limited commercial-recreation uses if public ownership is retained and if development is carefully controlled to preserve the natural characteristics of the					X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/Conservation
site.					
Policy 8.2 Restore the Cliff House to its 1909 appearance or, if financially feasible, to an accurate replica of the original 1890 structure.					X
Policy 8.3 Insure hiker safety by providing a clearly marked and well maintained pathway system.					X
Policy 8.4 Redesign parking and vehicular circulation in the area to relieve congestion and provide for the safety of pedestrians crossing Point Lobos.	X				
Policy 8.5 To increase visitor enjoyment, mitigate the noise and air pollution caused by tour buses by relocating bus waiting areas.					X
Objective 9 Conserve the natural cliff environment along Fort Funston.					X
Policy 9.1 Maximize the natural qualities of Fort Funston. Conserve the ecology of entire Fort and develop recreational uses which will have only minimal effect on the natural environment.					X
Objective 10 Retain the open space quality of the Olympic Country Club Area.					X
Policy 10.1 If the private golf course use is discontinued, acquire the area for public recreation and open space, if feasible.					X
Policy 10.2 Maintain the existing public easement along the beach. Encourage the granting of an additional easement by the Olympic Country Club to the National Park Service for public use and maintenance of the sensitive bluff area west of Skyline Boulevard as part of the Golden Gate National Recreation Area.					X
Policy 10.3 Protect the stability of the westerly bluffs by consolidating the informal trails along the bluff area into a formal trail system which would be clearly marked. Coordinate the lateral trail system along the bluff with the San Mateo trail system south of the San Francisco boundary.					X
Objective 11 Preserve the scale of residential and commercial development along the Coastal Zone Area.	X				
Policy 11.1 Preserve the scale and character of existing residential neighborhoods by setting allowable densities at the density generally prevailing in the area and regulating new development so its appearance is compatible with adjacent buildings.	X				X
Policy 11.2 Develop the former Playland-at-the-Beach site as a moderate density residential apartment development with neighborhood commercial uses to serve the residential community and, to a limited extent, visitors to the Golden Gate National Recreation Area.	X				X

General Plan Element Policy/Area Plan Policy	Transportation	Energy Efficiency	Renewable Energy	Waste	Environment/ Conservation
Policy 11.3 Continue the enforcement of citywide housing policies, ordinances and standards regarding the provision of safe and convenient housing to residents of all income levels, especially low- and moderate-income people.	X				
Policy 11.4 Strive to increase the amount of housing units citywide, especially units for low- and moderate-income people.	X				
Policy 11.5 Work with federal and state funding agencies to acquire subsidy assistance for private developers for the provision of low- and moderate-income units.	X				
Policy 11.6 Protect the neighborhood environment of the Richmond and Sunset residential areas from the traffic and visitor impacts from the public using adjacent recreation and open space areas.					X
Policy 11.7 Maintain a community business district along Sloat Boulevard within the Coastal Zone to provide goods and services to residents of the outer Sunset and visitors to the Zoo and Ocean Beach.					X

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## IV. Climate Action Plan Strategies

A greenhouse gas (GHG) reduction strategy must identify actions or categories of actions that, when implemented, will achieve a specified GHG emissions level. As discussed in Section II, future growth in the City is anticipated to increase GHG emissions under a business-as-usual scenario, meaning a scenario in which no action is taken by the City to reduce GHG emissions. As such, the City has developed policies, programs, and ordinances that are anticipated to reduce communitywide GHG emissions. The City's GHG reduction target, for which the *Climate Action Plan* is predicated upon, is based on reducing GHG emissions to 20 percent below 1990 levels by 2012. Although this target has been superseded and made more aggressive by the 2008 Greenhouse Gas Reduction Ordinance, the GHG reduction target set forth in the *Climate Action Plan* is still more aggressive than the GHG reduction target needed for compliance with the BAAQMD's greenhouse gas reduction strategy (specifically Element B).

San Francisco is in a unique position in that the City has already developed a climate action plan and implemented many of these actions. Therefore, this section provides a review of the climate change strategies outlined in the San Francisco *Climate Action Plan*, identifying those strategies that have already been implemented and other strategies that may not have been specifically conceived by the *Climate Action Plan*, but are directly tied to a strategy outlined in the plan. This section, in combination with Sections V and VIII are intended to meet the BAAQMD's requirements of a qualified greenhouse gas reduction strategy, specifically Elements C, D, and E.

The *Climate Action Plan* identifies four primary areas for reducing the City's GHG emissions: transportation, energy efficiency, renewable energy, and solid waste. Within each of these areas, the *Climate Action Plan* identifies and groups actions into subcategories. The *Climate Action Plan* also identifies existing actions within those categories. The *Climate Action Plan* provides an overview of climate change and its potential impacts both globally and locally, identifies San Francisco's existing emissions and reduction targets, and provides an implementation strategy for the actions identified in the *Climate Action Plan*. The implementation strategy identifies specific actions to pursue, implementing agencies, funding sources, and progress indicators.

The purpose of this review is to identify actions that the City has taken in support of the strategies and proposed actions in the San Francisco *Climate Action Plan*. Specifically, the review cites policies, programs, initiatives, and regulations that have been adopted in support of the overall proposed actions identified in the *Climate Action Plan*. The reductions identified in the *Climate Action Plan* are based on accepted reduction assumptions for the entire group of actions within an action category. Many actions that were not originally conceived in the *Climate Action*

*Plan* have been undertaken, and those actions could yield reductions beyond those assumed in the *Climate Action Plan*. Some *Climate Action Plan* actions may have not been undertaken yet, or may have proved to be infeasible or undesirable. In those instances actual reductions in greenhouse gas emissions may be less than the reductions assumed in the *Climate Action Plan*. It is not possible, at this time, to tie a specific action to a numerical greenhouse gas reduction value. Actions that have been implemented in addition to those originally assumed under the *Climate Action Plan* are estimated to the extent feasible.



## IV. I Climate Action Plan Transportation Actions

The *Climate Action Plan* identifies six main action categories for addressing GHGs resulting from the transportation sector. As shown in Table IV-1, these actions are intended to reduce GHG emissions by 963,000 tons per year. Many actions that have been implemented may or may not have been conceived during development of the *Climate Action Plan*. To the extent feasible, additional measures are identified and greenhouse gas reductions are estimated.

**Table IV-1. Climate Action Plan Transportation Actions**

Transportation Action Categories	Estimated CO <sub>2</sub> Reduction (U.S. tons per year)
TRANS-A. Increase the Use of Public Transit as an Alternative to Driving	87,000
TRANS-B. Increase the Use of Ridesharing as an Alternative to Single Occupancy Driving	42,000
TRANS-C. Increase Bicycling and Walking as an Alternative to Driving	10,000
TRANS-D. Support Trip Reduction Through Employer-Based Programs	28,000
TRANS-E. Discourage Driving	155,000
TRANS-F. Increase the Use of Clean Air Vehicles and Improve Fleet Efficiency	641,000
<b>Total</b>	<b>963,000</b>
Source: Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Gas Emissions. San Francisco Department of the Environment and San Francisco Public Utilities Commission. September 2008.	

### TRANS-A. Increase the Use of Public Transit as an Alternative to Driving (Estimated CO<sub>2</sub> Reduction: 87,000 U.S. tons/yr)

The *Climate Action Plan* acknowledges existing public transit systems that provide alternatives to driving, including the San Francisco Municipal Railway (Muni) system and the Bay Area Rapid Transit (BART), Caltrain, Golden Gate Transit, Samtrans, and AC Transit regional transit systems.

The City's Transit First Policy, passed in 1973 and incorporated into the City Charter, gives priority to public transit investments; adopts street capacity and parking policies to discourage increased automobile traffic; and encourages the use of transit, bicycling and walking rather than the use of single-occupant vehicles. The Transit First Policy continues to influence the expenditure of funds in support of alternative modes of transportation.

The City's Downtown Transportation Impact Fee (DTIF), implemented in 1981, funds increases to transit services to meet peak demand generated by new offices in the downtown area. A fee of \$5 per square foot is assessed on new office construction and commercial office space renovation within the downtown district. This fee is paid directly to the Municipal Transit District.

The City's Better Neighborhoods Program has been pursuing transit-oriented development, which includes redevelopment of areas around BART and within already established public transit routes. Under the Better Neighborhoods Program, the Planning Department adopted the following transit-oriented area plans: (1) Market/Octavia Area Plan effective May 30, 2008, (2) Central Waterfront Area Plan effective February 19, 2009; and (3) Balboa Park Area Plan effective April 7, 2009. The Planning Department also adopted three other area plans as part of the Eastern Neighborhoods Area Planning process: the East South of Market Area Plan, the Mission Area Plan, and the Potrero Hill/Showplace Square Area Plan. These area plans, which are designed to alleviate land use conflicts between residential and office use and industrial uses, also integrate transit-oriented development to a high degree. The Planning Department is engaged in two other community-planning processes as part of the Better Neighborhoods Program: the Glen Park Area Plan and the Japantown Area Plan. A variety of other area plans and redevelopment plans that feature, to a large degree, transit-oriented development are also currently underway.

The *Climate Action Plan* anticipates a reduction of 87,000 U.S. tons of carbon dioxide equivalents (CO<sub>2</sub>E) by implementation of TRANS-A.1 through TRANS-A.9, equating to a 2 percent reduction in vehicle miles traveled due to increased transit use.

#### TRANS-A.1: Expand Local Transit Service

The *Climate Action Plan* calls for improving local transit service by increasing frequency and adding new routes. A number of efforts have been underway to expand and enhance local transit service, many of which were not originally envisioned in the *Climate Action Plan*. Much of the information pertaining to transit service in this section is summarized from the draft Climate Action Plan prepared by the San Francisco Municipal Transportation Agency (SFMTA)<sup>1</sup>. This document is included as Appendix E. SFMTA's draft Climate Action Plan is specific to the City's transportation sector GHG emissions.

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<sup>1</sup> *Climate Action Plan, Draft for Public Review*. December 19, 2008. At Page 23. San Francisco Municipal Transportation Agency. This document is available online at: <http://www.sfmta.com/cms/rcap/capindx.htm>. Accessed December 22, 2009.

### Transit Expansions

SFMTA's draft Climate Action Plan identifies the following major infrastructure projects that have been implemented since 1990, designed to expand transit options and improve travel to and within San Francisco:

- The J Church light rail line was extended from Church and 30<sup>th</sup> Streets to Balboa Park in 1993.
- The 31 Balboa route was converted from diesel buses to electric trolley coach service in 1994.<sup>2</sup>
- The F Market historic streetcar line opened from the Castro to the Transbay Terminal in 1994 and was extended to Fisherman's Wharf in 2000.
- The N Judah light rail line was extended from the Embarcadero Station to the Caltrain Station in 1998.
- The T Third light rail line began operation to Visitacion Valley in 2007.
- The Metro East Light Rail maintenance and operations facility opened in 2008 to provide additional space for SFMTA's light rail fleet.

The Central Subway, which will bring the T Third line from South of Market to Downtown, Union Square, and Chinatown, will soon begin construction with an anticipated completion date of 2017. In addition to expanding service on the above identified routes, the SFMTA is undertaking or has undertaken a number of projects and programs, as discussed below.

### Transit Improvements

The SFMTA is in the planning phases for a number of transit improvement projects including:

- St. Francisco Circle Rail Replacement – replacement of track and overhead system;
- Church and Duboce Track Improvement Project – replacement of Muni streetcar tracks; and
- Rail Improvement Project – replacement of rails in the Sunset District.

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<sup>2</sup> More than half of San Francisco Municipal Transit Agency's vehicle fleets are powered by zero GHG emission hydroelectric power, including light rail trains, historic streetcars, cable cars, and electric trolley buses.

### Bus Rapid Transit

The San Francisco County Transportation Authority (SFCTA) is in the planning process for bus rapid transit (BRT) along the Van Ness Avenue corridor and the Geary Street corridor. The Van Ness BRT feasibility study was completed in 2006. Environmental review is currently underway, with construction scheduled for 2011-2012 and anticipated start of service in 2012-2013. The Geary BRT feasibility study was completed in 2007. Environmental review and preliminary engineering is scheduled for 2008–2010, with construction anticipated in 2014 and start of service in 2015 or 2016.

### Transit Effectiveness Program

SFMTA's Transit Effectiveness Project (TEP) is the first comprehensive effort in over 25 years to review Muni service and recommendations for a faster, more reliable and efficient public transit system. The program, which was launched in May 2006, includes two options. The first option would not increase transit service but would reorganize the existing route structure. This option is estimated to increase weekday ridership by 72,000. The second option (enhanced scenario) would improve transit service efficiency, transit connections, and service frequency. Under the enhanced scenario, existing transit service would increase by 25 percent. This scenario would increase weekday ridership by 132,000. The TEP would result in a 9 percent increase in ridership under Option 1 and a 15 percent increase in ridership under Option 2. Option 2 exceeds the anticipated 11 percent increase in transit anticipated under the *Climate Action Plan*.

### Central Subway Project

The Central Subway is a project that will extend the Muni Metro T Third Line through San Francisco, directly linking Chinatown, Union Square, South of Market, and the southeast neighborhoods. This new rail link will contribute to over 17,000 new transit boardings daily. The Central Subway stations are designed using sustainable building practices including material reduction, use of recycled and recyclable materials and energy efficiency. Structural concrete will include fly-ash, post-use glass and porcelain aggregate will be used for floor surfaces, station entrances will make use of daylight, and underground spaces will be lit with energy-efficient light emitting diode (LED) fixtures.<sup>3</sup>

### Transit Preferential Streets – Geneva Avenue Corridor

The Geneva Avenue corridor is a critical link in the southeastern part of the City. Under the Transit Preferential Streets (TPS) program, the Geneva Avenue project is intended to implement a

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<sup>3</sup> *Climate Action Plan, Draft for Public Review*. December 19, 2008. At page 50. San Francisco Municipal Transportation Authority. This document is available online at: <http://www.sfmta.com/cms/rcap/capindx.htm>. Accessed December 21, 2009.

number of potential short- and mid-term improvement measures consistent with long-term development plans for Geneva Avenue. TPS projects have been undertaken in many locations around the City and are a hallmark of the City's transit first policy. TPS projects typically include a number of relatively low-cost measures designed to improve transit reliability, performance, and service.

#### Senior/Disabled Pilot Pass Program

The SFMTA Board of Directors and BART Board of Directors approved the Senior/Disabled Pilot Pass Program to allow senior and disabled customers unlimited access to BART in San Francisco and on all Muni transit services with the purchase of a Muni Senior/Disabled Pilot Pass. Previously, only Muni Adult Fast Pass purchasers were offered unlimited use of BART within the City and County of San Francisco along with all regular transit services available on Muni. The current program will test the functionality, popularity, and potential costs of implementing a similar program for senior and disabled Muni customers.<sup>4</sup>

#### **TRANS-A.2: Increase Funding for Major Local Service Improvements**

The *Climate Action Plan* cites Muni's Vision for Rapid Transit.<sup>5</sup> This document outlines several major long-term projects including bus rapid transit features (underway as discussed above) and signal priority on heavily traveled corridors. Signal Priority gives transit priority over other vehicles at signalized locations to improve the efficiency of Muni's transit service. Transit signal priority has been implemented extensively along the Third Street light rail, Mission Street, and Geary Street corridors and is being studied for implementation along other prioritized transit corridors.

#### **TRANS-A.3: Expand and Improve Regional Service and Connections**

The *Climate Action Plan* calls for improved regional transit services, such as extended service hours, increased frequency, and new routes among regional transit agencies. A number of regional transit improvements have been implemented and these are discussed below. Additionally, the City is constructing the new Transbay Transit Center.

#### Transbay Transit Center

The Transbay Transit Center project consists of three interconnected elements: (1) replacing the existing Transbay Terminal building with a new Transbay Transit Center, (2) extending Caltrain 1.3 miles from Fourth and King Streets into the new Transbay Transit Center at 1<sup>st</sup> and Mission

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<sup>4</sup> More information about this program is available online at:  
<http://www.sfmta.com/cms/mpilotpass/pilotover.htm>. Accessed December 22, 2009.

<sup>5</sup> *A Vision for Rapid Transit in San Francisco*. San Francisco Municipal Railway. This document is available online at: <http://www.sfmta.com/cms/rprinit/visindx.htm>. Accessed December 16, 2009.

Streets, with accommodations for future high speed rail, and (3) creating a new transit-friendly neighborhood with 3,400 new homes (35 percent of which will be affordable), and mixed-use commercial development. The Transbay Transit Center architecture and engineering design phase is scheduled to take place between 2008 and 2012; Phase I (temporary terminal and transit center building) construction is set to occur between 2008 and 2014; and Phase II (downtown rail extension) construction is to take place from 2012 to 2019.

#### Bay Area Rapid Transit Improvements

BART extensions are being built in Warm Springs, East Contra Costa County, Livermore, and Santa Clara County. The Warm Springs Extension will add 5.4 miles of new tracks from the existing Fremont Station south to a new station in the Warm Springs District of the City of Fremont. The East Contra Costa County Extension will provide transportation solutions along the highly congested Highway 4 corridor. Pursuant to CEQA, BART released a Draft Program Environmental Impact Report (DPEIR) on November 5, 2009 for enhanced rail service in eastern Alameda County. Service is proposed to follow an alignment originating in the Interstate 580 median at the existing Dublin/Pleasanton BART Station and traveling eastward to the City of Livermore through the Tri-Valley. Nine different alignment, station, and maintenance facility combinations have been defined and are analyzed in the DPEIR. On June 22, 2003, BART opened the new line to the San Francisco International Airport. The line includes the South San Francisco Station, located on El Camino Real between Costco and Kaiser Hospital; the San Bruno Station, located at the Tanforan Shopping Center; and the Millbrae station, located on Millbrae Avenue between Highway 101 and El Camino Real.

#### Other Regional Transit Improvements

SFMTA's draft Climate Action Plan (2008) states that regional providers have improved transit connections between San Francisco and other parts of the Bay Area, specifically citing BART extensions from Bay Fair to Dublin/ Pleasanton, from Concord to Pittsburg/Bay Point, and from Daly City to the San Francisco International Airport and Millbrae, and Caltrain's Baby Bullet express.

#### **TRANS-A.4: Develop Regional Pass System**

The San Francisco *Climate Action Plan* (SFCAP) identifies the regional pass system, Translink,<sup>6</sup> as the appropriate mechanism for facilitating intersystem transfers and encouraging regional transit. Translink is now accepted on Muni, BART, AC Transit, Golden Gate Transit, and Caltrain. Translink accepts a variety of commuter benefit cards, making it flexible for interregional travel.

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<sup>6</sup> Translink ® has recently changed to Clipper®.

**TRANS-A.5: Improve Safety, Customer Service and User-friendliness of Muni**

The SFCAP calls for attracting more riders with additional bus shelters, benches, improved lighting and street level designation of routes and stops, and improved customer service. The following discusses the City's progress towards meeting this action.

**Muni Customer Service**

In addition to the SFMTA customer service center, customer service is provided by 311, the City's one-stop shop for city information and requests, and 511, a free phone and web-based service that consolidates transportation information for the nine-county Bay Area.

**Transit Amenities**

The City is currently in the process of installing 1,100 new bus shelters that are being installed between 2009 through 2013. The new bus shelters are embedded with photovoltaic cells that power the LEDs and are expected to pump the excess electricity they generate back into the city's electric grid. The LED lights being used in the new bus shelters are four and a half time more efficient than the fluorescent lighting of the old bus shelters and use about 74.4 watts as opposed to 336 watts. Steel used to create the structures are made of 75 percent recycled material and the polycarbonate roof is 40 percent post-industrial recycled materials.<sup>7</sup>

According to the California Air Pollution Control Officers (CAPCOA) white paper *CEQA and Climate Change* (2008), research indicates that providing bus shelters for existing/planned transit service could result in a 1 to 2 percent reduction of GHG emissions.<sup>8</sup>

**Transit Effectiveness**

SFMTA's *SFgo* program is a new integrated transportation management system that includes implementation of various programs to make the city's streets more effective and safer through the use of technologies and strategies. The program is consistent with the City's transit first policy by helping to preserve and enhance the City's alternative modes of transportation by programming traffic signals that respond to the actual volume of traffic on a roadway, faster response times for incident clearing, real-time travel information, and improved coordination among all modes of transportation. Initiatives being developed under the *SFgo* system include:

- Communications System Infrastructure – expands fiber optic network;

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<sup>7</sup> "Solar Bus Shelters for San Francisco." Candice Lombardi. Planetary Gear. June 4, 2009. This article is available online at: [http://news.cnet.com/8301-17912\\_3-10257192-72.html](http://news.cnet.com/8301-17912_3-10257192-72.html). Accessed December 16, 2009.

<sup>8</sup> *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. January 2008. At Page B-5. California Air Pollution Control Officers Association (CAPCOA). This document is available online at: <http://www.capcoa.org/CEQA/CAPCOA%20White%20Paper.pdf>. Accessed December 17, 2009.

- Transit Signal Priority – gives transit priority over cars at signalized locations;
- Bicycle and Pedestrian Improvements – monitors street congestion and traffic;
- Real-Time Traveler Information – shares traffic information with the public;
- Special Events and Incident Management – monitors changes to traffic conditions;
- Emergency Management – develops emergency response plans; and
- Parking Guidance System – operates variable message signs to assist drivers.<sup>9</sup>

**TRANS-A.6: Implement “Smart Bus” Technology**

This action calls for implementation of Smart Bus technology. NextBus provides real time arrival information for transit riders. Popular Muni bus stops have been equipped with electronic signs to give real time arrival information. NextBus technology is also available online and for internet-capable cell phones and other personal digital assistants.

**TRANS-A.7: Increase Marketing and Promotion of Public Transit**

The *Climate Action Plan* calls for increasing marketing of public transit through 511 and 511 Take Transit Trip Planner. These services are now currently provided by the Metropolitan Transportation Commission (MTC).

**TRANS-A.8: Expand the Transportation Impact Fee Assessment**

The *Climate Action Plan* calls for the expansion of the transportation impact fee to all downtown commercial space that benefits from transit, and not just new construction. Although existing downtown commercial space has not been required to pay a transportation impact fee, the fee has been expanded both geographically and by use.

In April of 1981, the San Francisco Board of Supervisors passed an ordinance to collect a transit impact development fee (TIDF, Chapter 38, Sections 38.1-38.14 of the Administrative Code). The 1981 TIDF ordinance collected transit fees only for new office space in the downtown area. In 2004, the TIDF ordinance was replaced to include all proposed non-residential uses in San Francisco. San Francisco has collected over \$126 million in TIDF fees since its inception in 1981.<sup>10</sup> Table IV-2 identifies the TIDF fee schedule.

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<sup>9</sup> More information on SFMTA’s SFgo program is available at: <http://www.sfmta.com/cms/ogo/indexsfgo.htm>.

<sup>10</sup> *Downtown Plan Monitoring Report, 2002-2007*. October 2009. At page 24. San Francisco Planning Department. This document is available online at:



**Table IV-2. Transit Impact Development Fee Schedule**

<b>Economic Activity Category</b>	<b>TIDF/ GSF of Development</b>
Office Space in New Development in the Downtown Area	\$5.00
Cultural/Institution/Education	\$10.00
Management, Information and Professional Services	\$10.00
Medical and Health Services	\$10.00
Production/Distribution/Repair	\$8.00
Retail/Entertainment	\$10.00
Visitor Services	\$8.00
<i>Source: Administrative Code, Chapter 38, Section 38.1-38.14.</i>	

**TRANS-A.9: Create a Free Tourist Shuttle System**

This action identified in the *Climate Action Plan* advocates a free tourist shuttle system to eliminate vehicle trips and parking needs at popular destinations.

**Culture Bus**

On September 20, 2008, Muni launched the 74X route, or “CultureBus,” which had stops to the newly reopened California Academy of Sciences, the M.H. de Young Memorial Museum, the Asian Art Museum, Union Square, the San Francisco Museum of Modern Art, the Contemporary Jewish Museum, and the arts-rich Yerba Buena neighborhood. Buses ran every 20 minutes from 8:40 a.m. to 5:50 p.m. daily. The service was not offered for free; the fare was \$7 all day and included on-and-off privileges and discounted admission to select museums. The fare was \$3 for regular Muni Fast Pass holders.

Officials hoped to attract between 168,000 to 250,000 riders annually with an average of 20 to 30 boardings per bus. Advertising was expected to boost revenues by several hundred thousand dollars. The annual budget for the pilot project is \$1.6 million (Muni’s total annual budget is \$780 million); however, due to low ridership, the line was discontinued in August 2009.

**Golden Gate Park Shuttle Bus**

The Golden Gate Park Concourse Authority operated a free intra-park shuttle bus in Golden Gate Park between May and October from 2001–2004. The shuttle program was funded by BAAQMD Clean Air Program grants and by the Concourse Authority. The free shuttle service ended when the grant funds ended.

[http://www.sfgov.org/site/uploadedfiles/planning/Citywide/pdf/Downtown\\_Monitoring\\_Report\\_5-Year\\_2008.pdf](http://www.sfgov.org/site/uploadedfiles/planning/Citywide/pdf/Downtown_Monitoring_Report_5-Year_2008.pdf). Accessed December 16, 2009.

**TRANS-B: Increase the Use of Ridesharing as an Alternative to Single Occupancy Driving  
(Estimated CO<sub>2</sub> Reduction: 42,000 U.S. tons/yr)**

The *Climate Action Plan* acknowledges existing carpool programs including RIDES and Casual Carpool. RIDES is a rides-matching referral service for carpoolers and Casual Carpool is an informal carpool program that serves the East Bay. High occupancy vehicle (HOV) lanes facilitate incentives for ridesharing, as does preferential parking. The City provides vanpool parking permits for \$74 per year and allows carpools to park for free at fee meters in three locations in the City. City-owned garages provide discounted parking for carpools.

**TRANS-B.1: Increase the Number of Miles of HOV lanes**

Ridesharing is facilitated by the presence of HOV lanes. This action in the *Climate Action Plan* advocates for increasing the number of HOV lanes within the San Francisco Bay region. San Francisco does not have any designated HOV lanes on freeways, but the City does have designated carpool lanes in the downtown area to access the Bay Bridge. The San Francisco Bay region freeway network is made up of 620 miles of freeway and over 800 miles of state highway, with 370 miles of HOV lanes.<sup>11</sup> The website 511.org provides information on regional HOV lanes.

**TRANS-B.2: Expand Carpool and Vanpool Designated Parking**

This action calls for increasing the City's carpool programs primarily through employer outreach. The Department of the Environment (SF Environment) provides carpool and vanpool information on their website.<sup>12</sup> The website 511.org also provides information on vanpooling and a ridematch service.

**Vanpool and Carpool Incentives Offered by San Francisco**

According to 511.org, there are 142 registered vanpools with San Francisco destinations and 22 registered carpools that originate in San Francisco. Vanpools with annual parking permits (\$74 per year) are allowed to park in metered parking spaces with time limits of one hour or more without paying the parking meter. A similar program is available for carpools. SFMTA issues 52 on-street carpool parking permits a year with three on-street carpool parking areas throughout the City.

SFMTA operates 20 parking garages in San Francisco. Seventeen of these parking garages provide reduced monthly parking rates for carpools. Carpools must have at least three persons per car, with parking rates at about half the regular monthly parking rates. Currently 140

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<sup>11</sup> "Bay Area Transportation: State of the System 2008." 2008. San Francisco Metropolitan Transportation Commission. This document is available online at:

[http://www.mtc.ca.gov/library/state\\_of\\_the\\_system/2008/system\\_in\\_brief.pdf](http://www.mtc.ca.gov/library/state_of_the_system/2008/system_in_brief.pdf). Accessed December 16, 2009.

<sup>12</sup> [http://www.mtc.ca.gov/library/state\\_of\\_the\\_system/2008/system\\_in\\_brief.pdf](http://www.mtc.ca.gov/library/state_of_the_system/2008/system_in_brief.pdf).

carpools take advantage of the monthly carpool rate citywide.<sup>13</sup> SFMTA also operates four garages that allow for reduced parking rates for carshare. There are currently 34 carshare vehicles using these garages. Reduced rate motorcycle parking is also provided at eight SFMTA-operated garages.

Carpooling is incentivized by Casual Carpool, a program for persons carpooling from the East Bay. SFMTA provides carpool drop off zones on Howard Street between Fremont and First Street. Casual carpool pick-up points are provided on Beale Street between Howard and Folsom Streets. Approximately 200 casual carpools are formed each weekday in the PM commute.

#### **TRANS-B.3: HOV Requirements in New Large Developments**

This action calls for including requirements for high-occupancy vehicles in new large developments. While San Francisco does not have any designated HOV lanes, Section 151 and 166 of the Planning Code identifies requirements for carpool, vanpool, and carshare.

Pursuant to Section 151.1(f)(3)(A) of the Planning Code, projects in most of San Francisco's mixed-use districts and transit-oriented zoning districts that provide more than 10 spaces for non-residential uses must dedicate 5 percent of these spaces to short-term transient use by vehicles from certified carshare organizations, vanpool, rideshare, taxis, or other cooperative auto programs. These spaces are in addition to the carshare spaces required under Section 166 of the Planning Code.

#### **TRANS-B.4: Implement School Ridesharing Program**

This action would introduce a program to assist parents in forming carpools to drop off and pick up children from school. It is unclear at this time whether San Francisco has formally introduced a program to assist carpooling of school children; however, San Francisco has initiated the SF Safe Routes to School Program. The program is funded by a grant from Caltrans and will increase the number of elementary school students who walk or bike to school by implementing an integrated set of services and supports at five target elementary schools across the San Francisco Unified School District (SFUSD) in the 2009–10 school year and 15 elementary schools in the 2010–2011 school year. The Safe Routes to School program identifies that as much as 21 percent of morning traffic is generated from parents driving their children to school. Increasing the number

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<sup>13</sup> *Climate Action Plan, Draft for Public Review*. December 19, 2008. At page 31. San Francisco Municipal Transportation Authority. This document is available online at: <http://www.sfmta.com/cms/rcap/capindx.htm>. Accessed December 21, 2009.

of school-age students who walk or bike to school will reduce vehicle emissions generated by parents who drive their children to school.<sup>14</sup>

**TRANS-B.5: Increase Marketing and Promotion of Ridesharing**

SF Environment maintains a webpage dedicated to promoting ridesharing within the San Francisco Bay Region. The website includes useful information, a number to call for additional information, and a link to the regional 511.org RideMatch program.<sup>15</sup>

**TRANS-C: Increase Bicycling and Walking as an Alternative to Driving (Estimated CO<sub>2</sub> Reduction: 10,000 U.S. tons/yr)**

The *Climate Action Plan* reports that in 2004, the City had approximately 205 miles of bike lanes, paths, and routes within the designated bicycle network. The *Climate Action Plan* cites measures the City had been implementing to improve bicycle safety, including installing video cameras at traffic lights to record red light violations. Working with the San Francisco Bicycle Coalition, the City developed a bicycle safety brochure for distribution. The San Francisco Department of Parking and Traffic continues to facilitate bicycle riding by installing nearly 300 bicycle racks annually, and many City-owned buildings and parking garages include secure bicycle parking.

Since completion of the *Climate Action Plan*, the City has prepared two guiding documents to address the bicycle and pedestrian environment. In June 2009, the City adopted the San Francisco Bicycle Plan to address the bicycle network, and the City has prepared a draft Better Streets Plan to address the pedestrian realm. The Better Streets Plan is anticipated for adoption in 2010.

**TRANS-C.1: Continue to Increase the Number of Bicycle Lanes, Routes, and Paths**

San Francisco Bicycle Plan

On June 26, 2009, the SFMTA voted to adopt the 2009 San Francisco Bicycle Plan and approved 45 bicycle network improvement projects. The Bicycle Plan is a five-year master plan and ambitious roadmap meant to increase bicycle travel, safety, and convenience. The Bicycle Plan outlines 60 near-term improvements to the Citywide Bike Network, as well as long-term opportunities for bike route upgrades. The Bicycle Plan addresses not only new travel routes but also bicycle facilities and safety improvements.<sup>16</sup>

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<sup>14</sup> More information on the City's Safe Routes to School Program can be found online at: <http://www.sfbike.org/?saferoutes>. Accessed August 3, 2010.

<sup>15</sup> More information is provided by the San Francisco Department of the Environment online at: [www.sfenvironment.org](http://www.sfenvironment.org). Accessed August 3, 2010.

<sup>16</sup> A complete list of Bicycle Plan goals, objectives and actions are available online at: <http://www.sfmta.com/cms/bproj/bikeplan.htm>.

The City has implemented many Bicycle Plan projects to date including striping over 40 miles of bicycle lanes, creating 23 miles of bicycle paths, posting 82 miles of signaled bicycle routes, and painting 1,250 shared lane markings (sharrows).<sup>17</sup>

According to CAPCOA's *CEQA and Climate Change*, policies and programs included in the Bicycle Plan could yield significant reductions in vehicle miles traveled. Bicycle parking could provide greenhouse gas emissions reductions on the order of 1 to 5 percent; end of trip facilities, such as secure bicycle parking, could result in additional reductions.<sup>18</sup>

#### **TRANS-C.2: Continue to Improve Safe Access and Passage on Pedestrian Walkways**

The SFMTA funds the Pedestrian Program, with the mission to promote walking as a sustainable and healthy mode of transportation and to reduce pedestrian collisions in San Francisco. Pedestrian Program projects focus on safety, accessibility, and convenience. Pedestrian Program projects are mainly funded through a half-cent sales tax for transportation improvements, approved by voters as Proposition K in 2003.<sup>19</sup> Pedestrian Program projects include the Better Streets Plan, pedestrian traffic signals, and accessible pedestrian signals, discussed below.

##### **Better Streets Plan**

The San Francisco Planning Department, in collaboration with SFMTA, the Department of Public Works, and the SFPUC, has prepared a draft plan, the Better Streets Plan, to address improvements to the pedestrian realm. The Better Streets Plan presents a vision for the future of San Francisco's pedestrian environment and would involve adoption of a set of citywide streetscape and pedestrian policies and guidelines to help accomplish this vision. The objectives and policies in the Better Streets Plan are designed to promote walking as an alternative to driving. The policies also encourage sustainable streetscape design. The Better Streets Plan is intended as the policy document that defines how the streetscape will be improved into the future.

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<sup>17</sup> *Climate Action Plan, Draft for Public Review*. December 19, 2008. At page 28. San Francisco Municipal Transportation Authority. This document is available online at: <http://www.sfmta.com/cms/rcap/capindx.htm>. Accessed December 21, 2009.

<sup>18</sup> *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. January 2008. At Page B-1. California Air Pollution Control Officers Association (CAPCOA). This document is available online at: <http://www.capcoa.org/CEQA/CAPCOA%20White%20Paper.pdf>. Accessed December 17, 2009.

<sup>19</sup> *Climate Action Plan, Draft for Public Review*. December 19, 2008. At page 29. San Francisco Municipal Transportation Authority. This document is available online at: <http://www.sfmta.com/cms/rcap/capindx.htm>. Accessed December 21, 2009.

Major concepts of the Better Streets Plan include distinctive, unified streetscape design; space for public life; enhanced pedestrian safety; improved street ecology; universal design; integration of pedestrians with transit; creative use of parking lanes; traffic calming to reduce speeding and to enhance pedestrian safety; pedestrian-priority designs, and extensive greening. The Better Streets Plan is currently in the environmental review phase and is anticipated to be adopted in 2011

#### Pedestrian Traffic Signals

A pedestrian traffic signal pilot project conducted in 2001 tested the effectiveness of pedestrian countdown signals, with positive results. Pedestrian countdown signals provide clearer information of the amount of time left to cross the street safely. According to SFMTA's draft Climate Action Plan, as of November 2008, 755 intersections are equipped with pedestrian countdowns for all crossings, 179 intersections have countdowns for some crossings, 179 intersections have no countdown signals, and 50 intersections will include new countdown crossing signals as part of upcoming projects. Countdown signals have been shown to reduce pedestrian collisions by 25 percent.<sup>20</sup>

#### Accessible Pedestrian Signals

According to the SFMTA's draft Climate Action Plan, currently 54 intersections are equipped with accessible pedestrian signals (APS). SFMTA is designing APS devices for another 60 intersections, with intentions of expanding the program in future years.

In addition to SFMTA's Pedestrian Program, a pedestrian improvement program for Golden Gate Park is underway. A final plan for addressing pedestrian improvements has been completed with a range of projects to be implemented.

According to CAPCOA's *CEQA and Climate Change*, policies and programs included in SFMTA's Pedestrian Program and Golden Gate Park pedestrian improvements could result in significant reductions in greenhouse gas emissions. CAPCOA identifies improvements to the pedestrian network as resulting in a 1 to 10 percent reduction in greenhouse gases. Minimizing pedestrian barriers, which are addressed in the Better Streets Plan, would also be identified as a mitigation measure, with emissions reductions not quantified. Traffic calming features, which are called for in the Better Streets Plan, could also yield a greenhouse gas reduction of 1 to 10 percent.<sup>21</sup>

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<sup>20</sup> Ibid.

<sup>21</sup> *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. January 2008. At Pages B-5 & B-7. California Air Pollution Control Officers Association (CAPCOA). This document is available online at: <http://www.capcoa.org/CEQA/CAPCOA%20White%20Paper.pdf>. Accessed December 17, 2009.

**TRANS-C.3: Improve Bicycle Access to Transit**

A primary goal of the Bicycle Plan is to expand bicycle accessibility to transit service and local and regional bridges. The Bicycle Plan specifically addresses bicycle access to transit, both in the City and among regional transit providers. In an effort to support this goal, the Bicycle Plan identifies the following recommendations:

- Create an SFMTA policy explicitly permitting folded bicycles on all transit vehicles.
- Install bicycle racks on all SFMTA-operated buses and work with other regional transit operators to do the same.
- Develop a pilot program to provide bicycle access to SFMTA light rail vehicles for a trial period that would be monitored for potential future implementation.
- Work with BART to identify expanded bicycle access times and to develop a trial program allowing non-folding bicycle access in both directions on peak-period transbay trains.
- Expand bicycle access on Caltrain and to its San Francisco stations by promoting bicycling to stations and by providing secure bicycle parking.
- Promote bicycle parking stations at major transit hubs that provide secure, monitored bicycle parking, commuter information, and bicycle maintenance services; ensure that all San Francisco transit stations, including the new Transbay Terminal, provide barrier-free bicycle access and state-of-the-art bicycle parking; work with the California High-Speed Rail Authority to ensure bicycle accommodations on long-distance trains.
- Work with San Francisco Bay Area transit operators and the MTC to develop, implement and enforce improved intermodal bicycle access.
- Work with Caltrans and the Golden Gate Bridge Highway and Transportation District to provide improved bicycle access to and on San Francisco bridges where feasible and appropriate.

**TRANS-C.4: Continue to Improve and Expand Bicycle Parking Facilities**

The *Climate Action Plan* advocates for more bicycle parking facilities. Bicycle parking is addressed in the San Francisco Planning Code and in the Bicycle Plan, as discussed below.

Planning Code

Planning Code Sections 155.1, 155.2, 155.4, and 155.5 require bicycle parking for city-owned and leased buildings, city-owned parking garages, privately owned parking garages, new and renovated commercial buildings, and residential uses. Table IV-3 lists the Planning Code requirements for bicycle parking.

**Table IV-3. Planning Code Bicycle Parking Requirements**

Planning Code	Use	Requirement
155.1	City-owned and leased buildings	<p>Class 1 and 2 Bicycle Parking Spaces</p> <p>Class 1 Requirements:</p> <p>(A) Provide two spaces in buildings with 1-20 employees.</p> <p>(B) Provide four spaces in buildings with 21 to 50 employees.</p> <p>(C) In buildings with 51 to 300 employees, provide bicycle parking equal to at least five percent of the number of employees at that building, but no fewer than five bicycle spaces.</p> <p>(D) In buildings with more than 300 employees, provide bicycle parking equal to at least three percent of the number of employees at that building, but no fewer than 16 bicycle spaces.</p> <p>In addition to the Class 1 bicycle parking spaces provide Class 2 bicycle parking.</p> <p>Class 2 Requirements:</p> <p>(A) In buildings with one to 40 employees, at least two bicycle parking spaces shall be provided.</p> <p>(B) In buildings with 41 to 50 employees, at least four bicycle parking spaces shall be provided.</p> <p>(C) In buildings with 51 to 100 employees, at least six bicycle parking spaces shall be provided.</p> <p>(D) In buildings with more than 100 employees, at least eight bicycle parking spaces shall be provided. Wherever a responsible City official is required to provide eight or more Class 2 bicycle parking spaces, at least 50 percent of those parking spaces shall be covered.</p>
155.2	Parking garages	<p>(A) Every garage will supply a minimum of six bicycle parking spaces.</p> <p>(B) Garages with between 120 and 500 automobile spaces shall provide one bicycle space for every 20 automobile spaces.</p> <p>(C) Garages with more than 500 automobile spaces shall provide 25 spaces plus one additional space for every 40 automobile spaces over 500 spaces, up to a maximum of 50 bicycle parking spaces.</p>
155.4	New and renovated commercial buildings	<p>Professional Services:</p> <p>(A) Where the gross square footage of the floor area is between 10,000-20,000 feet, 3 bicycle spaces are required.</p> <p>(B) Where the gross square footage of the floor area is between 20,000-50,000 feet, 6 bicycle spaces are required.</p> <p>(3) Where the gross square footage of the floor area exceeds 50,000 square feet, 12 bicycle spaces are required.</p> <p>Retail Services:</p> <p>(A) Where the gross square footage of the floor area is between 25,000 square feet - 50,000 feet, 3 bicycle spaces are required.</p> <p>(2) Where the gross square footage of the floor area is between 50,000</p>



Planning Code	Use	Requirement
		square feet- 100,000 feet, 6 bicycle spaces are required. (3) Where the gross square footage of the floor area exceeds 100,000 square feet, 12 bicycle spaces are required.
155.5	Residential	(A) For projects up to 50 dwelling units, one Class 1 space for every 2 dwelling units. (B) For projects over 50 dwelling units, 25 Class 1 spaces plus one Class 1 space for every 4 dwelling units over 50.
Source: San Francisco Planning Code Sections 155.1, 155.2, 155.4, and 155.5.		

### Bicycle Plan

The second goal of the Bicycle Plan is to ensure sufficient and secure bicycle parking. In support of this goal, the Bicycle Plan calls for a number of changes to the Planning Code, including the following:

- Consolidate Sections 155.1 through 155.5 to provide clearer regulation, guidance, and exemptions related to bicycle parking.
- Modify Planning Code requirements for bicycle parking so they are less dependent on automobile parking provisions; increase required bicycle parking in new residential developments.
- Limit the number of automobile parking spaces required where Class I bicycle parking is provided; require bicycle parking in individual buildings in large, multiple-building developments; and require building owners to allow tenants to bring bicycles into buildings unless Class I bicycle parking is provided.

The Bicycle Plan also calls for the following strategies to increase bicycle parking:

- Increase monitoring and enforcement of bicycle parking provisions, especially when issuing building permits.
- Pursue a citywide policy providing secure bicycle parking at all City buildings; ensure that all City leases are negotiated to include required levels of bicycle parking.
- Develop an SFMTA bicycle parking outreach campaign in various formats alerting bicyclists to relevant information, such as garage locations with bicycle parking and bicycle locker availability.

- Work with the responsible San Francisco agencies to ensure that all garage bicycle parking is secure, well monitored, and advertised at garage entrances and other appropriate locations.
- Work with responsible agencies to prepare additional guidelines for the placement and design of bicycle parking within City rights-of-way, including curbside on-street parking where feasible and sleeve rings on parking meters.
- Work with the San Francisco Police Department to make bicycle theft a higher priority and to create a more efficient system for the return of recovered bikes to their owners.

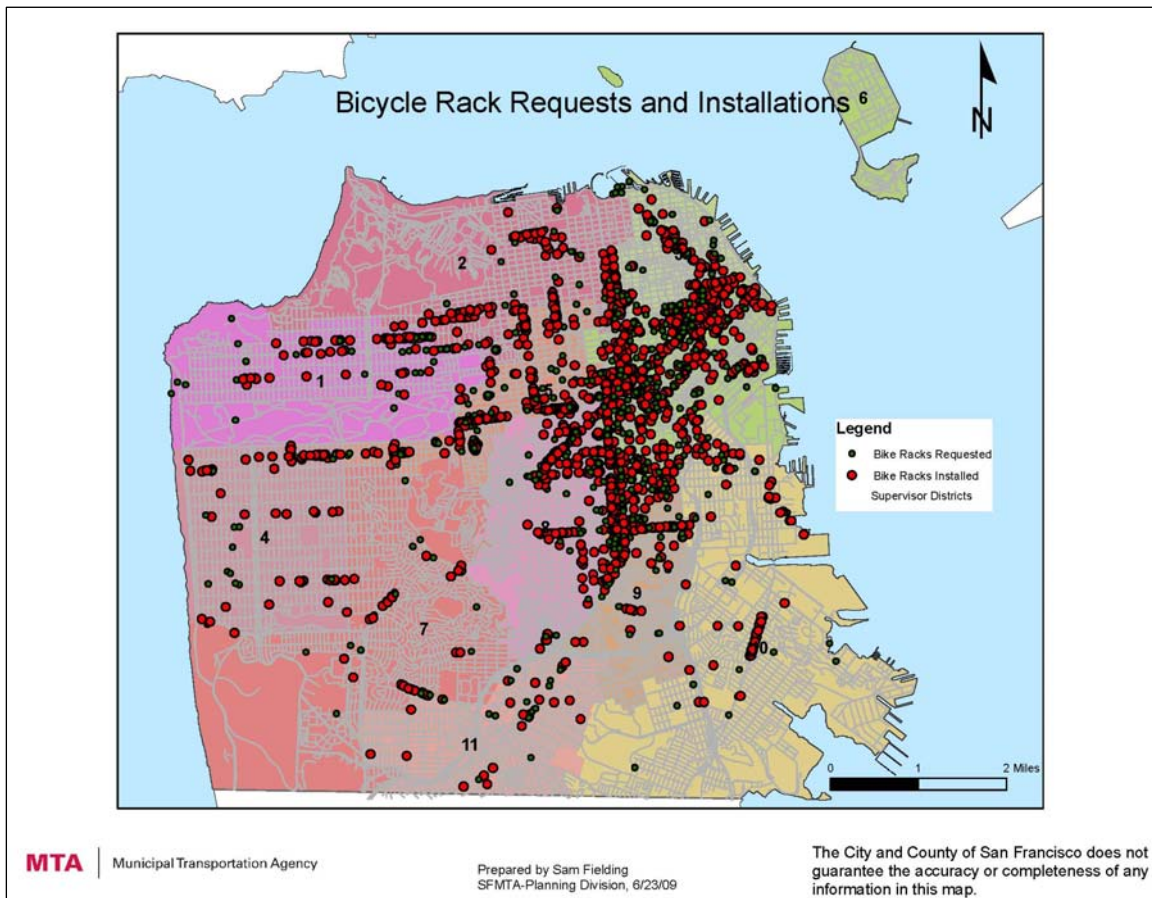
The City also has a Request a Rack program, spearheaded by SFMTA. San Franciscans can request a bicycle rack near them, and if needed, they will be installed by SFMTA. Figure IV-1 identifies citywide bicycle racks that have been installed under the Request a Rack program.<sup>22</sup>

#### **TRANS-C.5: Increase Workplace Shower Facilities for Bicyclists**

The *Climate Action Plan* advocates for increased workplace shower facilities for bicycles. The San Francisco Planning Code requires shower facilities under Article 1.5, Section 155.3 of the Planning Code. Shower facilities and lockers are required in new commercial and industrial buildings and existing buildings undergoing major renovations. Requirements for the number of shower facilities vary based on use and buildings size. Shower facilities are generally required for buildings exceeding 10,000 square feet for personal service uses, and 25,000 square feet for retail establishments.

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<sup>22</sup> Figure IV-1. Bicycle Rack Requests and Installations is available at the San Francisco Municipal Transportation Agency website at:  
[http://www.sfmta.com/cms/bpark/documents/Bicycle\\_Rack\\_Requests\\_and\\_Installations\\_06.23.2009.pdf](http://www.sfmta.com/cms/bpark/documents/Bicycle_Rack_Requests_and_Installations_06.23.2009.pdf).  
Accessed December 17, 2009.

**Figure IV-1. Bicycle Rack Requests and Installations**

Source: San Francisco Municipal Transportation Agency, 2009.

#### TRANS-C.6: Increase Marketing and Promotion of Bicycling

The *Climate Action Plan* advocates for increased marketing and promotion of bicycling. This action is addressed in the City's Bicycle Plan and on the websites of several City departments.

##### San Francisco Bicycle Plan

Goal four of the City's Bicycle Plan aims to increase bicycle safety education and goal six seeks to promote and encourage safe bicycling. Strategies for promoting bicycling include:

- Promote the benefits of bicycling to diverse age, income and ethnic populations.
- Work with SF Environment, the Department of Public Health and other City agencies to formalize bicycle education and promotion by developing partnership agreements with SFMTA; work with all City agencies to expand bicycle incentive programs for City employees to serve as a model for other San Francisco employers; encourage and promote bicycle-related businesses in San Francisco.

- Conduct a feasibility study for a public bicycle sharing program including any required environmental review.

#### San Francisco Websites

SF Environment maintains a webpage containing information on bicycling within San Francisco and throughout the region.<sup>23</sup> The website provides a walking and biking map of the City, a bicycle guide, bicycle safety information, links to Caltrans and 511 bicycle resources, information on San Francisco's Request a Rack program, information for commuting by bicycle, and resources for City employees.

The SFMTA also maintains a webpage containing information on bicycling within San Francisco.<sup>24</sup> This website provides information on bike safety, bicycle parking and commuting resources.

#### **TRANS-D: Support Trip Reduction through Employer-Based Programs (Estimated CO<sub>2</sub> Reduction: 28,000 U.S. tons/yr)**

The *Climate Action Plan* identifies existing employer-based outreach programs that support vehicle trip reduction. These include City CarShare and Planning Code requirements for commercial buildings in C-3 zoning districts, which requires on-site transportation management services and a transportation management coordinator.

##### **TRANS-D.1: Expand Employer Commute Assistance and Outreach**

The *Climate Action Plan* calls for increased employer commute assistance. SF Environment maintains a webpage dedicated to providing information on employer commute assistance. Information is provided for City and County employees and for businesses in San Francisco. The San Francisco business commuter program includes information on bicycling, commuter benefits, ridesharing, an emergency ride home program, and carsharing. SF Environment provides free outreach and technical services to San Francisco businesses. The City and County employee commuter program includes these benefits in addition to a city bike fleet and telecommuting options.

##### **TRANS-D.2: Implement Countywide Guaranteed Ride Home Program**

The Emergency Ride Home program has been implemented and is an elective program available to all businesses in San Francisco. The Emergency Ride Home program allows those commuting

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<sup>23</sup> San Francisco Department of the Environment. Bicycling. Website: [http://www.sfenvironment.org/our\\_programs/interests.html?ssi=7&ti=18&ii=38](http://www.sfenvironment.org/our_programs/interests.html?ssi=7&ti=18&ii=38). Accessed December 17, 2009.

<sup>24</sup> San Francisco Municipal Transportation Agency. Bike. Website: <http://www.sfmta.com/cms/bhome/homebikes.htm>. Accessed December 22, 2009

by alternative transportation to be reimbursed for taxi, rental car, or city carshare charges in case of emergency. Emergencies include instances of illness, a vanpool or carpool becoming unavailable, bicycle problems, and when an employee is unexpectedly required to work late.<sup>25</sup> As of February 2009, over 60,000 commuters are signed up for the Emergency Ride Home program.<sup>26</sup>

#### **TRANS-D.3: Conduct General Marketing and Promotion of Commuter Services**

The SF Environment maintains a webpage providing valuable information on commuter benefits. See TRANS-D.1, above.

#### **TRANS-D.4: Expand Employer Transportation Management Requirements**

The *Climate Action Plan* advocates for expanding the city's transportation management requirements for existing developments. The City's Planning Code requirements for Transportation Management Programs were expanded in 2008, and a new ordinance was passed in 2009 to require that all employers provide transportation benefits to its employees. See discussion below.

#### Planning Code Requirements

The City's Planning Code requirements for transportation management programs were expanded in 2008 to apply to heavy commercial districts (C-3), Eastern Neighborhoods mixed-use districts, and South of Market mixed-use districts. Planning Code Section 163 requires buildings of a certain size to provide on-site transportation brokerage services for the actual lifetime of the project.

Planning Code Section 163 states that the transportation management program shall be designed:

- To promote and coordinate effective and efficient use of transit by tenants and their employees, including the provision of transit information and sale of transit passes on-site;
- To promote and coordinate ridesharing activities for all tenants and their employees within the structure or use;
- To reduce parking demand and assure the proper and most efficient use of on-site or off-site parking, where applicable, such that all provided parking conforms with the requirements of Article 1.5 of the Planning Code;

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<sup>25</sup> More information on the Emergency Ride Home program is available at: <http://www.sferh.org/>.

<sup>26</sup> San Francisco Department of the Environment. Driving Alternatives. Website: [http://www.sfenvironment.org/our\\_programs/topics.html?ssi=7&ti=18](http://www.sfenvironment.org/our_programs/topics.html?ssi=7&ti=18). Accessed December 17, 2009.

- To promote and encourage project occupants to adopt a coordinated flex-time or a staggered work hours program designed to more evenly distribute the arrival and departure times of employees within normal peak commute periods;
- To participate with other project sponsors in a network of transportation brokerage services for the respective downtown, South of Market area, or other areas of employment concentration in the Eastern Neighborhoods Mixed Use Districts;
- To carry out other activities determined by the Planning Department to be appropriate to meet the purpose of this requirement.

#### Commuter Benefit Ordinance

The Commuter Benefit Ordinance (Environment Code, Section 421), effective January 19, 2009, requires all employers in San Francisco that have 20 or more persons performing work for compensation on a full-time, part-time, or temporary basis and who work an average of at least ten hours a week while working for the same employer within the previous calendar month, must offer one of the following options:

1. Pre-tax Transit: Employer sets up a deduction program under existing Federal Tax Law 132(f), which allows employees to use up to \$230 a month in pretax wages to purchase transit passes or vanpool rides.
2. Employer Paid Transit Benefits: Employer pays for workers' transit fares on any of the San Francisco Bay Area mass transit systems or reimburses workers for their vanpool expenses. Reimbursements for transportation expenses must be of at least an equivalent value to the purchase price of a San Francisco Muni Fast Pass, which is presently \$70.
3. Employer Provided Transit: Employer offers workers free shuttle service on a company-funded bus or van between home and place of business.

Employers save up to 9 percent on payroll taxes and employees save up to 40 percent on their transit costs. The benefit works like other pre-tax plans such as retirement, dependent care, and medical reimbursement. Dierkers et. al found that commuter incentive programs can result in estimated vehicle miles traveled reductions of 5 to 25 percent.<sup>27</sup>

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<sup>27</sup> Dierkers, G., Silsbe, E. Stott, S., Winkelman, S., And Wubben, M. 2005-11455- CCAP Transportation Emissions Guidebook- Part One: Land Use, Transit & Travel Demand Management, Center for Clean Air Policy, Washington, DC.

**TRANS-E: Discourage Driving (Estimated CO<sub>2</sub> Reduction: 155,000 tons/yr)**

The *Climate Action Plan* identified fee-based programs already in effect to discourage driving. Programs identified in the *Climate Action Plan* include a 25 percent tax on parking fees collected by private garages and residential parking permits. The *Climate Action Plan* estimates a reduction of 111,000 tons of CO<sub>2</sub>E from congestion pricing and 44,000 tons of CO<sub>2</sub>E from other disincentives proposed under the *Climate Action Plan*.

**TRANS-E.1: Increase the Gas Tax**

The *Climate Action Plan* calls for a regional gas tax on the order of \$0.25 to \$0.50 to discourage driving. Any gas tax would need to be implemented regionally to avoid competition from individual jurisdictions that do not have a gas tax.

**TRANS-E.2: Implement Congestion Pricing and Cordon Tolls**

The *Climate Action Plan* calls for congestion pricing on bridges or cordon toll for entrance to designated areas of the City, specifically downtown. The SFCTA is currently exploring congestion pricing and its potential impacts on San Francisco. SFCTA completed outreach workshops in December 2008 and is in the process of preparing congestion pricing scenarios, with a report due in January 2010. This report, the Mobility, Access and Pricing Study, combines congestion pricing with transit improvements, traffic flow enhancements, and other projects to offer more sustainable choices to those traveling to and within San Francisco. SFCTA is exploring two options for congestion pricing:

- Double Ring: Drivers are assessed a fee when entering the City of from the Bay Bridge, Golden Gate Bridge, or San Mateo County border. A second fee would be assessed for those entering the downtown, Civic Center, or South of Market area.
- Northeastern Cordon: Drivers are assessed a fee when traveling into or out of the Northeast quadrant of San Francisco.

Revenues from congestion pricing would be reinvested into local and regional transit, bicycle, and pedestrian streetscape amenities. The goals of congestion pricing include decreasing peak-period auto trips by 15 percent and a 30 percent reduction in vehicle miles traveled; a 30 percent decrease in vehicle hours of delay and a 5 to 10 percent reduction in annual inflation-adjusted congestion costs; a 15 percent reduction in greenhouse gas emissions from transportation and up

to a 4 percent increase in transit mode share.<sup>28</sup> Congestion pricing is currently being implemented on Bay Area bridges.

#### TRANS-E.3: Cap or Reduce the Number of Parking Spaces

The *Climate Action Plan* calls for new developments to lower parking minimums or switch to parking maximums in areas of the City served by transit. The *Climate Action Plan* also identifies restricting the number of parking permits issued and charging market rates for parking. A variety of efforts are underway to address parking within the City.

#### Updated Planning Code Requirements for Parking

San Francisco parking requirements (Section 151.1 of the Planning Code) have been updated from parking minimums to maximums in most of the city's mixed-use and transit-oriented districts. Parking that was generally required at one space per unit has been changed to a maximum of one space per four units in many cases and three cars per four units in other cases. In addition, Section 167 of the Planning Code unbundles parking spaces for accessory parking in residential developments.

#### Variable Parking Prices

SFMTA is testing SFpark, a parking management program for variable pricing to manage the city's parking supply. The goal is to reduce congestion and pollution associated with circling and parking. The parking management program includes the following techniques and technology:

- New parking meters that accept many forms of payment; and
- Relaxed parking time limits and demand-responsive pricing that will help achieve parking availability targets.

By reducing congestion, the program aims to reduce vehicle miles traveled associated with searching for parking.<sup>29</sup>

CAPCOA's *CEQA and Climate Change* identifies reduced parking programs as providing greenhouse gas reductions on the order of 6 to 30 percent. The reductions are based on reducing parking requirements beyond the Institute of Transportation Engineers (ITE) parking rates. San Francisco's parking requirements are generally below the ITE parking generation demand and have been further reduced by recent changes to Section 151.1 of the Planning Code.

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<sup>28</sup> *Climate Action Plan, Draft for Public Review*. December 19, 2008. At page 58. San Francisco Municipal Transportation Authority. This document is available online at:

<http://www.sfmta.com/cms/rcap/capindx.htm>. Accessed December 21, 2009.

<sup>29</sup> *Ibid.* At page 57.



**TRANS-E.4: Collect Parking Lot Taxes from Hotels**

The *Climate Action Plan* advocates for collecting parking lot taxes from hotels. Article 9 of the San Francisco Business and Tax Regulations Code levies a parking tax of 25 percent of the rent charged for occupancy of the parking space. The parking tax now only applies to hotels and to office buildings in the downtown area.

**TRANS-F: Increase the Use of Clean Air Vehicles and Improve Fleet Efficiency (Estimated CO<sub>2</sub> Reduction: 641,000 U.S. tons/yr)**

The *Climate Action Plan* relies on an increase of five miles per gallon for Corporate Average Fuel Economy (CAFE) standards to result in a reduction of 555,000 tons of CO<sub>2</sub>. The *Climate Action Plan* also identifies alternative fuel vehicle technologies as a strategy for meeting greenhouse gas reduction goals. The *Climate Action Plan* identifies the difficulties in affecting CAFE standards and in purchasing alternative fuel vehicles; however, at the time the *Climate Action Plan* was written, the City had contributed grant funds to three compressed natural gas fueling facilities.

The City's Green Fleet team coordinates the procurement and purchasing of alternative fuel vehicles (AFVs) for City departments. The Green Fleet also applies for funds to help subsidize the conversion of private sector fleets. Information on SFMTA's *Zero Emissions 2020 Plan* and the Green Taxi program are provided in Section V of this document.

**TRANS-F.1: Lobby for Increased CAFE Standards**

CAFE standards at the time the *Climate Action Plan* was published were 27.5 mpg for autos and 20.7 mpg for light trucks. The Energy Independence and Security Act of 2007 requires auto makers to boost fleetwide gas mileage to 35 mpg. Assembly Bill 1493 (the Pavley Bill) requires that the California Air Resources Board develop and adopt regulations to achieve the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks. Implementation of the Pavley Bill is expected to result in a 20 percent reduction in greenhouse gases from passenger vehicles. In addition to the Pavley Bill, Assembly Bill 32 (AB 32) introduces programs to address additional emissions reductions from the Low Carbon Fuel Standard (LCFS) and other programs for medium and heavy-duty vehicles and passenger vehicle efficiency. The LCFS would result in a 7.2 percent reduction in greenhouse gas emissions from both passenger vehicles and light-duty trucks and heavy/medium-duty vehicles.<sup>30</sup>

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<sup>30</sup> California Environmental Quality Act Guidelines Update: Proposed Thresholds of Significance. May 3, 2010. At Page 17. Bay Area Air Quality Management District. This document is available online at: [www.baaqmd.gov](http://www.baaqmd.gov). Accessed August 10, 2010.

**TRANS-F.2: Support LEV/ZEV Sales Mandates in California**

The *Climate Action Plan* calls for supporting efforts to maintain state requirements for automakers to produce low emissions vehicles or zero emissions vehicles.

In 1999, San Francisco passed the Healthy Air and Smog Prevention Ordinance, establishing a Clean Air Program to aid the City in identifying funding sources for the purchase of low-emission AFVs and zero-emission electric vehicles (ZEVs), to assist the City in development of alternative fuel infrastructure, to develop a clean air plan for San Francisco, and to educate and promote the use of AFVs and ZEVs in the private and public sector. The Healthy Air and Smog Prevention Ordinance requires all new purchases or leases of passenger vehicles and light-duty trucks to be the cleanest and most efficient vehicles available on the market. Requirements were also set for medium- and heavy-duty vehicles and motorized equipment, and for phasing out highly polluting vehicles and equipment.

San Francisco has more than 800 AFVs in its fleet, including natural gas, electric, bi-fuel such as bio-diesel, hybrid, and propane vehicles. Under a two-year demonstration, two Honda FCX hydrogen-powered fuel cell vehicles were leased, making San Francisco one of the few cities in the world to possess hydrogen-powered fuel-cell cars. In addition, more than half the San Francisco public transit (Muni) fleet is made up of ZEVs.

On November 20, 2008, Mayors Newsom (San Francisco), Reed (San Jose), and Dellums (Oakland) announced a joint effort to make the San Francisco Bay Area the “Electric Vehicle Capital of America.” The Regional Electric Vehicle Development Initiative outlines a series of actions that governments can take to develop the regional market for electric vehicles. The initiative is intended to facilitate the growth of full-function electric vehicles, neighborhood electric vehicles, other low- and medium-speed electric vehicles, plug-in hybrids, and other vehicles. The initiative outlines coordinated actions that Bay Area governments should undertake in 2009, including:

- Expedite permitting and installation of electric vehicle (EV) charging outlets at homes, businesses, parking lots, and other buildings throughout the Bay Area;
- Provide financial incentives for employers to install EV charging systems in their workplace and provide similar incentives to parking facilities and other locations where EV charging stations can be installed;
- Harmonize local regulations and standards across the region that govern EV infrastructure to achieve regulatory consistency for EV companies;

- Establish common government programs that promote the purchase of EV and the installation of EV charging stations. Examples include free or reduced parking for EVs at public parking lots and parking meters, preferential parking, reduced city fees for residential parking permits, and rebates;
- Link EV programs and infrastructure to regional transit and air quality programs;
- Establish pooled-purchase order of EVs in municipal and state government and private sector fleets; and
- Establish a roll-out plan for placement of 220 EV charging equipment on public property throughout the City, such as city parking lots and curbside charging.

On February 18, 2009, Mayor Newsom unveiled the Green Vehicle Showcase, a pilot project that installed EV charging stations outside of City Hall in San Francisco. The City has established an EV working group that has identified a work plan to implement the Regional Electric Vehicle Development Initiative. The Regional Electric Vehicle Development group has announced a partnership with Better Place, an electric transportation company. Better Place's estimated network investment in the Bay Area is approximately \$1 billion, when fully developed.

**TRANS-F.3: Support State-Level Development of Greenhouse Gas Emissions Standards**

This *Climate Action Plan* action calls for City support of AB 1493, the Pavley Bill. The AB 32 Scoping Plan identifies implementation of AB 1493 as resulting in a 20 percent reduction in emissions from passenger vehicles and stipulates that if the Pavley Bill regulations do not remain in effect, the California Air Resources Board will implement alternative regulations to control mobile sources to achieve equivalent or greater reductions of greenhouse gas emissions. The Bay Area Air Quality Management District assigns a 19.7 percent reduction from the Bay Area's 2020 GHG inventory to AB 1493.<sup>31</sup>

**TRANS-F.4: Implement Tiered Vehicle Registration Fees Based on Vehicle Size or Emissions**

This action calls for a tiered fee structure for vehicle registration based on vehicle size and/or emissions to encourage the purchase of low emissions vehicles. The City and County of San Francisco has not implemented tiered vehicle registration fees.

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<sup>31</sup> Ibid.

**TRANS-F.5: Introduce Tiered Parking Rates Based on Vehicle Size**

This action calls for a tiered fee structure for residential parking permits based on vehicle size and/or emissions to encourage the purchase of low emissions vehicles. The City and County of San Francisco has not implemented tiered parking rates.

**TRANS-F.6: Promote Bridge Toll and HOV Lane Waivers for AFVs**

This action calls for increased awareness of state programs that allow AFVs to use HOV lanes and cross for free on Caltrans-operated bridges. Many of the carpool/vanpool and commuting resources discuss the benefits of using HOV lanes for ridesharing. Recently introduced congestion pricing along the Bay Area's bridges now charge a fee for all vehicles, including carpools and AFVs.

**TRANS-F.7: Lobby Regional Agencies to Open Grants for Private Sector Uses**

This action calls for advocating that regional agencies be allowed to distribute grants to the private sector for use of AFVs.

**TRANS-F.8: Support Efforts to Expand City CarShare**

One of the challenges posed by new development is the increased number of privately owned automobiles it brings to San Francisco's already congested neighborhoods. Car-sharing can mitigate the negative impacts of new development by reducing the rate of per-household individual car ownership, the average number of vehicle miles driven per household, and the total amount of automobile-generated pollution per household. The San Francisco Planning Code includes carshare requirements to facilitate this as a viable alternative to vehicle ownership.

**San Francisco Planning Code Carshare Requirements**

Section 166 of the Planning Code requires that newly constructed buildings containing residential uses or existing buildings being converted to residential uses in certain zoning districts,<sup>32</sup> if parking is provided, provide car-share parking spaces, at no cost to a certified car-share organization, in the amount specified in Table IV-4.

**Table IV-4. Required Car Share Parking Spaces**

<b>Number of Residential Units</b>	<b>Number of Required Car Share Parking Spaces</b>
0--49	0
50--200	1
201 or more	2, plus 1 for every 200 dwelling units over 200

<sup>32</sup> NCT, MU-G, MU-R, MU-O, UMU, DTR, and SPD Districts or the Van Ness and Market Downtown Residential Special Use District.

<b>Number of Residential Units</b>	<b>Number of Required Car Share Parking Spaces</b>
Number of Parking Spaces Provided for Non-Residential Uses or in a Non-Accessory Parking Facility	Number of Required Car Share Parking Spaces
0--24	0
25--49	1
50 or more	1, plus 1 for every 50 parking spaces over 50
Source: San Francisco Planning Code Section 166.	

**TRANS-F.9: Promote and Enforce Bus Idling Traffic Code**

The Department of Parking and Traffic is responsible for enforcing the bus idling rule that the City passed in 1991. The *Climate Action Plan* calls for better enforcement of this existing rule. It is unknown whether better enforcement of this rule is occurring.

## IV.II Climate Action Plan Energy Efficiency Actions

The *Climate Action Plan* identifies three action categories to increase energy efficiency: increase incentives, direct installation, and technical assistance; expand education and outreach; and strengthen legislation, codes, and standards (see Table IV-5). Collectively, these actions are anticipated to reduce CO<sub>2</sub> emissions by 801,000 U.S. tons per year.

**Table IV-5. Climate Action Plan Energy Efficiency Actions**

Energy Efficiency Action Categories	Estimated CO <sub>2</sub> Reduction (U.S. tons per year)
ENERGY-A. Increase Incentives, Direct Installation and Technical Assistance	
Residential Buildings	222,000
Commercial Buildings	433,000
Municipal Buildings	45,000
ENERGY-B. Expand Education and Outreach	36,000
ENERGY-C. Strengthen Legislation, Codes and Standards	65,000
<b>Total</b>	<b>801,000</b>
Source: <i>Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Gas Emissions</i> . San Francisco Department of the Environment and San Francisco Public Utilities Commission. September 2008.	

The following discusses City actions that were being implemented during publication of the *Climate Action Plan* as well as additional actions that have been implemented since the document's publication. A number of different sources have been compiled to aid in the discussion of City actions to increase energy efficiency, and this section should be viewed in conjunction with those documents (*Electricity Resource Plan*, *Electric Reliability Plan*, *San Francisco Sustainability Plan*, and the *Clean Energy, Clean Air Policy Brief*). These documents, as they relate to energy efficiency, are discussed briefly.

### Electricity Resource Plan

San Francisco adopted the *Electricity Resource Plan* in 2002 to help address growing environmental health concerns in San Francisco's southeast community, home of two power plants. The plan presents a framework for assuring a reliable, affordable, and renewable source of energy for the future of San Francisco. The *Electricity Resource Plan's* companion document, the *Energy Resource Investment Strategy*, provides analysis and technical recommendations for the future use of energy resources within San Francisco. The *Electricity Resource Plan* aims to increase energy efficiency by 16 megawatts (MW) by 2004, 55 MW by 2008, and 107 MW by 2012. The *Electricity Resource Plan* includes the following recommendations for providing a clean, reliable, electricity portfolio:

1. The City shall require periodic reviews and set annual targets for increasing the efficiency of electricity use and the amount of electricity produced by renewable sources of energy so that ultimately all of San Francisco's electricity needs are met with zero greenhouse gas emissions and minimal impacts on the environment.
2. The City shall identify and promote common criteria for investments in energy efficiency, renewable energy, and fossil fuel powered generation. SF Environment will develop an economic value for public health and environmental impacts to be incorporated into the investment criteria.
3. SF Environment should facilitate comprehensive energy efficiency implementation measures throughout the private sector, and the SFPUC should aggressively implement energy efficiency projects in City facilities.
4. SF Environment and the SFPUC should perform an energy use study of San Francisco's commercial and residential buildings. Results of this study will be used to design targeted electricity demand reduction programs based on San Francisco's unique energy use characteristics.
5. The Board of Supervisors should direct City agencies to develop guidelines, programs, and new codes designed to reduce demand in commercial and residential buildings in the public and private sectors. This should include upgrading the Residential Energy Conservation Ordinance, reinstating the Commercial Energy Conservation Ordinance, and requiring City vendors to participate in energy efficiency programs.
6. The Board of Supervisors should adopt energy-efficient planning and building codes for new construction and major renovation projects in the public and private sectors (e.g., requiring district heating and cooling systems in new developments) and join other cities in adopting green building standards such as LEED® (Leadership in Energy and Environmental Design).
7. A priority target for reduction is the peak demand among commercial and industrial facilities, particularly downtown buildings. SF Environment and the SFPUC should work with downtown building owners and operators and the Independent Systems Operator to implement programs that incentivize load curtailment and load shifting during periods of peak demand.

8. SF Environment and the SFPUC should work with other City departments, PG&E, and state and federal agencies to provide enhanced incentives to San Francisco businesses and residents for energy efficiency and peak load reduction (e.g., tax credits, rebates, rate incentives, and peak load management programs).
9. SF Environment should create a coordinated outreach program directing residents and businesses to available local energy efficiency services, local appliance suppliers, programs offered through PG&E and other organizations receiving Public Goods Charge funding, state and federal programs, and tax credits.
10. The SFPUC should implement a design review program to make new municipal construction projects more energy efficient than required by state and local codes.
11. The SFPUC should continue to implement municipal energy efficiency programs in City buildings, including large scale retrofits, energy management, recommissioning projects, maintenance, and staff training programs for existing facilities.
12. SF Environment and the SFPUC should organize energy efficiency training for operations and maintenance staff, facility managers, and designers/specifiers in both the public and private sectors.
13. SF Environment should develop energy educational programs for schools, coordinating with successful national and state curricula programs. These should be integrated into the curriculum in the SFUSD, City College, as well as private schools and professional training programs.

#### San Francisco Sustainability Plan

In July 1997 the Board of Supervisors endorsed the *Sustainability Plan* for the City and County of San Francisco establishing sustainable development as a fundamental goal of municipal public policy.

#### Clean Energy, Clean Air

Mayor Gavin Newsom's "Clean Energy, Clean Air" policy brief presents a plan to increase energy efficiency in San Francisco. Among the goals in this policy brief, the following relate to energy efficiency:



- Create five-year energy efficiency plans for key city departments (the SFPUC is required to create energy efficiency plans for the Port, the Airport, public libraries, Muni, and the Department of Parking and Traffic);
- Launch an energy conservation campaign;
- Set aside 5 percent of Hetch Hetchy Water and Power gross revenues annually for investment in efficiency and solar projects; and
- Support energy-efficient homes at Hunters Point and Treasure Island.

In addition to the plans discussed above, San Francisco has implemented a Green Building Ordinance that includes requirements for energy efficiency, as discussed below.

#### **ENERGY-A: Increase Incentives, Direct Installation and Technical Assistance**

Incentive programs promote energy efficiency by reducing the cost for the consumer to take action. Incentives can take on three forms: customer or manufacturer rebates, low-interest loans, or payments to customers or electricity companies for saving energy. There are two main types of incentives: prescriptive and performance. Prescriptive programs give rebates on specific items, and performance programs are based on the unit of energy saved during the first year of new equipment. Technical assistance may include energy audits, design assistance, and other customer services for energy projects for residential buildings (including single- and multi-family homes), commercial buildings (offices, restaurants, colleges), and municipal buildings (libraries, hospitals, recreation facilities). The following discusses some of these incentive programs.

##### Priority Processing

Pursuant to amendments to the San Francisco Campaign and Government Conduct Code section 3.400 "Permit Application Processing," the Planning, Building, and Public Works Departments all issued directives or bulletins for the priority processing of applications for development projects proposing to achieve a LEED® Gold standard. These projects receive expedited assignment and review over other project applications. Priority processing is available for all residential, commercial, and municipal projects.

#### **Residential Buildings (Estimated CO<sub>2</sub> Reduction: 222,000 U.S. tons/yr)**

The *Climate Action Plan* acknowledges existing rebate programs offered by PG&E for single and multifamily buildings. PG&E provides rebates on purchases of energy-efficient appliances, compact fluorescent lamps (CFLs), and high-efficiency heating, ventilation and air conditioning (HVAC) systems; incentives for home improvements; services to help and encourage purchase of Energy Star-rated homes; and upstream programs.

PG&E and the SF Environment's joint Peak Energy Program (SF PEP) targets multi-family buildings and elderly, disabled, or low-income residents in the Bayview-Hunters Point neighborhood. The program focuses on lighting and coin-op laundry facilities in multi-family residences, and replacement of halogen lamps with fluorescent bulbs.

#### **ENERGY-A.1: Expand Residential Efficiency Programs**

The *Climate Action Plan* calls for expanding residential energy efficiency programs to encourage consumers to choose energy-efficient new appliances and early replacement of inefficient ones (water heaters, furnaces, refrigerators, and washing machines). The program would provide rebates on setback thermostats, weatherization to limit energy "leaks," and refrigerator bulk buying for multi-family dwelling owners. The program would also provide information at retail stores and publicity for participating vendors and potential partners, such as retail outlets, equipment vendors, and landlords.

SF Environment maintains a webpage dedicated to providing energy efficiency information to San Francisco's residents and businesses. Specifically, SF Environment has issued two flyers for single-family homeowners identifying energy efficiency measures – one for lighting and appliances, and one for building heating and cooling systems. These flyers provide useful information, resources, and links to rebate programs for energy and water efficiency upgrades.

The SFPUC maintains a webpage dedicated to providing water efficiency information to San Francisco residents. The webpage includes information on SFPUC water auditing programs, rebates, and free water conservation devices.<sup>33</sup>

#### **Toilet Direct Install Program**

This program, offered by the SFPUC, is a pilot program that will soon be available to low-income families and businesses. Under the program, auditors will come to the home, check for leaks, show the homeowner how to read the water meter, provide efficient devices such as showerheads and aerators if appropriate and check the toilet for model eligibility. If deemed eligible for the program, a plumber will be arranged to install a new high-efficiency toilet for free. The SFPUC's pilot program will save both water and money by replacing 2,000 high-volume toilets, which flush at 3.5 gallons or more, with high-efficiency toilets, which have a maximum flush volume of 1.28 gallons per flush (gpf).

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<sup>33</sup> For more information, go to: [http://sfwater.org/mto\\_main.cfm/MC\\_ID/13/MSC\\_ID/168/MTO\\_ID/355](http://sfwater.org/mto_main.cfm/MC_ID/13/MSC_ID/168/MTO_ID/355). Accessed January 8, 2010.

#### SFPUC Water Conservation Toilet Rebate Program

The SFPUC offer rebates to single- and multi-family residences in San Francisco. Eligible residents will receive cash rebates of up to \$125 per tank style toilet and up to \$200 per flushometer valve toilet when they replace their high-flow toilets (3.5 gpf or more) with high-efficiency toilet models that are 1.28 gpf or less. Upgrading to a high-efficiency toilet can reduce total indoor water use by roughly 16 percent.<sup>34</sup>

#### SFPUC Washer Rebate Program

Clothes washers account for more than 20 percent of indoor water use. Running a conventional washing machine, which can use more than 50 gallons of water per cycle, can add up to more than 16,000 gallons a year on laundry alone. The Washer Rebate Program, effective January 2008, allows SFPUC customers to receive a cash rebate of up to \$175 for the purchase of a Tier 3 high-efficiency clothes washer.<sup>35</sup>

#### SFPUC Free Water-Wise Evaluation

SFPUC residential customers are eligible for a free water-wise evaluation. A water conservation technician will visit the site and provide a comprehensive review of the property's water usage and provide a report with water saving recommendations. Assessments can be performed in San Francisco homes, multi-family properties, and nonresidential sites. During the water-wise evaluation, the SFPUC technician will:

- Review consumption history of each water account;
- Check toilets for leaks and determine flush volume;
- Determine flow rates of showerheads and faucets;
- Provide free water-saving devices and materials, as needed, while supplies last;
- Provide recommendations for efficient outdoor water use;
- Teach customers to read their meters;
- Recommend plumbing fixture upgrades and other efficiency improvements;

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<sup>34</sup> San Francisco Public Utilities Commission. Residential High-Efficiency Toilet Rebates. [http://sfwater.org/detail.cfm/MC\\_ID/13/MSC\\_ID/168/MTO\\_ID/355/C\\_ID/2258](http://sfwater.org/detail.cfm/MC_ID/13/MSC_ID/168/MTO_ID/355/C_ID/2258). Accessed August 6, 2010.

<sup>35</sup> For more information, go to: [http://sfwater.org/detail.cfm/MC\\_ID/13/MSC\\_ID/168/MTO\\_ID/355/C\\_ID/3929/ListID/1](http://sfwater.org/detail.cfm/MC_ID/13/MSC_ID/168/MTO_ID/355/C_ID/3929/ListID/1). Accessed January 8, 2010.

- Provide information on rebates for which customers are eligible; and
- Provide a report of all findings including recommendations.

#### SFPUC Free Water Saving Devices

Currently the SFPUC is offering the following free water-saving devices for residential properties:

Single residential properties may receive:

- Two showerheads
- Three bathroom aerators
- One kitchen aerator
- Two flappers

Multiple residential properties with 10 or fewer dwelling units are limited to:

- One of each of the above devices (showerhead, bathroom aerator, kitchen faucet aerator, and flapper) per dwelling unit.

Multiple residential properties over 10 dwelling units:

- These customers need to schedule a water-wise evaluation (see above) with the Water Conservation Section in order to receive devices.

#### Residential Rehabilitation Loan Program

Chapter 32 of the Administrative Code, 1977, establishes the Residential Rehabilitation Loan Program. The purpose of program is to improve the condition of housing and the quality of life in San Francisco by providing financial assistance to San Francisco property owners in residential areas that are deteriorating. Through rehabilitation, instead of demolition and new construction, the program conserves the embodied energy of the building materials that are in good condition.<sup>36</sup>

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<sup>36</sup> City and County of San Francisco Administrative Code, Chapter 32. Available online at: <http://library.municode.com/index.aspx?clientId=14131&stateId=5&stateName=California>. Accessed January 8, 2010.

### Residential Pass-through Program

Chapter 37.7 of the Administrative Code, amended February 2003, establishes the “Certification of Rent Increases for Capital Improvements, Rehabilitation Work, Energy Conservation Improvements, and Renewable Energy Improvements,” also known as the Residential Pass-through Program. The program allows landlords to pass 100 percent of the cost for building upgrades, including energy conservation and renewable energy improvements to tenants who benefit from the upgrades.

### **ENERGY-A.2: Implement Residential Lighting Efficiency Programs**

Fluorescent lighting uses about 75 percent less energy than incandescent lighting and delivers the same amount of light. The *Climate Action Plan* calls for programs to convert San Francisco’s residential buildings to fluorescent lighting.

### San Francisco Energy Watch Program

The San Francisco Energy Watch Program was launched in 2007 to help businesses and multi-family building managers or owners in San Francisco to lower their energy bills. In 2009 the Energy Watch Program saved a total of 27,000,000 gross kilowatt-hours and 53,000 therms of energy.<sup>37</sup> The program offers the following incentives:

- Free on-site assessment to identify energy savings,
- New energy-efficient equipments and technical services at a reduced cost,
- Expert installation of energy-saving equipment, and
- Lower utility bills over the life of the new equipment.

Energy Watch is an eight-step program:

1. Interested building owners contact the San Francisco Energy Watch Program to determine eligibility.
2. Energy Watch Program staff obtain a site access agreement from the owner and performs a free energy survey to identify potential savings.
3. A report is generated indicating energy efficiency opportunities at the site, qualifying incentives, and savings estimates.

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<sup>37</sup> Email correspondence between Jessica Range, San Francisco Planning Department and Peter De Mare, SF Environment. January 27, 2008.

4. The owner may then either contract with participating contractors or apply directly to the program incentives, if self-installing.
5. The contractor installs the equipment.
6. The program staff completes its review of the incentive application, which can include inspection of the work, and pays the incentive to the contractor (or owner, if self-installed).
7. The building owner pays the contractor for expenses not covered by the incentive.
8. A pre- and post-installation inspection may be conducted.

All businesses and multi-family residential properties in San Francisco that are PG&E customers can participate in the program. The program is a joint effort between PG&E, SF Environment, and the SFPUC.<sup>38</sup> The Energy Watch website also provides a list of success stories.

### **Commercial Buildings (Estimated CO<sub>2</sub> Reduction: 433,000 U.S. tons/yr)**

The *Climate Action Plan* identifies the following incentives for commercial buildings:

1. PG&E's Express Efficiency program: rebates for purchases of lighting, refrigeration, and HVAC equipment based on how much energy these technologies save.
2. Standard Performance Contract (SPC) program: incentives based on measured and verified energy savings.
3. PG&E's Savings by Design program: design services for new commercial building projects and incentives for following recommendations that go beyond Title 24.
4. SF Environment-administered and state-funded Power Savers program: incentives and technical assistance to reduce energy use from lighting in 4,000 small businesses; offer free energy audits and installation of retrofitted lighting.
5. San Francisco Peak Energy Program: in 2003-2004 the program provided rebates to businesses to install efficient lighting, motors, HVAC, and refrigerators. The program focuses on energy efficiency and load reduction at peak times in offices, hotels, hospitals,

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<sup>38</sup> For more information on the Energy Watch Program, go to: [www.sfenergywatch.com](http://www.sfenergywatch.com). Accessed January 8, 2010.

and retail businesses. SF Environment provided energy site surveys, technical analyses, estimates of savings, and assistance in choosing equipment and contractors.

#### **ENERGY-A.3: Support Building Tune-ups**

As discussed above, the SF Environment maintains a webpage dedicated to providing energy efficiency information to San Francisco residents and businesses. SF Environment has issued four flyers for San Francisco businesses identifying energy efficiency measures for lighting and appliances, building heating and cooling systems, food service equipment, and computer controls. These flyers provide useful information, resources, and links to rebate programs for energy and water efficiency upgrades.

The SFPUC maintains a webpage dedicated to providing water efficiency information to San Francisco businesses. The webpage includes information on SFPUC water auditing programs, rebates, and free water conservation devices.<sup>39</sup>

#### **ENERGY-A.4: Increase Targeted Incentives**

The *Climate Action Plan* calls for increasing energy efficiency incentives for San Francisco Businesses. San Francisco businesses are eligible for the Toilet Direct Install program, SFPUC toilet and urinal rebates, and SFPUC free water saving devices as discussed above.

In addition to these incentives, San Francisco businesses are eligible to enroll in the San Francisco Energy Watch program. The Commercial Plus Program of the Energy Watch Program is designed to help all San Francisco businesses, including nonprofit organizations, to save money and energy. All businesses within city limits that are PG&E customers are eligible for the program, which offers a range of energy upgrades, including lighting and computer network improvements.

#### **San Francisco 24x7 Energy Challenge**

The San Francisco Mayor's Office has announced the 24x7 Energy Challenge for its commercial businesses. The Mayor has challenged San Francisco businesses to reduce their energy use by March 2010. Interested businesses are to enroll in the challenge, assess their energy performance by enrolling in the ENERGY STAR Portfolio Manager, and determine the building's energy performance benchmark. Businesses are to track their energy use, and those who reduce their

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<sup>39</sup> For more information, go to: [http://sfwater.org/mto\\_main.cfm/MC\\_ID/13/MSD\\_ID/168/MTO\\_ID/356](http://sfwater.org/mto_main.cfm/MC_ID/13/MSD_ID/168/MTO_ID/356). Accessed January 8, 2010.

energy use will be awarded and recognized. The 24x7 Energy Challenge website<sup>40</sup> contains useful information and resources, including information on classes offered by PG&E.

**ENERGY-A.5: Provide Large Account Energy Management Services**

Large buildings in San Francisco are responsible for most of the city's commercial electricity use. Under the San Francisco Energy Watch Program, these businesses are provided a variety of services including energy audits.

**ENERGY-A.6: Provide Turn-key Commercial Retrofit Services**

The *Climate Action Plan* recognizes that small- and mid-sized businesses are difficult to reach for energy efficiency upgrades and suggests turn-key retrofit services. Offered as part of the San Francisco Energy Watch Program, small businesses can choose the Direct Install turnkey services option, which saves them the time and effort of decision-making. Energy Watch staff handle the equipment and contractor selection, coordinate installation, and conduct inspections upon completion of the work.

**Municipal Buildings (Estimated CO<sub>2</sub> Reduction: 45,000 U.S. tons/yr)**

San Francisco municipal buildings are powered by the SFPUC's Hetch Hetchy Water and Power division. The SFPUC provides energy efficiency services for municipal buildings. The *Climate Action Plan* identifies a number of energy efficiency projects completed or underway, and calls for continued municipal energy efficiency projects. Municipal agencies and departments consume more than half of the Hetch Hetchy Water and Power's 1.7 billion kilowatt hours of electricity generated.

**ENERGY-A.7: Develop Comprehensive Energy Efficiency Programs for City Departments (municipal buildings)  
SFPUC Water Rebates**

The SFPUC continues to work with City departments, as well as annually maintaining and updating a list of approved models, establishing a procedure with the Department of Public Works for installation and inspection of all buildings for compliance with Chapter 7 of the Environment Code. The SFPUC has undertaken the following activities in regards to these requirements<sup>41</sup>:

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<sup>40</sup> For more information go to:

[http://www.sfenvironment.org/our\\_programs/interests.html?ssi=6&ti=14&ii=208#energychallenge](http://www.sfenvironment.org/our_programs/interests.html?ssi=6&ti=14&ii=208#energychallenge). Accessed January 8, 2010.

<sup>41</sup> *San Francisco Municipal Green Building Report 2004-2007*. San Francisco Department of the Environment. This document is available online at: <http://www.sfenvironment.org/downloads/library/nicipalgreenbuildingreport.pdf>. Accessed January 8, 2010.



1. In 2000, the SFPUC undertook an audit of toilets and showerheads in all municipal buildings.
2. The SFPUC offers rebates to City departments for these upgrades and has offered free site inspections to assess additional needs. Currently, the SFPUC offers up to \$200 per toilet fixture replaced.
3. Showerheads with a flow rate of 1.5 gallons per minute are available free of charge to all customers, including municipal.
4. A list of approved fixtures, which is updated quarterly, is available on the SFPUC website.

#### Department Climate Action Plans

Pursuant to the Greenhouse Gas Reduction Ordinance, May 2008, all City departments are required to prepare departmental climate action plans and report on the progress of their climate action plans annually. Each department climate action plan must include a departmental profile and a greenhouse gas inventory. The 2009 inventory includes a calculation of greenhouse gas emissions resulting from electricity and natural gas use and fleet vehicles. The plans must include a description of existing actions to reduce greenhouse gas emissions from energy use and identify the costs and benefits of potential energy retrofits. The latest requirements for departmental climate action plans include an accounting of water and waste-related emissions.

#### SFPUC Energy Retrofit Projects

SFPUC's Energy Efficiency Services manages several large-scale energy retrofit programs at large energy-using departments including SFMTA, the Port of San Francisco, and San Francisco International Airport, which are successfully reducing energy use in existing buildings. The SFPUC is currently planning a major energy retrofit project for City Hall. The project will include heating, cooling, and lighting energy efficiency, as well as installation of a 100 kilowatt (kW) solar photovoltaic system on the roof of City Hall. When completed, these energy improvements will save the equivalent of the energy usage of approximately 200 typical San Francisco homes.<sup>42</sup> Other retrofit projects include the Moscone Convention Center Energy Project (lighting and controls – 800 kW peak savings), SF General Hospital Lighting Project (700 kW peak savings), and current projects at powerhouses and cottages at Moccasin and the SF General Hospital central plant.

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<sup>42</sup> San Francisco Public Utilities Website. Retrofit Projects. Available at: [http://sfwater.org/detail.cfm/MC\\_ID/12/MSC\\_ID/142/MTO\\_ID/364/C\\_ID/4654](http://sfwater.org/detail.cfm/MC_ID/12/MSC_ID/142/MTO_ID/364/C_ID/4654). Accessed January 8, 2010.

### LED Streetlights

The SFPUC, in partnership with PG&E, has undertaken a pilot program, completed in 2008, that replaces San Francisco's traditional street lights with LED lights and to test the street lights using smart controller technologies. Smart controller technology allows for the monitoring of individual streetlight performance, the ability to adjust light intensity levels, and receives real-time information when lights have failed or are about to fail. Selected lights can be turned on and off, dimmed, or placed in a strobe mode to identify a specific location to emergency personnel. Smart controller technology is expected to increase energy conservation and reduce maintenance costs.

In 2009 the City installed the first City-owned LED street lights. LEDs are environmentally superior to conventional high-pressure sodium bulbs, are up to 50 percent more energy efficient, and last two to three times longer.

### **ENERGY-A.8: Implement Demand Management Program (municipal buildings)**

Demand management is the term used to influence customer use of electricity in ways that will produce desired changes in the utility's load shape. Examples include changes in the time pattern and magnitude of the utility's load. Some City departments, including the San Francisco Unified School District, have installed demand management features into the City's municipal buildings.

### **ENERGY-A.9: Develop Energy Services Available to all City Departments (municipal buildings)**

To comply with the Greenhouse Gas Reduction Ordinance, the SFPUC conducted energy retrofit programs for all City departments in 2008.

### **ENERGY-B: Expand Education and Outreach (Estimated CO<sub>2</sub> Reduction: 36,000 U.S. tons/yr)**

The *Climate Action Plan* calls for increased public education of energy efficiency education and outreach programs, including a San Francisco complement to the State's Flex Your Power campaign.

#### **ENERGY-B.1: Develop Local Outreach Program**

SF Environment maintains a website dedicated to providing information on energy efficiency, and its website contains links to resources and information on rebates and free energy audits for multi-family homes and businesses eligible under the Energy Watch Program.

#### **ENERGY-B.2: Provide San Francisco Focused Training**

SF Environment's website provides links to local energy efficiency resources offered by PG&E, including classes, webinars, and online step-by-step guides to energy efficiency for commercial buildings.

In addition, the Green Building Program provides many resources, including web-based applications and the Green Building Toolkit, a compendium of software design tools, references, and a database of green building materials.

#### Municipal Training Workshops

SF Environment staff produces and provides the following training modules for City design professionals:

- LEED Silver and the Integrated Design Process gives an overview of municipal green building efforts in San Francisco, including the LEED Silver requirements, San Francisco Green Building Pilot Projects, interactive examples of integrated design, training and accreditation opportunities, and an introduction the SFGreenPRINT.
- SFGreenPRINT is an in-depth look at San Francisco's Green Building Project Reporting and Information Tool. Project identification, LEED checklist, environmental scorecard and reporting functions are covered.
- Additional workshops are available on the following topics: green building materials, indoor air quality, architectural/mechanical integration, and building commissioning.

#### **ENERGY-C: Strengthen Legislation, Codes and Standards (Estimated CO<sub>2</sub> Reduction: 65,000 U.S. tons/yr, Estimated Water Savings: 4 million gallons per day by 2017)**

The *Climate Action Plan* cites expanding the Residential Energy Conservation Ordinance to include a home energy rating, infiltration reduction, and high efficiency appliances. The *Climate Action Plan* also cites increasing the energy efficiency of commercial buildings.

Effective July 1, 2009, two ordinances were passed: the Residential Water Conservation Ordinance and the Commercial Water Conservation Ordinance. These ordinances require water efficiency upgrades and retrofits prior to resale. Together, these two ordinances are expected to save San Francisco up to 4 million gallons a day by 2017. San Francisco has also established the Residential Energy Conservation Ordinance, which requires energy upgrades for residential buildings prior to resale, and a residential pass-through program that allows landlords to pass off the costs of energy efficiency upgrades to tenants. Additionally, San Francisco's Green Building Ordinance (San Francisco Building Code, Chapter 13C) requires all renovations and alterations of existing buildings greater than 25,000 square feet to meet a specified level of green building requirements.

**ENERGY-C.1: Expand Energy Efficiency Requirements for Existing Buildings**

The following is a discussion of the requirements for energy upgrades for existing buildings in residential and commercial properties.

**Residential Properties****Residential Water Conservation Ordinance**

The Residential Water Conservation Ordinance, as amended in 2009 (San Francisco Building Code, Housing Code, Chapter 12), established minimum water conservation standards for residential properties. Passed in 1991, the original ordinance required residential property owners to replace toilets if they had a flush volume of more than 3.5 gpf, along with other water fixtures. At the time, this ordinance was pioneering and led to other jurisdictions passing similar measures, but in 1994, new state and federal laws required higher efficiency standards that went beyond San Francisco's original ordinance. For many years, 1.6 gpf was the standard for high efficiency toilets, yet San Francisco's requirement for retrofits remained only for toilets above 3.5 gpf. The 2009 amendments established maximum water consumption for toilets at 1.6 gpf.

The ordinance requires all residential properties (existing and new) to meet the following minimum requirements<sup>43</sup>:

- All showerheads have a maximum flow of 2.5 gallons per minute (gpm);
- All showers have no more than one showerhead per valve;
- All faucets and faucet aerators have a maximum flow rate of 2.2 gpm;
- All water closets (toilets) have a maximum rated water consumption of 1.6 gpf;
- All urinals have a maximum flow rate of 1.0 gpf; and
- All water leaks must be repaired.

Compliance with San Francisco's water conservation ordinances must be completed through the San Francisco Department of Building Inspection. Owners of residential property who wish to sell their property must obtain a valid inspection, install certain energy and water conservation devices or materials, and then obtain a certificate of compliance. Water conservation upgrades must occur prior to the title transfer of any residential buildings as specified in the ordinance, and the seller must provide a copy of the certificate of compliance to the buyer prior to title transfer.

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<sup>43</sup> City and County of San Francisco Building Code, Housing- Chapter 12A. Available online at: [http://amlegal.com/nxt/gateway.dll/California/sfbuilding/cityandcountyofsanfranciscobuildingelect?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:sf\\_building](http://amlegal.com/nxt/gateway.dll/California/sfbuilding/cityandcountyofsanfranciscobuildingelect?f=templates$fn=default.htm$3.0$vid=amlegal:sf_building). Accessed January 6, 2010.

Finally, the certificate of compliance must be recorded with the San Francisco County Recorder's Office prior to or concurrent with the transfer of title.

#### Residential Energy Conservation Ordinance

The Residential Energy Conservation Ordinance, updated in 1994, (San Francisco Building Code, Housing Code, Chapter 12)<sup>44</sup> requires all residential properties to provide, prior to sale of property, certain energy and water conservation measures for their buildings: attic insulation; weather-stripping all doors leading from heated to unheated areas; insulation of hot water heaters and hot water pipes; installation of low-flow showerheads; caulking and sealing any openings or cracks in the building's exterior; insulation of accessible heating and cooling ducts; installation of low-flow water-tap aerators; and installation or retrofit of toilets to make them low-flush. Owners of apartment buildings and hotels are also required to insulate steam and hot water pipes and tanks, clean and tune boilers, repair boiler leaks, and install a time-clock on the burner.

#### 2008 Green Building Ordinance

The San Francisco Green Building Ordinance, adopted in 2008, details green building requirements for existing and new buildings, including new residential buildings. Small and mid-sized residential buildings are required to achieve at least 50 GreenPoint rated points, increasing to 75 points by 2012. High-rise residential buildings are required to achieve 75 GreenPoint Rated points beginning in 2010. New construction subject to the Green Building Ordinance is anticipated to be at least 14-15 percent more energy efficient than Title 24 2008 building code requirements. The Green Building Ordinance is discussed in more depth below.

#### Commercial Properties

##### Commercial Water Conservation Ordinance

The Commercial Water Conservation Ordinance, as amended in 2009 (San Francisco Building Code, Chapter 13A)<sup>45</sup> establishes minimum water conservation standards for commercial properties. The ordinance was significantly upgraded in 2009 and requires all existing commercial properties undergoing tenant improvements to achieve the following minimum standards:

- All showerheads have a maximum flow of 2.5 gpm;

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<sup>44</sup> City and County of San Francisco Building Code, Housing- Chapter 12. Available online at: [http://amlegal.com/nxt/gateway.dll/California/sfbuilding/cityandcountyofsanfranciscobuildingelect?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:sf\\_building](http://amlegal.com/nxt/gateway.dll/California/sfbuilding/cityandcountyofsanfranciscobuildingelect?f=templates$fn=default.htm$3.0$vid=amlegal:sf_building). Accessed January 6, 2010.

<sup>45</sup> City and County of San Francisco Building Code, Chapter 13A. Available online at: [http://amlegal.com/nxt/gateway.dll/California/sfbuilding/cityandcountyofsanfranciscobuildingelect?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:sf\\_building](http://amlegal.com/nxt/gateway.dll/California/sfbuilding/cityandcountyofsanfranciscobuildingelect?f=templates$fn=default.htm$3.0$vid=amlegal:sf_building). Accessed January 6, 2010.

- All showers must have no more than one showerhead per valve;
- All faucets and faucet aerators must have a maximum flow rate of 2.2 gpm;
- All Water Closets (toilets) have a maximum rated water consumption of 1.6 gpf;
- All urinals must have a maximum flow rate of 1.0 gpf; and
- All water leaks must be repaired.

On or before January 1, 2017, all owners of commercial buildings must have a completed water conservation inspection and have a Certificate of Compliance on file with the Department of Building Inspection for the entire building or the entire portion of the building subject to Chapter 13A of the San Francisco Building Code. The Commercial and Residential Water Conservation Ordinances are expected to save 4 million gallons per day by 2017, equating to 1,900 metric tons of CO<sub>2</sub>E by 2017.

#### 2008 Green Building Ordinance

The San Francisco Green Building Ordinance, adopted in 2008, details green building requirements for existing buildings in addition to new buildings. The ordinance requires existing buildings proposing commercial interior or major alterations greater than 25,000 square feet to achieve LEED® Silver certification and use low-emitting materials. This requirement increases to LEED® Gold certification by the year 2010. New construction subject to the Green Building Ordinance is anticipated to be at least 14-15 percent more energy efficient than Title 24 2008 building code requirements. The Green Building Ordinance is discussed more in-depth below.

#### **ENERGY-C.2: Strengthen Local Building Codes for New Construction and Renovation**

The *Climate Action Plan* calls for developing local building codes that promotes a higher level of energy efficiency than Title 24 State code for new and renovated residential and non-residential buildings. The *Climate Action Plan* specifically calls for a focus on renovation projects, which are more common in San Francisco than new construction. The City has since implemented two significant ordinances in support of this action: the 2008 Green Building Ordinance and the amended Residential Water Conservation Ordinance (discussed above).

#### 2008 Green Building Ordinance

Effective September 4, 2008, the City of San Francisco implemented a Green Building Ordinance (Chapter 13 of the San Francisco Building Code) for all new residential properties and new commercial buildings greater than 5,000 square feet. The ordinance requires upgrades to commercial interiors and major alterations to existing buildings and gives points for the retention

of significant historic architectural features. San Francisco's Green Building Ordinance is designed such that projects subject to LEED® requirements would be at least 14 percent more energy efficient than Title 24 requirements, and projects subject to the GreenPoint Rated systems would be at least 15 percent more energy efficient than Title 24 requirements.

The ordinance imposes strict green building requirements on a sliding scale with full implementation by 2012. Current 2010 requirements of the Green Building Ordinance include:

*New Mid-sized Commercial Buildings (5,000-25,000 square feet):*

- Must perform commissioning of the building's energy-related systems;<sup>46</sup>
- At a minimum, must reduce potable water for landscaping by 50 percent;<sup>47</sup>
- At a minimum, must reduce potable water use by 20 percent;<sup>48</sup>
- Must comply with the SFPUC's Stormwater Design Guidelines, or LEED® Sustainable Sites Credit 6.1 and 6.1; and
- Must divert at least 75 percent of the project's construction demolition debris to recycling.<sup>49</sup>

*New Large Commercial Buildings (≥25,000sf):*

- Must comply with the above requirements for water-efficient landscaping, water use reduction, stormwater management, and construction debris management;
- Must achieve LEED® Silver certification; and
- Must perform enhanced commissioning of the buildings energy related systems.<sup>50</sup>

*New Large Commercial Interiors or Major Alterations to Existing Buildings ≥ 25,000sf:*

- Must achieve LEED® silver certification level; and

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<sup>46</sup> Commissioning of the building's energy systems must meet LEED® Energy and Atmosphere Prerequisite 1.

<sup>47</sup> This requirement must meet LEED® Water Efficiency Credit 1.1. The baseline for this analysis is the National Energy Policy Act of 1992 efficiency requirements.

<sup>48</sup> This requirement must meet LEED® Water Efficiency 3.1. The baseline for this analysis is the National Energy Policy Act of 1992 efficiency requirements.

<sup>49</sup> This requirement must meet LEED® Material Resources Credit 2.2.

<sup>50</sup> This requirement must meet LEED® Energy and Atmosphere Credit 3.

- Must use low-emitting materials for adhesives, sealants, paints, coatings, and carpets.

*Small Residential (4 or fewer units):*

- Must achieve at least 50 GreenPoints from the GreenPoint Rated system; and
- Must meet the SFPUC's stormwater design guidelines.

*Mid-sized Residential (5+ units and < 75 feet high):*

- Must achieve at least 50 GreenPoints from the GreenPoint Rated system; and
- Must comply with the SFPUC's Stormwater Design Guidelines, or LEED® Sustainable Sites Credit 6.1 and 6.1.

*High-rise Residential (5+ units and ≥ 75 feet high):*

- Must achieve LEED® Silver Certification or 75 GreenPoints in addition to other requirements (below);
- At a minimum, must reduce potable water for landscaping by 50 percent;
- At a minimum, must reduce potable water use by 20 percent;
- Must comply with the SFPUC's Stormwater Design Guidelines, or LEED® Sustainable Sites Credit 6.1 and 6.1; and
- Must divert at least 75 percent of the projects construction demolition debris to recycling.

By 2012, the Green Building requirements will increase substantially. Notable requirements are listed below.

*New mid-sized Commercial Buildings:*

- Must perform enhanced commissioning of the building's energy systems;
- Must reduce potable water consumption by 30 percent; and
- Must provide on-site renewable energy or purchase renewable energy credits.<sup>51</sup>

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<sup>51</sup> This requirement must meet either LEED® Energy and Atmosphere Credit 2 or Credit 6.



*New Large Commercial Buildings:*

- In addition to the water efficiency and renewable energy requirements above, must achieve LEED® Gold certification.

*New Large Commercial Interiors or Major Alterations to Existing Buildings:*

- Must achieve LEED® Gold certification.

*Small and Mid-sized Residential Buildings:*

- Must achieve a minimum of 75 GreenPoints.

In June 2007, the Green Building Task Force released a report and recommendations on green building requirements, which ultimately became the Green Building Ordinance.<sup>52</sup> The report estimates the cumulative benefits of the Green Building Ordinance from 2008 to 2012 (when the ordinance is fully implemented). The ordinance cites the following environmental benefits during the implementation phase:

- Electrical savings = 220,000 megawatts of power saved
- CO<sub>2</sub> reductions = 60,000 tons<sup>53</sup>
- Drinking water savings = 100 million gallons
- Waste/storm water reduction = 90 million gallons
- Construction and demolition debris waste reduction = 700 million pounds
- Recycled material valuation = \$200 million

Vehicle trips avoided = 540,000 auto trips

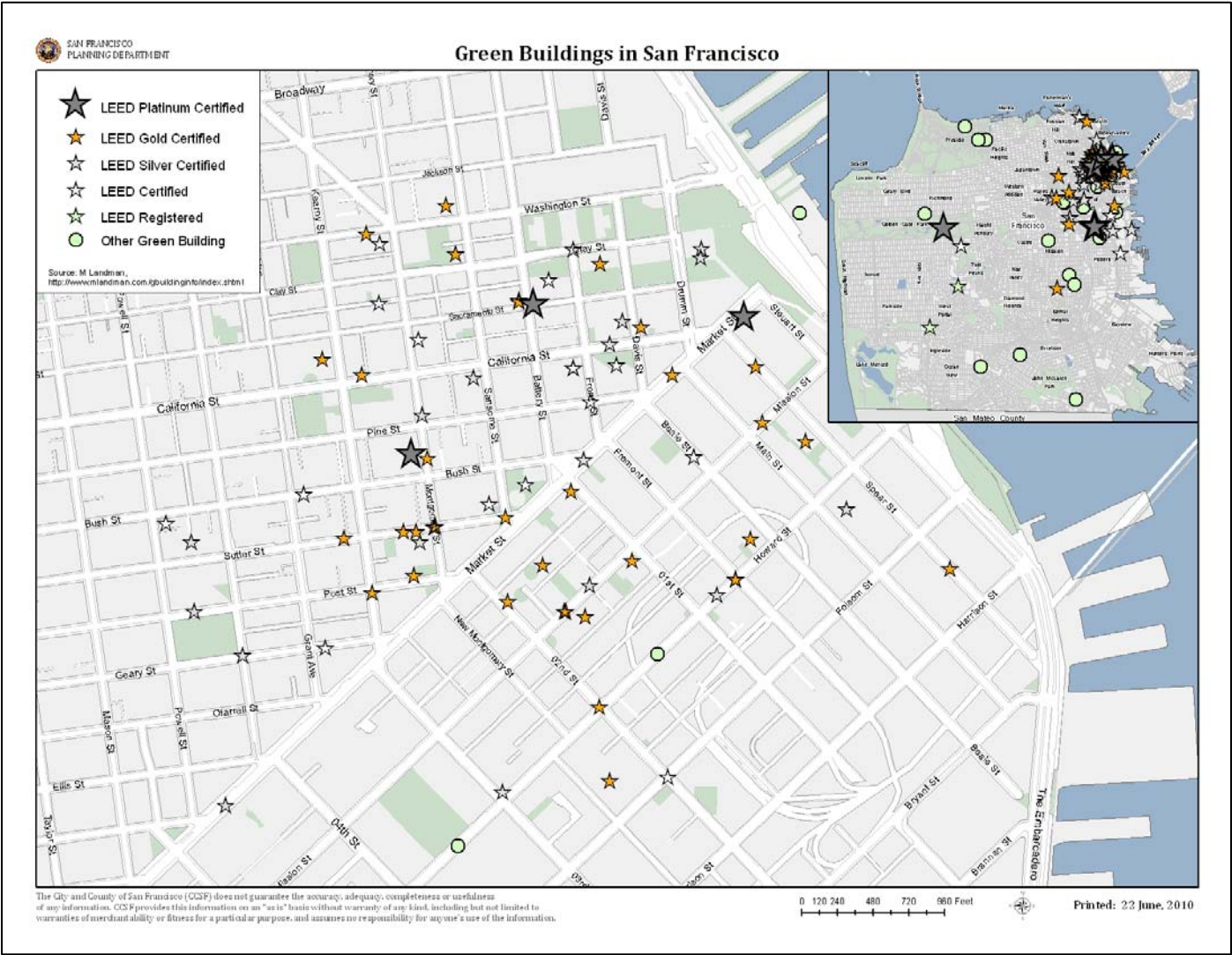
Green Power generation = 37,000 megawatt hours.

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<sup>52</sup> *Report and Recommendations*, June 2007. The Mayor's Task Force on Green Building for the City and County of San Francisco. This report is available online at: <http://www.sfenvironment.org/downloads/library/gbtfrreleasev1.3.pdf>. Accessed January 7, 2010.

<sup>53</sup> The *Climate Action Plan* assigns a CO<sub>2</sub> reduction of 65,000 U.S. tons to the entire section discussing energy efficiency from strengthening legislation, codes and standards. The private sector green building ordinance was not originally conceived under the *Climate Action Plan* and therefore much of the 60,000 U.S. ton CO<sub>2</sub> reduction in addition to reductions anticipated under the *Climate Action Plan*.

Figure IV-2. Green Buildings in San Francisco



Source: San Francisco Planning Department, 2010.

### Residential Water Conservation Ordinance

The Residential Water Conservation Ordinance, as amended in 2009 and discussed previously, establishes minimum water conservation standards for new and existing residential buildings.

### **ENERGY-C.3: Support and Enforce the Green Building Ordinance**

The *Climate Action Plan* calls for support and enforcement of San Francisco Environment Code Chapter 7, which establishes green building requirements for municipal buildings (referred to as the Resource Efficiency Requirements).<sup>54</sup> The ordinance requires the City's municipal buildings to achieve a minimum rating of LEED® Silver from the U.S. Green Building Council (USGBC). The City has made considerable efforts to comply with the City's Green Building Ordinance. The 2004-2007 Municipal Green Building Report notes that the City has ten municipal green building projects in varying stages of obtaining LEED® certification from the USGBC. At the time of publication of the report, one project had completed its LEED certification and nine were pursuing LEED® ratings.<sup>55</sup> There are currently 18 municipal green buildings in San Francisco, of which nine are City and County of San Francisco projects.<sup>56</sup> In implementing the municipal green building ordinance, the Green Building program has emphasized technical assistance, education and outreach. During the last three years SF Environment has provided green building educational materials and presentations to City staff and to design teams throughout the City. SF Environment's Strategic Plan 10-12, discussed in Section VIII of this document, identifies a goal of amending Chapter 7 of the Environment Code to require municipal buildings to achieve LEED Gold standards.

### The San Francisco Municipal Green Building Compliance Guide<sup>57</sup>

The San Francisco Municipal Green Building Compliance Guide is intended as a resource for City and County of San Francisco professionals working on the planning, design, construction, operation, and demolition of City buildings. It expands upon, and clarifies, the green building requirements that are codified in Chapter 7 of the Environment Code. The guide provides an overview of the City's green building requirements and the LEED® Rating System, step-by-step

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<sup>54</sup> City and County of San Francisco Environment Code, Chapter 7. Available online at: <http://library.municode.com/index.aspx?clientId=14134&stateId=5&stateName=California>. Accessed January 7, 2010.

<sup>55</sup> *San Francisco Municipal Green Building Report 2004-2007*. San Francisco Department of the Environment. This document is available online at: <http://www.sfenvironment.org/downloads/library/municipalgreenbuildingreport.pdf>. Accessed January 7, 2010.

<sup>56</sup> Municipal Green Buildings in San Francisco. Department of the Environmental. This document is available online at: <http://www.sfenvironment.org/downloads/library/municipalgreenbuildings.pdf>. Accessed January 7, 2010.

<sup>57</sup> The San Francisco Municipal Green Building Compliance Guide is available online at: <http://www.sfenvironment.org/downloads/library/gbcomplianceguide.pdf>. Accessed January 7, 2010.

instructions for complying with the requirements, and a description of the LEED® credits in the context of San Francisco construction projects.

Tools of the Trade: The San Francisco Green Building Design Toolkit<sup>58</sup>

Tools of the Trade is a compendium of green building resources, in that it focuses specifically on interactive design tools—i.e., information can be entered for analysis or output that can then assist in making design decisions. Many of the profiled tools are software programs or databases. The tool profiles are intended to assist designers by identifying the tools that are most applicable to a given project or design problem. The various tools are also cross-referenced in a green building design process flowchart, which is broken down by the phases of project design.

SFGreenPrint: Green Project Reporting and Information Tool<sup>59</sup>

SFGreenPRINT is a web-based application for city professionals who are working on all phases of implementing the design and construction of San Francisco's municipal green building projects. SFGreenPRINT provides information and resources for implementing the City's green building requirements, identifies City projects in all phases of design and construction, monitors the progress of projects and the LEED® credits for which they are applying, evaluates green building projects based on calculated environmental and financial savings, and reports on the status and effects of green buildings by sponsoring City department, project location, certification level, and environmental impact. SFGreenPRINT was developed through a grant from U.S. EPA Region 9.

Technical assistance to project teams is also provided through direct project oversight. SF Environment staff attends design meetings and ensures that design teams understand the City's green building requirements, have the proper staff, consultants, and resources available to meet these requirements, are setting environmental goals early in design, are utilizing an integrated design process, and are planning properly for LEED® Silver certification. SF Environment also maintains a webpage dedicated to providing information and technical resources for green building for both the municipal and private sector.<sup>60</sup>

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<sup>58</sup> The San Francisco Green Building Design Toolkit is available online at: [http://www.sfenvironment.org/our\\_programs/interests.html?ssi=8&ti=19&ii=73](http://www.sfenvironment.org/our_programs/interests.html?ssi=8&ti=19&ii=73). Accessed January 7, 2010.

<sup>59</sup> To access SFGreenPrint, go to: <http://www.sfgreenprint.org/>. Accessed January 7, 2010.

<sup>60</sup> The Department of the Environment's Green Building Website can be reached at: [http://www.sfenvironment.org/our\\_programs/interests.html?ssi=8&ti=19&ii=73](http://www.sfenvironment.org/our_programs/interests.html?ssi=8&ti=19&ii=73). Accessed January 7, 2010.

### IV.III Climate Action Plan Renewable Energy Actions

The *Climate Action Plan* identifies three main action categories for renewable energy actions (see Table IV-6). The *Climate Action Plan* assigns CO<sub>2</sub> reduction values to the development of renewable energy projects from solar, wind, and biomass energy. In total, these renewable energy actions are expected to yield a reduction of 318,000 U.S. tons of CO<sub>2</sub> per year. The *Climate Action Plan* also calls for conducting pilot projects for emerging technologies, although no reduction values are associated with this action. Lastly, the *Climate Action Plan* advocates for supporting and developing green power purchasing and assigns an annual CO<sub>2</sub> reduction of 230,000 U.S. tons. City programs that support renewable energy actions that have been implemented or are in the implementation process are discussed below.

**Table IV-6. Climate Action Plan Renewable Energy Actions**

<b>Renewable Energy Action Categories</b>	<b>Estimated CO<sub>2</sub> Reduction (U.S. tons per year)</b>
RENEWABLE-A. Develop Renewable Energy Projects	
Solar Energy	35,000
Wind Energy	239,000
Biomass Energy	44,000
RENEWABLE-B. Conduct Pilot Projects for Emerging Technologies	
RENEWABLE-C. Support and Develop Green Power Purchasing	230,000
<b>Total</b>	<b>548,000</b>
Source: <i>Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Gas Emissions</i> . San Francisco Department of the Environment and San Francisco Public Utilities Commission. September 2008.	

#### RENEWABLE-A: Develop Renewable Energy Projects

The *Climate Action Plan* divides renewable energy projects among solar, wind, and biomass projects. The following discusses City actions that were being implemented during publication of the *Climate Action Plan* as well as additional actions that have been implemented since the document's publication. A number of different sources have been compiled to aid in the discussion of City actions to develop renewable energy projects, and this section should be viewed in conjunction with those documents (*Electricity Resource Plan*, *Electric Reliability Plan*, *San Francisco Sustainability Plan*, and *Clean Energy, Clean Air Policy Brief*). These documents are discussed here briefly.

### Electricity Resource Plan

As previously discussed, the San Francisco adopted the *Electricity Resource Plan* in 2002 to ensure a clean, reliable electricity portfolio. The plan aims to increase renewable energy from: (1) solar by 7 megawatts (MW) by 2004, 28 MW by 2008, and 50 MW by 2012; (2) wind by 50 MW by 2008 and 150 MW by 2012; (3) medium-sized generation/co-generation by 150 MW by 2004 and 250 MW by 2008 (these projects would replace old fossil fuel generation), and (4) small-scale distributed generation by 10 MW by 2004, 38 MW by 2008, and 72 MW by 2012.

The following recommendations related to renewable energy are identified in the *Electricity Resource Plan*:

1. SF Environment and the SFPUC should identify locations for the installation of renewable energy systems in San Francisco on public and private buildings, and develop programs and funding mechanisms to put them in place through Propositions B and H and other sources.
2. SF Environment and the SFPUC should work with the Planning Department and the Department of Building Inspection to facilitate permitting and inspections of renewable energy projects.
3. The SFPUC should develop renewable energy sources to be conveyed through transmission lines that serve San Francisco.
4. SF Environment and the SFPUC should work with other City departments to develop a local solar installation industry and bring renewable energy manufacturing and assembly to San Francisco.
5. The City, through the Board of Supervisors, should set targets for the quantity of solar and other renewable energy development in San Francisco over the next decade.
6. The Board of Supervisors should set a Renewable Portfolio Standard that would continually increase percentages of renewables in San Francisco's imported electricity mix (to be supplied by renewable sources such as wind, solar, low-impact hydroelectric, geothermal, and biomass). The Board of Supervisors should support Renewable Portfolio Standard legislation at the state and federal levels.
7. SF Environment and the SFPUC should develop resources and infrastructure for the production of hydrogen as a fuel to convert or displace fossil fueled technologies.

8. SF Environment and the SFPUC should seek partnerships with government agencies and private entities to explore the potential of advanced renewable technologies appropriate for San Francisco's urban environment, including wind, tidal current, and wave generation.
9. The City should expeditiously develop sufficient highly efficient and operationally flexible new energy-generating resources to enable the closure of Hunters Point Unit 4 by the end of 2004. The amount of new generation needs to satisfy the Independent Systems Operator (ISO) reliability requirements based on objective load flow analyses.
10. The City should facilitate the early retirement of Potrero Unit 3, to avoid costly upgrades and the extended operation of this outdated plant. New City power facilities used as replacement power must reduce air emissions.
11. The City should develop cost-effective co-generation applications at locations such as Mission Bay as an effective way of reducing the emission of greenhouse gases and improving electric system reliability.
12. The quantity of new natural gas-fired generation procured by the City should be based on an ISO-reviewed load flow study that determines the amount of power necessary to maintain system reliability while complying with all state and federal environmental regulations. All studies will be based on the latest ISO-accepted electricity demand forecast. Whenever investment in demand-side management programs and sustainable resources can offset new fossil fuel development to meet demand forecasts, this will be the City's preferred course.
13. SF Environment and the SFPUC should annually evaluate the need to operate any city-owned or controlled natural gas-fired generation. The evaluation will include an assessment of the latest electricity demand forecast and an assessment of the progress in energy efficiency, demand reduction, distributed generation, and renewable energy. Fossil fuel plants should only be used to serve city load and to meet reliability requirements as required by the ISO.
14. SF Environment and the SFPUC should develop or facilitate private and public sector projects for various distributed generation applications, including fuel cells, packaged co-generation, and micro-turbines. Emergency diesel generators that do not have the best available pollution control technology should not be used except in genuine emergencies.

15. The City should seek to remove economic disincentives within the control of the California Public Utilities Commission for the development of distributed generation projects installed in San Francisco.
16. The SFPUC should work with PG&E to research and identify the effects of distributed generation on the local distribution system.
17. SF Environment and the SFPUC should work with PG&E, the Planning Department, and the Department of Building Inspection to streamline the permitting and interconnection of distributed generation to the grid.
18. The City should advocate for the completion of the 60 kilovolt (kV) to 115 kV upgrade of the San Mateo-Martin transmission line number four before the end of 2004.
19. The City should support the Jefferson-Martin 230 kV transmission line project and strongly advocate for a continual increase in the level of renewables in the electricity resource mix transmitted over the grid. The SFPUC should work with PG&E to expedite its early approval and construction. SF Environment should monitor the environmental review process to ensure that the City's expectations regarding environmental compliance/mitigation issues are met.

#### Electricity Reliability Plan

San Francisco receives its electric power through high-voltage transmission lines that run up the Peninsula, and from electric generating units in the City. The electric power from all of these sources is needed to ensure that there is a reliable supply to meet San Francisco's needs, especially during times of peak power use. The problem is the in-City generating units, located at Hunters Point and Potrero, are old, dirty, and inefficient. They have polluted the air in the Southeast neighborhoods too long and must be shut down. The Hunters Point power plant closed in 2006, while the Potrero power plant continues to operate because of a ruling by the California Independent Systems Operator that the power plant must continue to operate through 2010.

The City has acquired four low-emission, natural gas-fired combustion turbines (CTs) to maintain reliable electric service. Coupled with the upgrade of electric transmission both into and within San Francisco these units will ensure the closure of the city's old, polluting power plants.

The Electric Reliability Project consists of two parts: (1) three CTs to be sited at or near the existing Potrero Power Plant; and (2) one CT to be sited at the San Francisco Airport.



Siting and operating these CTs is an essential step in achieving the shutdown of the older, polluting units, but only a first step within the city's wider *Electricity Resource Plan*. This plan, approved in December 2002, calls for the development of a broad array of energy resources, including renewable energy such as solar, wind, and tidal power, and significant improvements in energy efficiency.

#### San Francisco Sustainability Plan

In July 1997, the Board of Supervisors endorsed the *Sustainability Plan* for San Francisco, establishing sustainable development as a fundamental goal of municipal public policy.

#### Clean Energy, Clean Air

Mayor Gavin Newsom's "Clean Energy, Clean Air" policy brief presented a plan to increase renewable energy use in San Francisco. Among its goals, the following relate to renewable energy:

- Require that by the year 2010 all of the City government power come from clean, renewable sources;
- Streamline city permitting for solar energy systems;
- Expedite implementation of San Francisco's solar energy bond;
- Set aside 5 percent of Hetch Hetchy Water and Power gross revenues annually for investment in efficiency and solar projects;
- Take advantage of power contract expirations to switch to wind power; and
- Require solar to be incorporated into new buildings.

On June 22, 2004, the Public Utilities Commission acted to initiate the SFPUC's Clean Energy, Clean Air Program.

In addition to the plans discussed above, San Francisco has implemented a Green Building Ordinance that includes requirements for renewable energy, as discussed below.

#### San Francisco Green Building Ordinance

The San Francisco Green Building Ordinance requires renewable energy generation and/or procurement for larger new commercial buildings. The San Francisco Green Building Ordinance, adds Chapter 13C to the San Francisco Building Code, and sets forth requirements for new

construction to meet a specified level of green building requirements dependent upon the use and size of the construction. The ordinance requires that by 2012, new commercial buildings will be required to provide on-site renewable energy or purchase renewable energy credits consistent with LEED® credits EA2 or EA6 (generate 2.5 percent of the building's energy from renewable sources, or provide at least 35 percent of the building's electricity from renewable sources, respectively).

#### Clean Energy Technology Business Exclusion Ordinance

In an effort to promote the development of clean energy jobs in San Francisco, the City passed an ordinance amending the San Francisco Business and Tax Code in 2005. The ordinance allows for tax exclusions for companies engaged in the production of clean energy technology.

#### **Solar Energy (Estimated CO<sub>2</sub> Reduction: 35,000 U.S. tons/yr or generate 68 gigawatt hours of solar energy)<sup>61</sup>**

The *Climate Action Plan* identifies numerous solar programs and projects underway in 2004. The first solar electric project sponsored by the City was the installation of photovoltaic panels on the Moscone Center roof. The solar project's peak output is 675 kilowatts, and it is expected to produce at least 826,000 kilowatt-hours per year. The Moscone Center is also equipped with energy-efficient lighting that is expected to save 4 million kilowatts-hours annually. The *Climate Action Plan* identifies another solar project at the Southeast Water Pollution Control Plant that was under development at the time the *Climate Action Plan* was published. The *Climate Action Plan* has also installed radiometers at 11 City buildings to collect sunlight availability data. So far, the monitoring program has found that the annual solar resource does not vary by more than 20 percent between areas that receive the most and the least sunlight.

SF Environment developed streamlined solar permitting and public information and manages a solar training and installation program to fit 54 homes in the Bayview Hunter Point with solar water heating systems. SF Environment and the SFPUC are also implementing the Generation Solar Program to install solar electric systems on residential and commercial rooftops in San Francisco.

In addition to these programs and projects, the *Climate Action Plan* identifies the following proposed actions.

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<sup>61</sup> Generally, in California, 1 MW is roughly equivalent to 1.6 gigawatt hours. Therefore, 68 gigawatt hours equates to roughly 48.6 MW. San Francisco currently generates 8.5 MW, with municipal plans for another 6 MW and has identified additional solar potential up to 50.3 MW. Additional solar power is expected from residential and commercial solar projects.

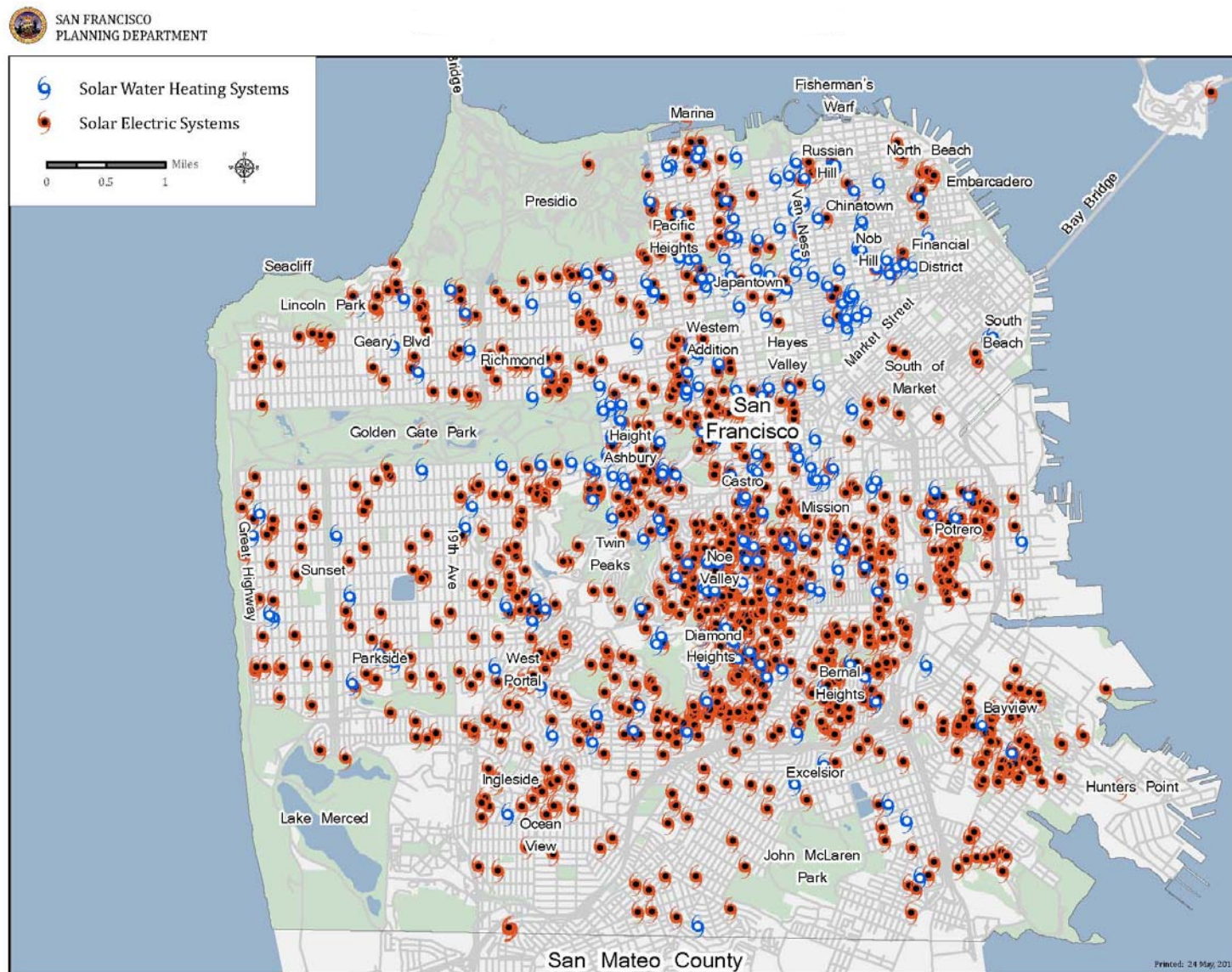
**RENEWABLE-A.Solar-1: Implement Generation Solar**

The *Climate Action Plan* calls for continued implementation of the Generation Solar Program which would install at least 100 solar electric systems on residential and commercial rooftops in San Francisco. The Residential and Commercial Solar Ordinance (2003) requires SF Environment and the SFPUC to implement the Generation Solar Program. The *Climate Action Plan* assumes that the City will meet its 2012 Electricity Resource Plan goals of generating 68 gigawatt hours of solar energy. Although the *Climate Action Plan* references this specific program, the following discussion identifies additional solar programs implemented by the City for residents and businesses in San Francisco. San Francisco has made significant progress in the implementation of solar electric systems. SF Environment maintains a solar map showing the locations where solar systems have been installed.<sup>62</sup> As of May 18, 2010, San Francisco has installed 1,622 photovoltaic systems, with a total capacity of 8.5 MW. These systems generate 11,254 megawatt hours of electricity annually and save 3,379 metric tons of CO<sub>2</sub>E per year. Figure IV-3 maps the City's current private and municipal solar installations.

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<sup>62</sup> For more information and to view the solar map, go to: <http://sf.solarmap.org/>. Accessed December 23, 2009.

Figure IV-3. San Francisco's Solar Generation Systems



Source: San Francisco Planning Department. May 2010.

San Francisco has set a goal of installing 10,000 solar photovoltaic (PV) systems by 2010. Although an ambitious goal, San Francisco has recently launched programs to further incentivize solar installation. These programs are discussed below:

#### GoSolarSF

GoSolarSF is a rebate program, passed by the San Francisco Board of Supervisors in 2008. Coupled with federal tax credits and the California Solar Initiative, the program could pay half the cost or more of a solar power system installed in San Francisco. The average cost of solar installation is between \$20,000 and \$25,000. Low-income residents could save up to 60 to 70 percent and pay between \$7,000 and \$10,000. The program also applies to businesses and nonprofits. The Solar Incentive Rebate Program can increase the amount of solar in the City from 5 MW currently (750 rooftops) to 55 MW (15,000 rooftops) in 10 years. The \$3 million that will be used for the solar incentive program in 2008 is expected to produce 1.5 MW of private sector solar.

The program gives a simple and direct rebate to local homes, businesses, and nonprofits that invest in rooftop solar installations. Applicants can only receive one of the following incentive levels:

- SFPUC renewable energy and energy efficiency funds are used to provide incentive payments to qualified applicants ranging from \$3,000 to 6,000 for residential installations and up to \$10,000 for commercial installations.
- Incentive levels of \$4,000 for solar installations completed by installers with offices in San Francisco will be provided in order to help build a sustainable local solar industry and deliver green jobs to local residents.
- A \$5,000 incentive level for installations located in Environmental Justice Districts will be provided in order to boost the development of cleaner power sources in communities that have experienced the greatest burden of environmental and social costs of the City's historical power generation.

The GoSolarSF program is the largest local solar incentive in the United States for residents and businesses. Since the inception of GoSolarSF in July of 2008, monthly solar applications have spiked in San Francisco by over 300 percent.<sup>63</sup>

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<sup>63</sup> "Mayor Gavin Newsom Asks Private Sector to Partner with San Francisco on Clean Energy Loan Program." Press Release. February 2, 2009. This press release can be found at:

### San Francisco Clean Energy Loan Program

On February 2, 2009, San Francisco Mayor Gavin Newsom announced the largest loan program for installation of rooftop solar PV systems. The program will loan low-interest money to residents and businesses for installation of PV systems.

The San Francisco Clean Energy Loan program will complement GoSolarSF by providing borrowing options for residents to cover the remaining cost of their solar installations, and will also be available to help fund urban small-scale wind projects, as well as energy efficiency upgrades. The Clean Energy Loan Program would attach loans to the building rather than the borrower. Residents will repay the loans over 20 years through a special tax on their property tax bills. This provides greater security for the lenders allowing them to make more loans available to more people and on more competitive terms.<sup>64,65</sup>

### Streamlined Permitting

As discussed in the beginning of this section, the Planning Department and Department of Building Inspection issue streamlined permitting for the installation of solar PV systems. Mayor Newsom identified streamlined solar permitting in his “Clean Energy, Clean Air: A Plan to Increase Renewable Energy Use in San Francisco”.<sup>66</sup>

### Planning Code

San Francisco Planning Code Section 242 and Article 2.5 allow for limited height exemptions for wind and solar generation.

### The Mayor’s Solar Founders’ Circle

On September 30, 2008, Mayor Newsom challenged San Francisco’s businesses to go solar and set a goal of installing 5 MW of solar electricity by September 2009. This challenge/program is funded in part by a \$200,000 grant from the U.S. Department of Energy’s Solar America Cities initiative and the SF Energy Watch Program. The mayor invited 1,500 of the city’s largest businesses, which upon full participation can install 170 MW of solar on their roofs, more than thirty times the amount of solar currently installed in the city, and enough to power 42,000 local households. Businesses that successfully participate in the challenge will become members of the

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[http://sf.solarmap.org/files/02\\_02\\_09.RFP-SF%20Clean%20Energy%20Loan%20Program%20Press%20Release.pdf](http://sf.solarmap.org/files/02_02_09.RFP-SF%20Clean%20Energy%20Loan%20Program%20Press%20Release.pdf). Accessed December 23, 2009.

<sup>64</sup> Ibid.

<sup>65</sup> This program is currently suspended due to pending litigation.

<sup>66</sup> *Clean Energy, Clean Air: A Plan to Increase Renewable Energy Use in San Francisco*. Policy brief. This document is available online at: <http://www.sfmayor.org/wp-content/themes/atahualpa/Policy/PolicyPapers/MayorsCleanEnergyCleanAir.pdf>. Accessed December 23, 2009.

Mayor's Solar Founders' Circle, and will receive free solar assessments and energy efficiency audits from SF Environment.<sup>67</sup>

#### Solar Water Heating

Solar water heating provides a number of enticing economic and environmental benefits. In San Francisco, residential solar water heating could decrease citywide natural gas use by as much as 19 million therms per year, which would reduce the City's carbon emissions by about 116,000 metric tons.<sup>68</sup>

#### Neighborhood Solar Champions

Neighborhood Solar Champions is a public outreach program where classes are held several times a year on select Saturdays at the PG&E Pacific Energy Center to train citizens of San Francisco interested in helping spread the word about solar in their neighborhoods.

#### **RENEWABLE-A.Solar-2: Expand Solar PV Installations on Municipal Buildings**

SFPUC provides power to all San Francisco City and County government buildings. The *Climate Action Plan* calls for continued installation of solar systems on municipal buildings. The *Climate Action Plan* specifically identifies the Airport, the Port, the Department of Parking and Traffic and the Water Department as options for developing large-scale solar projects. The *Climate Action Plan* identifies a goal that at least 10 additional municipal sites should be identified for smaller-scale solar electric systems at schools, libraries, health facilities, and police and fire stations. The *Climate Action Plan* also calls for the continued expansion of programs to install solar on existing facilities and new construction projects.

The City has established goals for increasing the City's renewable energy portfolio and has implemented many renewable energy projects. As of May 2009, the SFPUC operates over 2 megawatts (MW) of solar PV projects located throughout San Francisco. The City's renewable projects generate over 2 million kilowatt-hours (kWh) of clean renewable electricity annually (over 6 million kWh to date). Table IV-7 gives a summary of the location, capacity, and energy generated for each project. Solar PV projects in progress include installations at Muni facilities, Chinatown Health Center, City Hall, and Davies Symphony Hall. Large-scale solar projects are currently being developed at SFPUC's Tesla and Sunol sites outside of San Francisco in the event that this capacity is needed in the future. There are also many other opportunities for potential

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<sup>67</sup> Mayor's Office of Communications. "Press Release: Mayor Gavin Newsom Announces Commercial Solar Challenge." Office of the Mayor. 30 Sep. 2008. Accessed: 18 Dec. 2009.

<[http://www.sfenvironment.org/downloads/library/sf\\_commercial\\_solar\\_challenge\\_press\\_release.pdf](http://www.sfenvironment.org/downloads/library/sf_commercial_solar_challenge_press_release.pdf)>.

<sup>68</sup> Solar Water Heating Basics." SF Environment. Accessed: 18 Dec. 2009.

<[http://www.sfenvironment.org/downloads/library/solar\\_water\\_heating\\_basics.pdf](http://www.sfenvironment.org/downloads/library/solar_water_heating_basics.pdf)>

solar projects on municipal facilities such as SFPUC reservoirs, and SFMTA parking garages and maintenance facilities.

#### Sunset Reservoir

A large-scale solar project is planned for Sunset Reservoir. This project will produce 5 MW of solar energy. Construction of the Sunset Reservoir solar project will be one of California's largest solar PV system installations. The project will include 25,000 solar panels that will line the roof of Sunset Reservoir and triple San Francisco's total municipal solar energy output.<sup>69</sup>

#### Other Municipal Buildings

A number of other solar projects are planned or in the implementation phase. These include: (1) the Chinatown Public Health Center (26 KW), (2) Muni Woods Motorcoach Facility (104 KW), (3) Muni Ways and Structures Facility (127 KW); and (4) Civic Center (100 KW). Table IV-8 lists solar PV projects that are currently in progress.

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<sup>69</sup> For more information, go to:  
[http://sfwater.org/detail.cfm/MC\\_ID/12/MSD\\_ID/139/MTO\\_ID/243/C\\_ID/4554](http://sfwater.org/detail.cfm/MC_ID/12/MSD_ID/139/MTO_ID/243/C_ID/4554). Accessed December 22, 2009.



Table IV-7. Completed Solar Photovoltaic Projects

Project	Location	Capacity (kW DC)	Electricity Generated (kWh/yr)					Total
			2004	2005	2006	2007	2008	
Pier 96	Pier 96	245	-	-	-	312,985	297,115	610,100
Southeast Wastewater Plant*	750 Phelps Street	255	-	39,419	334,748	330,034	327,105	1,031,306
Moscone Convention Center	747 Howard Street	676	734,967	805,300	735,885	763,185	533,439	3,572,776
City Distribution Division*	1990 Newcomb	134	-	-	-	-	82,633	82,633
North Point Plant	110 Bay Street	241	-	-	-	-	196,241	196,241
Maxine Hall Health Center	1301 Pierce Street	32	-	-	-	-	49,626	49,626
Chinatown Library	1135 Powell Street	10	-	-	-	-	12,734	12,734
Airport	Terminal 3	456	-	-	-	-	631,304	631,304
<b>Total</b>		<b>2,049</b>	<b>734,967</b>	<b>844,719</b>	<b>1,070,633</b>	<b>1,406,204</b>	<b>2,130,197</b>	<b>6,186,720</b>
Source: San Francisco Public Utilities Commission, Solar Map Presentation. This presentation is available online at: <a href="http://www.sfenvironment.org/downloads/library/sfpuc_solar_map_presentation.pdf">http://www.sfenvironment.org/downloads/library/sfpuc_solar_map_presentation.pdf</a> . Accessed August 10, 2010.								

**Table IV-8. Solar Photovoltaic Projects in Progress**

Department	Project	Capacity (kW DC)	Electricity Generated (kWh/yr)
SFMTA	Muni Ways and Structures*	127	155,000
SFMTA	Muni Woods Motor Coach*	104	127,000
Public Health	Chinatown Health Center*	26	32,000
Real Estate, various	City Hall	100	120,000
War Memorial	Davies Symphony Hall	225	275,000
<b>Totals</b>		<b>582</b>	<b>709,000</b>
Source: San Francisco Public Utilities Commission, Solar Map Presentation. This presentation is available online at: <a href="http://www.sfenvironment.org/downloads/library/sfpuc_solar_map_presentation.pdf">http://www.sfenvironment.org/downloads/library/sfpuc_solar_map_presentation.pdf</a> . Accessed August 10, 2010.			

The SFPUC is also conducting energy audits of all City municipal buildings. As part of the energy audits, the SFPUC will be assessing the feasibility of installing solar PV projects on other municipal buildings. Table IV-9 lists additional municipal sites that have the potential for solar projects and their solar capacity. If implemented, these projects, in combination with the ones discussed above, could increase San Francisco's solar generation from 5 MW to 50.3 MW.

**Table IV-9. San Francisco Municipal Solar Possibilities**

Potential Solar Projects	Potential Solar Capacity (MW)
Reservoirs	15.3
Municipal Buildings	5
Sunol Open Land	25
Tesla Open Land	5
<b>Total</b>	<b>5-50.3</b>
Source: San Francisco Public Utilities Commission, Solar Map Presentation. This presentation is available online at: <a href="http://www.sfenvironment.org/downloads/library/sfpuc_solar_map_presentation.pdf">http://www.sfenvironment.org/downloads/library/sfpuc_solar_map_presentation.pdf</a> . Accessed August 10, 2010.	

### Wind Energy (Estimated CO<sub>2</sub> Reduction: 239,000 U.S. tons/yr)

SF Environment and the SFPUC are researching small and large-scale wind opportunities within San Francisco and on City property located outside of San Francisco. The following discusses San Francisco efforts to install wind energy systems.

### RENEWABLE-A.WIND-3: Develop Large Scale Wind Generation

The SFPUC has installed 25 monitoring stations throughout the City of San Francisco and in outlying areas where the City may develop renewable energy projects. These stations measure the solar resource, as well as wind speed and direction to more fully understand the urban wind

potential in San Francisco. The stations were installed prior to 2009 and the SFPUC has collected at least a year of data.

Three studies addressing the feasibility of wind power within San Francisco and within its right-of-way have been prepared. These studies are discussed briefly below:

#### Wind Resource and Energy Estimates – SF Zoo Measurement Site and Oceanside Areas

The wind resource in the City and County of San Francisco was evaluated in a Public Interest Energy Research (PIER) program conducted in 2002-2004 and presented in *PIER Final Report P500-04-066 City and County of San Francisco Wind Resource Assessment Project Task 5: Data Analysis and Reporting*. As part of this study, wind speed and wind direction measurements were undertaken at five selected locations in the city: Aquarium of the Bay, San Francisco Zoo, Treasure Island, Hunters Point, and Twin Peaks. The number of months of available wind speed and wind direction data for these sites were 5 months, 9 months, 12 months, 14 months, and 8 months, respectively.<sup>70</sup>

Since the PIER report was published, the City and County of San Francisco continued to collect wind speed and wind direction data at the San Francisco Zoo site. A total of 22 months of data are now available for analysis. In addition, the SFPUC is interested in knowing the potential wind resource at four other city-owned parcels of land along the western boundary of the City of San Francisco. These locations include Lincoln Park, Sutro Heights Park, Beach Chalet, and Oceanside.

#### City and County of San Francisco Wind Resource Assessment Project

The California Energy Commission's PIER Renewables program element undertook an urban wind resource assessment project to help the City and County of San Francisco optimize its future investment in distributed wind energy generation.

Five prospective wind energy generation sites within the City and County were selected. Wind speed data were collected for periods ranging from 5 to 14 months. Sites included in the analysis are Twin Peaks, Treasure Island, Hunters Point, S.F. Zoo, and Pier 39. Wind data over an 11-year period from the S.F. International Airport (SFO) weather station were used in a normalization analysis for each of the monitored sites. For SFO and for each of the monitored sites, an 8,760-hour wind speed dataset was developed to represent typical wind energy resource. For each site, annual energy production estimates were calculated for a generic 10 kW horizontal axis wind

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<sup>70</sup> This study is available online at: [http://sfwater.org/Files/Reports/SF\\_Report\\_101505.pdf](http://sfwater.org/Files/Reports/SF_Report_101505.pdf). Accessed August 6, 2010.

turbine on a 98-foot tower. Annual energy production estimates ranged from 7,371 kWh/yr for Hunters Point to 15,632 kWh/year for Twin Peaks. With the exception of Twin Peaks, the wind energy resources at the monitored sites appear to be quite modest relative to levels customarily associated with wind energy generation development.

Wind Resource Assessment for City-Owned Land in San Francisco County and Along the Hetch Hetchy Right-of-Way

The City and County of San Francisco is examining various renewable technologies and "energy-light" configurations for its new headquarters building in the City of San Francisco. A recent California Energy Commission PIER Report (P500-04-066) analyzed the wind resource at a number of key locations within the city including Twin Peaks, Hunters Point, Treasure Island, Pier 39, and the San Francisco Zoo. Staff is now expanding this recent wind resource assessment to understand the wind potential along the Hetch Hetchy right-of-way, city-owned properties, and in the waters surrounding the city.<sup>71</sup>

**RENEWABLE-A.4: Research Development of Small Scale Wind Generation**

The following discusses efforts to research small scale wind generation in the City and County of San Francisco.

San Francisco Urban Wind Task Force

On September 21, 2009, the San Francisco Urban Wind Task Force released the following 29 recommendations in their *Report and Recommendations*:<sup>72</sup>

1. The City should encourage the rapid implementation of Small Wind Certification Council's (SWCC) certification procedures and the wide-scale adoption of its standards by small wind generator (SWG) manufacturers.
2. The City should encourage or require manufacturers to adopt information labels (similar to the Energy Star appliance program) that will assist the general public with SWG comparisons.

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<sup>71</sup> Additional information on these studies can be found at:

[http://sfwater.org/detail.cfm/MC\\_ID/12/MSC\\_ID/139/MTO\\_ID/363/C\\_ID/4105](http://sfwater.org/detail.cfm/MC_ID/12/MSC_ID/139/MTO_ID/363/C_ID/4105). Accessed December 22, 2009.

<sup>71</sup> San Francisco Urban Wind Power Task Force. *Report and Recommendations*. 21 September 2009. Accessed: 19 Dec. 2009.

<sup>72</sup> San Francisco Urban Wind Power Task Force. *Report and Recommendations*. 21 September 2009. Accessed: 19 Dec. 2009.

[http://www.sfenvironment.org/downloads/library/sf\\_urban\\_wind\\_tf\\_recommendations\\_report\\_2009.09.21.pdf](http://www.sfenvironment.org/downloads/library/sf_urban_wind_tf_recommendations_report_2009.09.21.pdf).

3. SF Environment should develop informational materials to provide the public with the information necessary for making informed product comparisons.
4. The SFPUC should make data (including site-specific characteristics and data collection methods) from its 20 wind monitoring stations publicly available as soon as possible, but no later than September 2009.
5. The SFPUC should consider installing additional anemometers in parts of the City that prove to be particularly windy.
6. SF Environment should develop a “SF Wind Map” to map the city’s wind resource at the finest possible resolution.
7. The City should consider working with UC Davis and other research labs to conduct citywide wind tunnel studies to better understand the City’s wind resource.
8. The City should consider implementing a wind anemometer loan program (in collaboration with national labs, wind experts, wind industry representatives, and academic institutions) to help potential wind customers in San Francisco better understand their wind resource.
9. The City should explore ways to offer permitting cost refunds to offset or partially offset the cost of permitting SWGs. SF Environment should work with the Department of Building Inspection (DBI) and the Planning Department to identify possible refund programs.
10. DBI and the Planning Department should convene a “small wind permitting subcommittee” comprised of representatives of the small wind industry, bird and bat advocates, and relevant permitting authorities, to review current permitting requirements for SWGs and revise them based on subcommittee discussions. Permitting requirements should be revised and posted no later than winter 2009.
11. SWG permitting requirements and application process should be posted on the DBI and Planning Department websites to ensure that the public is fully aware of these procedures.
12. DBI and the Planning Department should ensure that all relevant staff are knowledgeable about SWG permitting requirements to minimize inconsistency in the permit application process.

13. The City should consider revising citywide height limits to exceed what is currently allowed, thereby allowing for greater wind power generation.
14. Planning should work with SF Environment to require and collect wind and turbine output data as a condition of approval for SWG permit applications. This will help build data points for a citywide wind map and to improve overall understanding of San Francisco's small wind resource.
15. It is premature to consider a local incentive program, like the City's GoSolarSF incentive program, for SWGs. However, the City can take other actions to promote increased adoption of SWGs, such as those that follow.
16. The City should support legislation to continue or expand federal and state incentive programs.
17. The City should include SWGs in the City's on-property-tax-bill financing program, which is currently under development.
18. The City should support efforts at the state level to exempt SWGs from property tax increases.
19. The City should work closely with the Golden Gate Audubon Society and other bird and bat advocacy organizations to monitor, research, and mitigate the potential impacts of SWGs on birds and bats.
20. DBI and the Planning Department should continue to require SWG users to record and report any SWG-related flying animal impacts as a condition of receiving a wind turbine permit, and should consider imposing more stringent data collection standards.
21. The City should continue to make small wind companies eligible for the Clean Tech Payroll Tax Exclusion and other incentive programs to attract clean tech firms to the City.
22. The City should consider providing additional services for San Francisco-based small wind start-ups, such as:
  - Providing small business incubation services, such as subsidized office and manufacturing space and facilitating access to angel investors or venture capitalists;
  - Fostering partnerships with local research labs (i.e., Lawrence Berkeley National Laboratories, Stanford University, and NASA) to allow for free or subsidized access

to wind tunnels and/or other high-tech testing equipment necessary for wind companies; and

- Implementing City-owned small wind demonstration installations to help drive local demand for San Francisco-based companies' products and services.
23. The City should encourage and support efforts by CityBuild Academy, the City's Green Academy, San Francisco City College, and relevant labor unions to provide wind assessment and small wind technician training and/or to provide dual solar photovoltaic/small wind installation training programs.
  24. The City should encourage City departments to comply with Mayor Newsom's Executive Directive 08-08, which instructs City departments to incorporate wind turbines into the design of existing and new City facilities whenever and wherever possible.
  25. The SFPUC, the City's power provider, should work with City departments, especially those with facilities where the wind resource is expected to be good (SF Zoo, Port Authority, Parks and Recreation, SF Unified School District, Treasure Island and others), to identify and install municipal SWG demonstration sites. A City demonstration site plan should be developed no later than November 2009.
  26. The Mayor's Office, in collaboration with Lawrence Berkeley National Laboratories and SF Environment, should develop a SWG testing facility and demonstration site on Treasure Island.
  27. To promote public awareness, the City should sponsor a SWG training course to teach San Franciscans how to assess the wind energy potential at their site, select an appropriate system for their needs, and navigate the permitting and installation processes, similar to the course offered in Davis by the California Wind Energy Collaborative.
  28. The City should perform outreach to residents, private companies, institutions, and organizations to promote more non-municipal SWG installations.
  29. The City should consider revising its current Green Building standards to require all new residential and commercial construction and significant renovations to be built with the potential for installing renewable energy devices, including SWGs. Appropriate renewable energy technologies should be determined by specific site conditions.

#### Executive Directive 08-08

On July 17, 2008, Mayor Newsom issued Executive Directive 08-08, instructing DBI and the Planning Department to “expedite permitting and minimize costs for the installation of residential, commercial, and municipal wind generation turbines in the City.” On October 22, 2008, the Planning Department issued a memo detailing the small wind permit application and review process and on October, 15, 2008, by action of the Building Inspection Commission, DBI revised Administrative Bulletin AB-004 to prioritize permit review for wind generation projects. The executive order also directs City departments to “incorporate wind turbines into the design of existing and new City facilities whenever and wherever possible.”

#### **Biomass Energy (Estimated CO<sub>2</sub> Reduction: 44,000 U.S. tons/yr)**

The SFPUC installed a reciprocating engine to use biogas recovered from the Oceanside Water Treatment Control Plant in 2002 and in 2003, a 2 megawatt biogas plant began operations at the Southeast Water Treatment Control Plant. In addition to these efforts, the *Climate Action Plan* identifies the following additional actions in support of biomass energy.

#### **RENEWABLE-A.BIO-5: Research Biomass Energy Opportunities**

##### SFGreasecycle (Estimated Reduction: 17.3 pounds of CO<sub>2</sub> per gallon)

Every gallon of waste vegetable oil that is converted into biodiesel displaces a gallon of petroleum diesel, which amounts to 17.3 pounds net reduction of carbon emissions.<sup>73</sup> On November 20, 2007, the City launched SFGreasecycle, a free SFPUC biofuel program in which the city picks up used cooking oil and grease from local restaurants, hotels, and other commercial food preparation establishments. Those substances are then turned into biodiesel. This citywide waste vegetable oil (WVO) recovery program diverts fats, oils, and grease (FOG) away from the landfill and sewer system, provides businesses and residents with a cleaner and more affordable FOG disposal option, and contributes to the City’s goal of becoming more energy independent.

The SFPUC established a Commercial Waste Oil Transfer Station—located at the Southeast Waste Water Treatment plant—to handle all material from commercial establishments and residents in the City. This waste oil will be processed and sold to the biofuel industry, turning trash into fuel for the City fleet. For residents, the SFGreasecycle site provides helpful how-to guides on how to properly collect their kitchen grease and lists drop-off centers and events.<sup>74</sup>

In addition to the financial and environmental benefits, SFGreasecycle provides the following benefits:

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<sup>73</sup> San Francisco Public Utilities Commission. “Combating Climate Change.” Accessed 19 Dec. 2009.

<sup>74</sup> More information on SFGreasecycle can be found at [http://sfwater.org/msc\\_main.cfm/MC\\_ID/17/MSC\\_ID/401](http://sfwater.org/msc_main.cfm/MC_ID/17/MSC_ID/401).



- Provides clean tech job opportunities and training for the Bayview Hunters Point community;
- Helps fulfill Mayor's Biodiesel Directive 06-02, requiring 100 percent conversion of municipal fleet to B20 biodiesel<sup>75</sup> by 12/31/07; and
- Is a national model for communities across the country.

#### Biodiesel in San Francisco

Biodiesel is a domestically produced, renewable fuel manufactured from vegetable oils, animal fats, or recycled restaurant greases. It is safe and biodegradable, and it reduces serious air pollutants such as carbon monoxide, particulates, hydrocarbons, and air toxics. Blends of B20 biodiesel can be used in unmodified diesel engines; pure biodiesel (B100) may require engine modifications to avoid maintenance and performance problems.

San Francisco now has more than 800 alternative fuel vehicles in its fleet. The following City departments and agencies have successfully tested and used biodiesel in pilot programs using B20 or higher biodiesel blends:<sup>76</sup>

- San Francisco Airport (SFO): The airport is using B20 without incident, but has had problems with the city's fuel provider regarding reliability and availability of the fuel and is looking for new contractors to meet their biodiesel needs.
- Department of Public Works: Central Shops, which provides motor vehicle maintenance and repair services for several City departments, has converted its 6,000-gallon tank in Golden Gate Park to B20. This is the first phase of a project that will eventually convert 100 percent of Central Shops' other tanks. No problems with the fuel have been reported or are anticipated. Central Shops' staff services a fleet of approximately 5,300 units ranging from lawn edgers to aerial fire trucks and completes 34,000 maintenance repair orders per year.
- San Francisco Municipal Transportation Agency: the largest user of B20, Muni will be studying the fuel demands of 12 buses that will be part of a future pilot program.
- San Francisco Zoo: The zoo's first biodiesel-powered vehicle was the ZooMobile, a traveling outreach program with an annual audience of about 12,000 children, teachers,

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<sup>75</sup> B20 is a blend of 20 percent biodiesel and 80 percent petroleum diesel.

<sup>76</sup> SF Environment. "Biodiesel." Accessed 18 Dec. 2009.

[http://www.sfenvironment.org/our\\_programs/interests.html?ssi=6&ti=15&ii=58](http://www.sfenvironment.org/our_programs/interests.html?ssi=6&ti=15&ii=58).

and seniors. The zoo's poop truck, which picks up animal droppings inside the park and transports them for recycling as fertilizer, was recently converted to biodiesel. There are plans to convert three other zoo vehicles, all of which will be served by the solar-powered biodiesel depot on zoo grounds.

- San Francisco Fire Department: In May 2006 the fire department initiated a six-month pilot program to test and monitor the use of B20 in nine of their vehicles. Upon successful completion of the pilot program, the department expects to expand the use of biodiesel throughout the City.

Under the terms of a three-year supply contract awarded in 2006, the city will be supplied with biodiesel by its regular fuel provider. In May 2006, Mayor Newsom issued an Executive Directive ordering all diesel-using departments to begin using B20 by December 31, 2007, with incremental goals of 25 percent of diesel vehicles and other equipment by December 31, 2006, and 50 percent by July 1, 2007.

#### Clean Construction Ordinance

The Clean Construction Ordinance requires that effective 2009, all public works contracts must adopt the following clean construction practices:

- Utilize only off-road equipment and off-road engines fueled by biodiesel with a fuel grade of B20 or higher; and
- Utilize only high use equipments that either (a) meets or exceeds Tier II standards for off-road engines, or (b) operates with the most effective verified diesel emission control strategy.

The ordinance applies to all construction projects that require 20 or more cumulative days of work to complete. Public works projects are defined generally to mean a contract for the erection, construction, renovation, alteration, improvement, demolition, excavation, installation, or repair of any public building, structure, infrastructure, bridge, road, street, park, dam, tunnel, utility, or similar public facility that is performed by, or for, the City and the cost of which is to be paid wholly or partially out of monies deposited in the City Treasury or out of trust monies under the control of, or collected by, the City.

The ordinance also requires SF Environment to provide technical assistance to Local Business Enterprises (LBEs) and other local businesses in securing available local, state, and federal public incentive funding to retrofit, re-power, or replace off-road vehicles or off-road engines operated

by such businesses within the City. SF Environment must annually report to the Mayor and the Board of Supervisors: (1) information about the extent to which each City department's off-road vehicle and off-road engine fleet meets or exceeds either Tier II standards for off-road engines or utilizes the most effective verified diesel emission control strategy, (2) a summary of the results of grant applications made and awarded for the prior year to retrofit, repower, or replace off-road vehicles and engines in the City's fleet, including fleet upgrades funded and completed, (3) a summary of technical assistance provided to LBEs and other local businesses, and results, if known, and (4) recommendations to the Board of Supervisors, Mayor, and City departments for procedural, policy, or legislative changes to reduce air pollution emanating from off-road vehicles and off-road engines.

### **RENEWABLE-B: Conduct Pilot Projects for Emerging Technologies**

This section of the *Climate Action Plan* identifies renewable energy pilot projects that the City should implement. The *Climate Action Plan* does not identify greenhouse gas emissions reductions from these pilot projects.

#### **RENEWABLE-B.1: Implement Fuel Cell Pilot Projects**

The *Climate Action Plan* calls for a demonstration project that includes installation of two proton exchange membrane fuel cells and implementation of an energy station hybrid fuel cell demonstration project.

In conjunction with the U.S. Department of Defense Climate Change Fuel Cell Program, the City has deployed two fuel cell facilities, one located at the U.S. Postal Service Embarcadero Postal Center and the other at Presidio Trust Building. Together, the facilities host 250 kW and 5 kW, respectively, totaling 255 kW of fuel cell capacity.<sup>77</sup> A report compiled by George E. Sansoucy, P.E., LLC, concludes that the technical potential for fuel cell installation prior to economic considerations is 250 megawatts (MW), but after economic considerations including the fuel cell unit's large footprint, value of the City's real estate, and cost of the fuel cells themselves, a 10 MW fuel cell potential is reasonable for installation. The 20 MW of fuel cells could provide approximately 43,800 megawatt hours per year.

#### **Muni's Zero Emissions 2020 Plan**

Muni's *Zero Emissions 2020 Plan*, in coordination with SFMTA and SF Environment, is a blueprint to guide the City's clean air policy for public transit. In addition to purchasing cleaner transit

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<sup>77</sup> Sansoucy, George E. *In-City Renewable Resource Executive Summary for the Theoretical, Technical, and Economic Potential for Renewable Energy Resource Development in the City and County of San Francisco as part of the CCA Program*. GES Engineers & Appraisers. 11 Aug. 2009. Accessed: 18 Dec. 2009. <<http://www.sfbos.org/Modules/ShowDocument.aspx?documentid=19063>>

buses such as hybrid diesel-electric buses, the plan discusses purchasing hydrogen fuel cell buses as they become more commercially available for large fleet buses. Currently, hydrogen fuel cell buses are being tested for Alameda County Transit and Santa Clara Valley Transportation Authority; the SFMTA will be following the progress of these agencies and, if or when possible, will operate and evaluate hydrogen fuel cell buses in San Francisco as well. Muni's *Zero Emissions 2020 Plan* is discussed further in Section V of this document.

**RENEWABLE-B.2: Implement Tidal Power Pilot Projects (Estimated Power Generation: 300,000 MW per year, 35.5 MW of total extractable average annual power)**

In 2004, San Francisco took part in a wave power pre-feasibility study conducted by the Electric Power Research Institute (EPRI).<sup>78</sup> The study concluded that the coast off San Francisco is a promising area for locating an offshore wave power plant, and that as much as 300,000 MW per year of electricity—enough to power 25,000 San Francisco homes—could be generated annually.

In June 2006, EPRI entered the second phase of the study to explore the possibility of developing a wave energy pilot project in California. The study examined several sites along the California coast, including a site off San Francisco's Ocean Beach, to determine the best location for a pilot project, and to examine the associated regulatory, technological, environmental, financial, and other issues of developing the project.

The study conservatively estimated that the Golden Gate site has 35.5 MW of total extractable average annual power, and that 15 to 17 average megawatts of this power could realistically be extracted by technologies currently in development. The cost of electricity generated, assuming incentives similar to those provided to other renewable resources, is estimated at six to nine cents per kilowatt-hour—a cost competitive with current wind and natural gas generation, and about one-third the cost per megawatt of solar power. The study anticipated that building a tidal energy project at the Golden Gate would help the City meet its growing energy needs from a clean, renewable, locally available source, and would serve as a catalyst for other large-scale, innovative renewable energy projects not only around the state and country, but also for the rest of the world.

In September 2006, Mayor Newsom announced that the city would formally explore the possibility of generating clean energy through tidal power at the Golden Gate with a \$150,000 feasibility study. The study, which began in December 2006, looks at the range of potential issues,

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<sup>78</sup> Bedar. Roger, et al. *Final Summary Report: Project Definition Study – Offshore Wave Power Feasibility Demonstration Project* or (E2I EPRI Global WP 009 – US Rev 2). Electric Power Research Institute. 22 Sep. 2005. Accessed 19 Dec. 2009.

<[http://www.epri.com/oceanenergy/attachments/wave/reports/009\\_Final\\_Report\\_RB\\_Rev\\_2\\_092205.pdf](http://www.epri.com/oceanenergy/attachments/wave/reports/009_Final_Report_RB_Rev_2_092205.pdf)>

challenges, and opportunities of tidal power at the Golden Gate, including regulatory, technological, environmental, financial, and other issues. Completed in 2008, the study concluded that tidal power at the Golden Gate is not commercially feasible at this time, but recommended a demonstration project.<sup>79</sup>

**RENEWABLE-C: Support and Develop Green Power Purchasing (Estimated CO<sub>2</sub> Reduction: 230,000 U.S. tons/yr)**

The *Climate Action Plan* advocates for continued support for State implementation of the Renewable Portfolio Standard. The *Climate Action Plan* estimates that support and development of Green Power Purchase could result in a reduction of 230,000 U.S. tons of CO<sub>2</sub>. This equates to 25 percent of San Francisco's imported electricity coming from renewable energy sources.

San Francisco Green Building Ordinance

The San Francisco Green Building Ordinance requires that by 2012, new commercial buildings will be required to provide on-site renewable energy or purchase renewable energy credits consistent with LEED® credits EA2 or EA6 (generate 2.5 percent of the building's energy from renewable sources, or provide at least 35 percent of the building's electricity from renewable sources, respectively).

**RENEWABLE-C.1: Support Accelerated Implementation of California's Renewable Portfolio Standard (RPS)**

The California Renewable Portfolio Standard (RPS) was established in 2002 under Senate Bill 1078 and accelerated in 2006 under Senate Bill 107. When the *Climate Action Plan* was written, the RPS, Senate Bill 1478 required electric corporations to increase procurement from eligible renewable energy resources by at least 1 percent of their retail sales annually until they reached 20 percent by 2010.

As part of the Global Warming Solutions Act of 2006 (AB 32), the RPS was revised to require energy producers to provide 33 percent of their energy from renewable resources by 2020. The RPS is expected to reduce greenhouse gas emissions from the 2020 inventory by 21 percent. PG&E, the primary electricity provider in the Bay Area, currently provides 12 percent of its portfolio from renewable resources and would be expected to increase this by another 21 percent by 2020.

**RENEWABLE-C.2: Evaluate Community Choice Aggregation for a Citywide Power Purchasing Pool**

Ordinance 0086-04, adopted by the Board of Supervisors on May 11, 2004, established the Community Choice Aggregation Program to further the implementation of a program to

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<sup>79</sup> For more information on the Tidal Feasibility Study, go to:  
[http://sfwater.org/detail.cfm/MC\\_ID/12/MSC\\_ID/139/MTO\\_ID/363/C\\_ID/4137](http://sfwater.org/detail.cfm/MC_ID/12/MSC_ID/139/MTO_ID/363/C_ID/4137). Accessed December 22, 2009.

purchase electrical power directly for the citizens of the City and County of San Francisco and to accelerate renewable energy, conservation, and energy efficiency programs. The outcome of this ordinance is CleanPowerSF.

#### CleanPowerSF

The Community Choice Aggregation law, passed in 2002, allows California cities and counties to combine their citizens' purchasing power to buy electricity, reducing consumer costs and enhancing local control and consumer protections. San Francisco's program, CleanPowerSF, is an energy blueprint adopted in 2007 to increase the City's use of clean, renewable power. It will use voter-approved bonds to finance a substantial increase in solar, wind and other renewable energy resources in and outside the City for San Francisco's residential and commercial customers.

In 2009, the plan for CleanPowerSF would proceed with public outreach and education, market research, and further technical refinement, all through public hearings. The plan will be formally submitted to the California Public Utilities Commission for certification in 2010. The SFPUC currently provides up to 20 percent of the electricity used overall in San Francisco, primarily for municipal buildings and services. San Francisco General Hospital, San Francisco International Airport, Muni streetcars and buses, City streetlights, and public schools are all hydro powered. Additionally, the energy provided in 2007 was 100 percent "green" in that it was all from hydropower, solar, and geothermal sources. Once certified, CleanPowerSF will begin offering reliable, renewable, affordable power to every San Francisco resident and business.

In November 2009, the SFPUC released its request for proposal (RFP) for the Community Choice Aggregation Program, or CleanPowerSF. The RFP identified the following goals of the program:

- 51 percent of electric energy be from renewable sources by 2017; and
- 40 percent of energy needs be met from a combination of local and renewable sources by 2012 with rates that are competitive with PG&E.

#### **RENEWABLE-C.3: Support Legislation to Allow the City to be Compensated for Exported Solar Power**

The *Climate Action Plan* cites Assembly Bill 594 which authorizes the City and County of San Francisco to designate photovoltaic generation facilities meeting specified conditions to deliver electricity to PG&E's electric grid and require PG&E to pay the City for this energy on a monthly basis.

Assemblyman Mark Leno has expanded this legislation under the introduced Senate Bill 581. SB 581 allows the City to expand Assembly Bill 594's financial credits with PG&E, which are

currently designated solely for solar energy generation, to other green generation sources, including wind, small hydro, ocean power, and other renewables.

#### IV.IV Climate Action Plan Solid Waste Actions

The *Climate Action Plan* identifies measures to reduce waste and increase recycling as a means of reducing CO<sub>2</sub> emissions (see Table IV-10). Generally, for every pound of waste thrown away, approximately 70 pounds of waste is generated during the production process, including the extraction of resources (mining and logging industries), waste in the oil extraction process, manufacturing of the product and its packaging, and transportation of product. Measures that encourage waste reduction (by reuse and reducing product purchases), and measures that conserve the embodied energy of the project (through recycling) decrease the amount of waste generated and CO<sub>2</sub> emitted during the production process. The *Climate Action Plan* estimates that efforts to increase recycling could result in a total reduction of 302,000 U.S. tons of CO<sub>2</sub> annually.

Pursuant to the Integrated Waste Management Act (1989), municipalities are expected to increase recycling by 50 percent by the year 2000. In 2003, the San Francisco Board of Supervisors adopted a goal of diverting 75 percent of waste from the landfill by 2010, and achieving “zero waste” by 2020. SF Environment reports that San Francisco now recycles more material than it sends to the landfill. In 2002, San Francisco generated 1,880,837 tons of waste material, of which 700,521 tons went into landfill, while 1,180,316 tons were diverted through recycling, composting, reuse, and other efforts. This represents a diversion rate of 64 percent, up from the 52 percent reported for 2001.<sup>80</sup> San Francisco currently recovers 72 percent of the material discarded.<sup>81</sup> SF Environment maintains a useful website dedicated to recycling and composting. The website includes information for residents, businesses, City government recycling, special event recycling, and recycling of construction and demolition debris.<sup>82</sup> NorCal Waste Systems is a conglomeration of multiple disposal collection companies and serves as San Francisco’s recycling provider. Together, these companies constitute SF Recycle, or most recently, Recology. Recology maintains a website dedicated to providing information on recycling in San Francisco.<sup>83</sup>

**Table IV-10. Climate Action Plan Solid Waste Actions**

<b>Solid Waste Action Categories</b>	<b>Estimated CO<sub>2</sub> Reduction (U.S. tons/yr)</b>
WASTE-A. Increase Residential Recycling and Composting	70,000

<sup>80</sup> San Francisco Government Website. Community Indicators. Available at: [http://www.sfgov.org/wcm\\_controller/community\\_indicators/physicalenvironment/index.htm](http://www.sfgov.org/wcm_controller/community_indicators/physicalenvironment/index.htm) . Accessed December 29, 2009.

<sup>81</sup> San Francisco Department of the Environment. Zero Waste. Website: [http://www.sfenvironment.org/our\\_programs/overview.html?ssi=3](http://www.sfenvironment.org/our_programs/overview.html?ssi=3). Accessed December 29, 2009.

<sup>82</sup> For more information, go to: [http://www.sfenvironment.org/our\\_programs/topics.html?ssi=3&ti=5](http://www.sfenvironment.org/our_programs/topics.html?ssi=3&ti=5). Accessed December 29, 2009.

<sup>83</sup> For more information, go to: <http://www.sfrecycling.com/>. Accessed December 29, 2009.



<b>Solid Waste Action Categories</b>	<b>Estimated CO<sub>2</sub> Reduction (U.S. tons/yr)</b>
WASTE-B. Increase Commercial Recycling and Composting	109,000
WASTE-C. Expand Construction and Demolition Debris Recycling	57,000
D. Support Alternate Collection Methods for Recyclable Materials	66,000
E. Promote Source Reduction, Reuse and Other Waste Reduction	
F. Expand Municipal Programs	
<b>Total</b>	<b>302,000</b>
Source: <i>Climate Action Plan for San Francisco: Local Actions to Reduce Greenhouse Gas Emissions</i> . San Francisco Department of the Environment and San Francisco Public Utilities Commission. September 2008.	

### **WASTE-A: Increase Residential Recycling and Composting (Estimated CO<sub>2</sub> Reduction: 70,000 U.S. tons/yr)**

The *Climate Action Plan* estimates that efforts to increase residential recycling and composting could result in an annual reduction of CO<sub>2</sub> on the order of 70,000 U.S. tons per year. The *Climate Action Plan* identifies the following actions to increase residential recycling and composting programs.

#### **WASTE-A.1: Expand Recycling and Composting Programs**

The *Climate Action Plan* calls for expanding the City's Fantastic 3 program to multi-family apartments and adopting mandatory recycling and composting requirements. The Fantastic 3 program is for San Francisco residents and small businesses and provides three color-coded carts: a blue cart for comingled recyclables, a green cart for compostables (food scraps and yard trimmings), and a black cart for remaining waste.

#### Universal Recycling and Composting Ordinance

The Universal Recycling and Composting Ordinance, which requires all residential and commercial building owners to sign up for recycling and composting services, was signed into law on June 23, 2009. The ordinance amends the San Francisco Environment Code by adding Chapter 19, Sections 1901-1912, and amends the Public Works Code Section 173 and Health Code Sections 291 and 293. Thirty-six percent of what San Francisco sends to the landfill is compostable and 31 percent is recyclable. San Francisco aspires to achieving 75 percent diversion from the landfill by 2010 and zero waste by 2020. The City hopes that with the implementation of this ordinance, it could further its diversion to as much as 90 percent in order to reach its diversion and climate action goals. Any property owner or manager who fails to maintain and pay for

adequate trash, recycling, and composting service is subject to liens, fines, and other fees. Fines can be assessed up to \$1,000, but may not exceed \$100 for small generators (anyone producing up to one cubic yard of refuse per week, about six standard 32-gallon carts).

#### Toilet Recycling Program

The SFPUC in cooperation with SF Environment and San Francisco Recycling and Disposal now offer a toilet-recycling program. Toilets recycled from San Francisco are taken to a crushing operations site where the crushed porcelain is combined into an aggregate and used as road base for street and highway paving.<sup>84</sup>

#### **WASTE-B.1 and B.2: Increase Commercial Recycling and Composting (Estimated CO<sub>2</sub> Reduction: 109,000 U.S. tons/yr)**

The *Climate Action Plan* calls for expanding the commercial recycling programs. The commercial recycling program allows businesses with wood, light metals, film plastic and other industrial materials to recycle these materials at the Pier 96 Materials Recovery Facility. The *Climate Action Plan* also calls for increased commercial composting. At the time the *Climate Action Plan* was written, a number of restaurants had diverted 90 percent of their organic waste. The *Climate Action Plan* calls for mandatory participation from the commercial sector.

#### Universal Recycling and Composting Ordinance

As discussed above, the Universal Recycling and Composting Ordinance requires all commercial building owners to sign up for recycling and composting services. The city hopes that with the implementation of this ordinance, it could further its diversion to as much as 90 percent in order to reach its diversion and climate action goals.

#### **WASTE-C: Expand Construction and Demolition Debris Recycling (Estimated CO<sub>2</sub> Reduction: 57,000 U.S. tons/yr)**

The *Climate Action Plan* calls for the expansion of construction and demolition debris recycling. Three pieces of San Francisco legislation have been passed since publication of the *Climate Action Plan*, which is expected to significantly increase the amount of construction and demolition debris recycling. This legislation is discussed below.

#### Construction and Demolition Recovery Ordinance

The Construction and Demolition Recovery Ordinance effective July 1, 2006, creates a mandatory program to maximize the recycling of mixed construction and demolition debris, and applies to

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<sup>84</sup> Toilet Recycling Fact Sheet. This document is available online at: [http://sfwater.org/detail.cfm/MC\\_ID/13/MSC\\_ID/168/MTO\\_ID/355/C\\_ID/4114](http://sfwater.org/detail.cfm/MC_ID/13/MSC_ID/168/MTO_ID/355/C_ID/4114). Accessed January 8, 2010.

all construction in San Francisco. The ordinance added Chapter 14 of the Environment Code and amended various sections of the Building, Health, and Police Codes.

The ordinance requires that projects proposing full demolition of a structure create a waste diversion plan for mixed construction and demolition debris. Construction and demolition debris must be transported off site by a registered transporter and taken to a registered facility that can process and divert from the landfill a minimum of 65 percent of the material generated from construction, demolition, or remodeling projects.

#### Municipal Green Building Ordinance (Resource Efficiency Requirements)

Chapter 7 of the Environment Code, Resource Efficiency Requirements, establishes green building requirements for existing municipal buildings and new construction.<sup>85</sup> The ordinance also requires municipal projects proposing demolition to prepare a Construction and Demolition Debris Management Plan designed to recycle construction and demolition materials to the maximum extent feasible, with a goal of 75 percent diversion.

#### San Francisco Green Building Ordinance

As discussed in the energy efficiency section of this document, the San Francisco Green Building Ordinance, effective August 4, 2008, adds Chapter 13C to the San Francisco Building Code, and sets forth requirements for new construction to meet a specified level of green building requirements dependent upon the use and size of the construction. The ordinance requires that various projects required to meet LEED® standards (all commercial buildings greater than 5,000 square feet and residential buildings taller than 75 feet) divert at least 75 percent of their construction debris, consistent with LEED® credit MR 2.2. Projects not subject to the City's Green Building Ordinance may be subject to the Construction and Demolition Recovery Ordinance.

#### **WASTE-D: Support Alternate Collection Methods for Recyclable Materials (Estimated CO<sub>2</sub> Reduction: 66,000 U.S. tons/yr)**

The *Climate Action Plan* identifies three areas for supporting alternate collection methods for recyclable materials: metals, community drop-off and buy-back collection, and recovery by material handlers. Actions in the *Climate Action Plan* are estimated to reduce CO<sub>2</sub> by 66,000 U.S. tons per year.

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<sup>85</sup> City and County of San Francisco Environment Code, Chapter 7. Available online at: <http://library.municode.com/index.aspx?clientId=14134&stateId=5&stateName=California>. Accessed January 7, 2010.

**WASTE-D.1: Increase Metals Recycling**

The *Climate Action Plan* states that metal recycling will likely increase due to increased metal recovery from the construction and demolition debris waste stream. The *Climate Action Plan* also anticipates that increased recycling of electronic waste will increase the amount of metals recovered. There are numerous metals recycling facilities in San Francisco and the Bay Area, and SF Environment provides useful information on the location of such facilities. Although the *Climate Action Plan* cites no specific programs or policies targeted at metals recycling, the Construction and Demolition Recovery Ordinance will likely increase metal recovery.

**Recycle My Junk Program and Bulky Item Collection**

The Recycle My Junk Program (RMJ), which is free for residents and fee-based for businesses, is available to everyone in San Francisco. The program picks up items such as electronics, appliances, scrap metal, mattresses, motor oil, etc., often at no additional charge. This program is operated through Sunset Scavenger and Golden Gate Disposal & Recycling. RMJ is separate from Bulky Item Collection (BIC), which is also available for free to all San Francisco residential customers of SF Recycling. The difference between RMJ and BIC is that BICs are limited to residential customers only and have a ten-item limit twice a year, whereas there is no annual limit for RMJ and commercial customers are also welcome to participate.

**WASTE-D.2: Support Community Drop-off, Buy-back and Collection**

Recycling programs apart from that of SF Recycling continue to include donations at community recycling centers, the buy-back of California Redemption Value (CRV) beverage containers, and other collection programs by independent for-profit and nonprofit organizations. SF Environment maintains an informative website dedicated to providing information on drop-off locations for just about any material one wishes to discard. For residents, many of San Francisco's programs will pick up the disposed material at no charge.<sup>86</sup>

**Gigantic 3**

Gigantic 3 is a free program that delivers three large containers for recycling, composting, and bulky items to each San Francisco neighborhood one Saturday a year. Residents can bring their unwanted items to the site and Gigantic 3 staff will sort the products into the appropriate container. The program accepts used motor oil and oil filters as well as household batteries and fluorescent bulbs and tubes. The program also accepts small reusable items for Goodwill, for which donors receive a tax-deductible receipt.

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<sup>86</sup> For more information on San Francisco's recycling programs, go to:  
[http://www.sfenvironment.org/our\\_programs/topics.html?ssi=3&ti=5](http://www.sfenvironment.org/our_programs/topics.html?ssi=3&ti=5). Accessed December 29, 2009.

### **WASTE-D.3: Support Recovery by Material Handlers**

The *Climate Action Plan* calls for support of independent recycling efforts, including Goodwill. SF Environment's website includes a program called EcoFinder.

#### EcoFinder

EcoFinder allows San Franciscans to locate facilities for the drop-off of almost every product, even toxic products, based on the nearest facility to a given zip code.<sup>87</sup> There is also an iPhone application one can download to locate disposal sites.

### **WASTE-E: Promote Source Reduction, Reuse and Other Waste Reduction**

#### Food Service Waste Reduction Ordinance

The Food Service Waste Reduction Ordinance (Chapter 16 of the San Francisco Environment Code), effective June 1, 2007, requires that all disposable food ware and take-out containers used in the city be either biodegradable/compostable or recyclable, unless there is no suitable product that is within 15 percent of the cost of non-compostable or non-recyclable alternatives. The ordinance also bans the use of Styrofoam disposable food ware. This law applies to all food vendors, including restaurants, delis, fast food establishments, vendors at fairs, food trucks, and all City facilities.

#### Plastic Bag Reduction Ordinance

The Plastic Bag Reduction Ordinance (Chapter 17 of the Environment Code), effective December 2007, prohibits large supermarkets (over \$2 million in gross annual sales receipts) and chain pharmacies from distributing plastic checkout bags. Instead they may distribute specified compostable bags, paper bags made with a minimum 40 percent post consumer recycled content, or reusable bags. The intent of this legislation is to reduce the amount of single-use plastic bags consumed and disposed of in the City. While research indicates that a fee on check-out bags is the best way to achieve this goal, state laws currently prohibit cities from assessing bag fees. The Plastic Bag Reduction Ordinance is an action that has been taken until better statewide legislation is enacted.

#### Extended Producer Responsibility Resolution

The Board of Supervisors passed the Extended Producer Responsibility Resolution urging representatives in Sacramento to pursue extended producer responsibility legislation targeted as universal waste (hazardous waste) that will give incentives for the redesign of products to make them less toxic and shift the cost for recycling and proper disposal of products from local governments to the producer and distributor of the product. Although voluntary, the resolution

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<sup>87</sup> This website can be accessed at: <http://www.sfenvironment.org/ecofinder/index.php>.

commits San Francisco to supporting statewide extended producer responsibility legislation, requests SF Environment to recommend local extended producer responsibility policies as well as work with necessary agencies to develop producer responsibility language for inclusion in City contracts.

#### Consumer Responsibility

SF Environment maintains a website dedicated to increasing public awareness of the products they purchase and links to various programs, including the “do-not-mail” petition, the “bring your own bag campaign,” the “junk mail reduction kit,” and a link to opt out of receiving a phone book.<sup>88</sup>

#### Special Event Recycling

Every special event located in a park or requiring a street closure is required to offer recycling at the event. Specifically, San Francisco Special Events Ordinance No. 73-89 requires any applicant seeking permission for the temporary use or occupancy of a public street, a street fair, or an athletic event within the City that includes the dispensing of beverages or which generates large amounts of other materials to submit a recycling plan. Recycling plans must include arrangements for collection and disposition of source-separated recyclables and/or compostables by a service provider or the event organizer. SF Environment holds periodic recycling workshops and encourages special event organizers to attend these workshops.

### **WASTE-F: Expand Municipal Programs**

The *Climate Action Plan* includes actions for expanding municipal recycling and composting, but does not assign a CO<sub>2</sub> reduction target, as the target is already included in the commercial recycling and composting program totals (109,000 U.S. tons CO<sub>2</sub>/year). The following actions were identified in the *Climate Action Plan* to expand municipal landfill diversion and recycling programs.

#### **WASTE-F.1: Continue Sludge/Alternate Daily Cover Program**

The *Climate Action Plan* calls for continuing its sludge/alternative daily cover program, which diverts the solid leftover from sewage treatment to landfills and agricultural sites. The San Francisco Public Utilities Commission has a biosolids and composting program that composts the biosolids produced after solids are treated during the wastewater treatment process. San

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<sup>88</sup> For more information, go to:  
[http://www.sfenvironment.org/our\\_programs/interests.html?ssi=3&ti=4&ii=96](http://www.sfenvironment.org/our_programs/interests.html?ssi=3&ti=4&ii=96). Accessed December 29, 2009.

Francisco currently reuses 100 percent of its biosolids for application on agricultural fields as a fertilizer for raising feed crops for livestock or as soil amendment, and landfill cover.<sup>89</sup>

#### WASTE-F.2: Expand Recycling in City Facilities

The *Climate Action Plan* calls for increasing recycling in City facilities and cites the Resource Conservation Ordinance, discussed below. Other efforts to expand recycling and procurement of recycled materials in City operations are discussed below as well. This list is not exhaustive but is representative of the City's efforts to increase recycling.

##### Resource Conservation Ordinance

In an effort to reduce waste generated by City departments, the San Francisco Board of Supervisors passed the Resource Conservation Ordinance in 2003, adding Chapter 5 to the Environment Code. The goal of the ordinance is to maximize purchases of recycled products, and divert from disposal as much solid waste as possible so that the City can meet the state-mandated 50 percent diversion requirement. The ordinance sets minimum recovered material content requirements for the purchase of various products including:

- Copier, printing and writing paper: 30 percent post-consumer content;
- Paper towels: 40 percent post-consumer content; and
- Motor oil: 25 percent re-refined oil content.

The ordinance requires departments to prepare a Departmental Waste Assessment, submit a Resource Conservation Plan, and submit an Annual Recycling Survey that reports the amount of solid waste diverted.

##### Executive Directive 06-05: Recycling and Resource Conservation

On October 16, 2006, San Francisco Mayor Gavin Newsom issued Executive Directive 06-05, which included the following provisions:

- All City departments must meet the City's goal of 75 percent waste diversion by 2010;
- All City departments must support the City's diversion goal and collaborate with SF Environment in achieving this goal;

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<sup>89</sup> For more information, go to: [http://sfwater.org/mto\\_main.cfm/MC\\_ID/14/MSC\\_ID/127/MTO\\_ID/375](http://sfwater.org/mto_main.cfm/MC_ID/14/MSC_ID/127/MTO_ID/375). Accessed December 29, 2009.

- Every City department must appoint a Recycling Coordinator, as required by the Resource Conservation Ordinance;
- All City forms and documents must be double-sided;
- All City departments must reuse office furniture, computers, and supplies through the Virtual Warehouse (discussed below); and
- All City departments must purchase products with recycled content.
- City departments that participate in food service operations must comply with the City's compost resolution, which requires those departments to buy compostable foodservice products and participate in the food scrap collection program.
- City departments that hold special events or have large venues must plan for waste reduction and recycling to achieve the maximum diversion of waste.
- City departments that manage the construction or renovation of City buildings must require contractors to prepare a waste management plan and to divert 75 percent of demolition waste from City projects.

Executive Directive 08-02: Enhancement of Recycling and Resource Conservation

Issued on May 4, 2008, the Enhancement of Recycling and Resource Conservation directive amends Executive Directive 06-05 to include the following provisions:

- All City departments must purchase 100 Percent Post-Consumer Content Recycled Paper;
- All City departments must reduce paper purchases by an average of 15 percent of 2007 levels by the end of 2008. By the end of 2009, City departments must achieve a 20 percent average reduction over the 2004 level; and
- All City departments must purchase only approved green products (discussed below under "Precautionary Principal Ordinance").



### Virtual Warehouse

The Virtual Warehouse and Surplus Disposal Program is an exchange system for surplus office furniture, computers, equipment, and supplies for City departments. The mission of the program is to facilitate the reuse, recycling, and disposal of surplus City materials.<sup>90</sup>

### Precautionary Purchasing Ordinance

The Precautionary Purchasing Ordinance (San Francisco Environment Code Chapter 2) establishes goals and procedures for environmentally preferable purchasing (green purchasing) by City departments. This ordinance was groundbreaking in its application of the Precautionary Principle (Environment Code, Chapter 1), and in its mandate that purchases for the City may only buy commodities from "approved alternative product lists" for certain products. The 2005 Ordinance succeeded the Environmentally Preferable Purchasing Ordinance (passed in 1999), which established an ambitious three-year pilot program that researched chemical products purchased by the City, prioritized the products based on potential environmental or health risks and sales volume, identified alternative products, and field tested the alternative products with City staff. The pilot program concluded that environmentally preferable products were available for 13 of the 14 product types identified, that 83 percent of preferable products tested met the majority of City staff performance requirements, and that a citywide green purchasing program was feasible. Many of the products in SF Environment's *Green Product and Services Catalogue* include products made of recycled materials.<sup>91</sup>

### City Composting Resolution

In 2005, the San Francisco Board of Supervisors adopted the City Composting Resolution, urging all City facilities that have food service operations, or generate significant compostable discards, and all contracted food service vendors operating on City premises to participate in composting and recycling programs and to use food service materials that are recyclable or compostable, and to purchase compost or mulch made from San Francisco's composting/mulching programs.

### Universal Recycling and Composting Ordinance

The Universal Recycling and Composting Ordinance, signed into law in 2009 and discussed above, also applies to all City departments. City departments are required to provide composting and recycling facilities on site.

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<sup>90</sup> For more information on the Virtual Warehouse program, go to:  
[http://www.sfgov.org/site/surplus\\_index.asp](http://www.sfgov.org/site/surplus_index.asp). Accessed December 29, 2009.

<sup>91</sup> For more information on San Francisco Approved Green Products, go to:  
[http://www.sfenvironment.org/downloads/library/sf\\_approved\\_catalog\\_reduced\\_file\\_101609.pdf](http://www.sfenvironment.org/downloads/library/sf_approved_catalog_reduced_file_101609.pdf). Accessed December 29, 2009.

#### Construction Recycled Content Ordinance

The Construction Recycled Content Ordinance (2006) amended Section 6.4 of the Administrative Code to require recycled content materials to be used in public works and improvements to the maximum extent feasible. The ordinance gives preference to local manufacturers and industry. The ordinance is intended to reduce the use of raw virgin materials by increasing the amount of recycled materials used on public works projects.

#### Other Municipal Recycling Efforts and Education

Many City departments offer receptacles for recycling batteries, light-bulbs, cleaners, paints, pesticides, and electronic waste, including cell phones, cameras, and iPods. SF Environment maintains a webpage dedicated to providing City departments with recycling and composting information and resources.<sup>92</sup> The website also contains a downloadable City Government Recycling Guide.

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<sup>92</sup> For more information, go to:  
[http://www.sfenvironment.org/our\\_programs/interests.html?ssi=3&ti=4&ii=224](http://www.sfenvironment.org/our_programs/interests.html?ssi=3&ti=4&ii=224). Accessed December 29, 2009.

## **V. Additional Greenhouse Gas Reduction Strategies**

This section discusses climate change–related actions and policies that are not specifically addressed by the *Climate Action Plan* or the City’s General Plan. The section discusses climate-related policies in the City’s Charter, focuses on the relationship between land use and greenhouse gas (GHG) emissions, and identifies programs that address the job-housing balance and other programs that were not addressed in the *Climate Action Plan*, specifically, SFMTA’s *Zero Emissions 2020 Plan*, the Green Business program, and other efforts Citywide. The policies and programs below are categorized by the following broad themes: Greenhouse Gas Emissions, Transportation, Land Use, Environment, and Business.

The actions identified in this section will further reduce GHG emissions in San Francisco. These actions in combination with those identified in Section IV represent the City’s ongoing strategies to reduce GHG emissions and are intended to meet the BAAQMD’s requirements of Elements C, D, and E of a Greenhouse Gas Reduction Strategy.

### **V.I Greenhouse Gas Emissions**

The City and County of San Francisco passed the Greenhouse Gas Reduction Ordinance, effective May 13, 2008. This ordinance amends the 2002 greenhouse gas reduction goals passed by the Board of Supervisors pursuant to Resolution 158-02. The San Francisco Department of the Environment (SF Environment) also released *SForward*, an environmental plan for San Francisco, in 2008. These items are discussed further as well as the SF Carbon Fund and other ordinances related to GHGs.

#### **V.I.I Greenhouse Gas Reduction Ordinance**

In May 2008, the City adopted an ordinance amending the San Francisco Environment Code to establish Citywide greenhouse gas reduction targets and departmental action plans, to authorize SF Environment to coordinate efforts to meet these targets, and to make environmental findings. The ordinance establishes the following greenhouse gas emission reduction limits for San Francisco and the target dates by which to achieve them:

- Determine 1990 City greenhouse gas emissions by 2008, the baseline level with reference to which target reductions are set;
- Reduce greenhouse gas emissions by 25 percent below 1990 levels by 2017;
- Reduce greenhouse gas emissions by 40 percent below 1990 levels by 2025; and
- Reduce greenhouse gas emissions by 80 percent below 1990 levels by 2050.

The ordinance also specifies requirements for City departments to prepare departmental Climate Action Plans, directs the Planning Department, Department of Building Inspection, Public Works Department, and the City Administrator to undertake certain actions, and gives authority to SF Environment to develop a market-based mechanism for meeting the City's greenhouse gas reduction goals. The ordinance also urges the San Francisco Public Utilities Commission (SFPUC) to adopt an energy action plan. The specific requirements of this ordinance are discussed below.

#### Department Climate Action Plans

The City and County's Greenhouse Gas Reduction Ordinance requires that every City department assess, and report to SF Environment, greenhouse gas emissions associated with their department's activities and activities regulated by them, and prepare recommendations to reduce emissions. In 2009, City departments submitted their first Climate Action Plans. The next (third) annual Department Climate Action Plans are due in January 2011.

#### Planning Department Requirements

In addition to preparing a Department Climate Action Plan, the ordinance requires the San Francisco Planning Department to (1) update and amend the City's applicable General Plan elements to include the emissions reduction limits set forth in the Greenhouse Gas Reduction Ordinance and policies to achieve those targets, (2) consider a project's impact on the City's GHG reduction limits specified in this ordinance as part of its review under CEQA, and (3) work with other City departments to enhance the Transit First Policy to encourage a shift to sustainable modes of transportation thereby reducing emissions and helping to achieve the targets set forth by this ordinance.

#### Department of Building Inspection

The Department of Building Inspection is required to review and recommend amendments to the Building Code and other local laws to (1) improve energy efficiency in new construction and in repairs and alterations to existing buildings, (2) optimize energy efficiency of HVAC, lighting, and other building systems, and (3) mandate retrofitting of buildings at the time of sale.

#### Department of Public Works

The Department of Public Works is required to review and recommend amendments to maintenance and construction standards, programs and requirements within its jurisdiction, and the Department's Standard Plans and Specifications to address greenhouse gas emissions. The ordinance also requires that the Public Works Department, in consultation with the SFPUC, review, and as appropriate recommend changes to street and other public lighting standards to enhance energy efficiency and thereby reduce the City's greenhouse gas emissions.

#### City Administrator

The City Administrator is required to review, in consultation with the SFPUC, the energy efficiency of City buildings and City-occupied leaseholds, and, as necessary, recommend cost-effective steps to increase their efficiency. The City Administrator is also required to review and recommend amendments to City procurement laws and practices to include the impact of City procurement decisions on greenhouse gas emissions.

#### San Francisco Public Utilities Commission

The Greenhouse Gas Reduction Ordinance urges the SFPUC to develop and implement an energy action plan that includes at least the following: (1) In coordination with SF Environment, develop a plan to achieve the goal of San Francisco becoming fossil fuel free by 2030; (2) In coordination with SF Environment, set annual goals for generating electricity locally through renewable generation; and (3) Integrate the greenhouse gas emissions targets and policies into the Sewer Master Plan.

#### Market-based Compliance Mechanisms

The Greenhouse Gas Reduction Ordinance authorizes SF Environment to recommend legislation to the Board of Supervisors concerning whether and how to develop or utilize available market-based compliance mechanisms, such as greenhouse gas emissions exchanges, banking, credits, and other similar transactions governed by rules and protocols established by the City, the California Air Resources Board, or other recognized governmental or nonprofit entity as credit toward City greenhouse gas emission reductions. SF Environment will also provide technical assistance and coordinate City applications for any approved market-based mechanisms that the City intends to use in furtherance of achieving the San Francisco greenhouse gas emissions limit.

### **V.I.II SForward**

*SForward* was released January 15, 2008 as a roadmap to achieve Mayor Newsom's environmental goals for San Francisco. Specifically, the document identifies mechanisms to achieve San Francisco's 75 percent recycling goal by 2010 and San Francisco's greenhouse gas reduction goal of 20 percent below 1990 levels by 2012. *SForward* incorporates the environmental goals and programs of all key City departments, including the SFPUC, SFMTA, the Department of Public Works, and the Recreation and Parks Department.

It identifies eight policy areas that will be developed: climate action, renewable and efficient energy, clean transportation, green buildings, urban forest, zero waste, environmental justice, and toxics reduction. It also highlights programs that are currently being implemented, such as the City's successful recycling efforts, as well as new ideas such as solar incentives. The following highlights strategies that relate to mitigating climate change in each of the eight policy areas.<sup>1</sup>

#### Climate Action

The following actions have been identified in *SForward*:

1. Create a San Francisco Carbon Fund for local green activities to mitigate GHGs;
2. Develop a framework for a Carbon Tax, which may serve as an alternative to payroll taxes for San Francisco businesses;
3. Incorporate climate protection criteria into the City's General Plan;
4. Incorporate climate action into Departmental plans, activities, and performance measures;
5. Work with the Peak Oil Task Force to maximize synergies between climate action and the development of the City's approach to peak oil;
6. Advocate for strict laws and regulations on climate change in Sacramento and Washington D.C.; and
7. Improve infrastructure to track and report San Francisco's progress towards meeting the 2012 GHG reduction target;

#### Renewable Energy and Energy Efficiency

*SForward* identifies the following renewable energy and energy efficiency actions:

1. Provide subsidies and loans to homeowners and businesses to install solar panels;
2. Expand the solar mapping Web portal for citizens to assess the costs and benefits of installing solar panels on residential and commercial property;
3. Update the Residential Energy Conservation Ordinance and the Commercial Energy Conservation Ordinance and develop legislation requiring the residential Multiple Listing Service to include a green rating for properties for sale;
4. Deliver energy-saving retrofit services for small businesses and multi-family building owners;

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<sup>1</sup> *SForward* is available online at: <http://www.sfenvironment.org/downloads/library/lisforward.pdf>. Accessed January 4, 2010.

5. Encourage energy efficiency through citywide public education programs on climate and energy efficiency for businesses and neighborhood, and tenant organizations;
6. Build the clean tech industry and green collar jobs in San Francisco through economic incentives; and
7. Streamline the permit process for solar water heating and facilitate easier interconnection requirements for distributed generation.

#### Clean Transportation

*SForward* identifies the following clean transportation actions:

1. Build key transportation projects including the Transbay Terminal and the Central Subway;
2. Expand *SFgo*, a transportation management system to improve Muni;
3. Complete planning for the Bicycle Plan and greatly expand the City's bicycle network, including bicycle-sharing options in new bus shelter programs;
4. Designate 500 parking spaces for car-share vehicles;
5. Introduce variable pricing for parking, City garages, and transit;
6. Establish a regional purchasing pool for plug-in hybrid vehicles;
7. Develop legislation requiring all service stations in San Francisco to offer a biofuel alternative, in addition to conventional fossil fuels;
8. Participate in Car Free Day, Spare the Air, Rideshare Week and other clean transportation events;
9. Facilitate more City employees and residents taking advantage of tax-free commuter benefits;
10. Offer the Emergency Ride Home program to employees in San Francisco;
11. Provide transit subsidies for college students;
12. Update the Healthy Air and Smog Prevention Ordinance to better incorporate green index provisions in the City's fleet purchasing procedures;
13. Purchase clean, energy-efficient, and alternative fuel vehicles for the City's vehicle fleet;
14. Continue developing the City's alternative fueling infrastructure;
15. Implement City policies for the use of low-emission equipment at construction sites; and

16. Assist in greening the San Francisco taxi fleet.

### Green Building

The following Green Building actions have been identified in *SForward*:

1. Incorporate green building principles into citywide planning and development processes;
2. Ensure that municipal buildings meet LEED® Silver;
3. Streamline permitting processes and provide assistance to the private sector to meet LEED® standards for new construction and renovations;
4. Provide project design teams with green construction specifications, materials and systems research, and specialist referral;
5. Monitor and track local green building activity citywide; and
6. Support, coordinate, and host green building education opportunities.

### Urban Forest

The following urban forest actions are identified in *SForward*:

1. Expand the greening program to new medians;
2. Fund “Gateways Projects” to green the City’s entrances;
3. Incorporate urban forestry into climate change initiatives;
4. Research long-term funding sources for urban forestry programs; and
5. Organize an annual workshop for contractors and City staff on best management practices and standards.

### Zero Waste

The following zero waste strategies are identified in *SForward*:

1. Mandate participation in waste diversion programs;
2. Require adequate and convenient space for recycling and composting in all buildings;
3. Manage major event disposal practices;
4. Increase business diversion to 80 percent through rate incentives, recognition programs, technical assistance, and outreach; and



5. Increase City government diversion beyond 80 percent by expanding reduction, recycling, and composting programs and increasing the use of the Virtual Warehouse, conducting waste audits, and promoting the purchase of more environmentally friendly office products.

### Environmental Justice

The following environmental justice actions identified in *SForward* relate to climate change:

1. Promote green-collar jobs in the City's southeast, including job training and establishing an Eco-Industrial Park and a Southeast Tech Park; and
2. Expand economic opportunities in the clean tech industry to disadvantaged residents.

### **V.I.III San Francisco Carbon Fund**

The San Francisco Carbon Fund was created in response to Executive Directive 07-13, directing SF Environment to develop and pilot a Local Carbon Offset Program, the first of its kind in the United States. The program is codified in Chapter 52 of the City's Administrative Code. This Program will fund carbon-offset activities exclusively within San Francisco's boundaries. The program gives City departments, local businesses, and residents the opportunity to mitigate carbon pollution generated by their own activities by investing monies from activities that produce GHGs into local projects that reduce GHGs, support a sustainable local renewable energy economy, and improve the environment within their own community. The program differs from existing carbon-offset programs that seek to offset carbon pollution far away from where this pollution is actually created. The program is also stipulated in *SForward*, discussed above. The following describes three San Francisco Carbon Fund projects.<sup>2</sup>

#### Dog Patch Biodiesel

This is the first project of the San Francisco Carbon Fund. It is a waste grease biodiesel facility in the Southeast sector (Dogpatch neighborhood) of San Francisco. The project is estimated to reduce 150 to 300 metric tons of CO<sub>2</sub> in its first year of operation.

#### Urban Orchards

The second project is the planting of fruit trees in, among other places, one of San Francisco's larger public housing developments. This project is expected to reduce upwards of 150 metric tons of CO<sub>2</sub> through sequestration over 15 years and includes several other ecosystem service benefits such as increased shade and canopy cover, increased storm water retention, and improved local air quality. The project is also of high social value as it both engages community organizations to support low-income families and offers direct benefits to the families themselves.

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<sup>2</sup> For more information on the SF Carbon Fund, go to:  
[http://www.sfenvironment.org/our\\_programs/topics.html?ssi=6&ti=85](http://www.sfenvironment.org/our_programs/topics.html?ssi=6&ti=85). Accessed January 4, 2010.

### San Francisco International Airport

The San Francisco International Airport is an important partner of the San Francisco Carbon Fund. SFO has new carbon kiosks, the “Climate Passport,” that allow individuals to calculate the carbon footprint of any given flight and purchase offsets that support local carbon projects. The cost per ton for carbon offsets purchased through the Climate Passport calculator is \$13.50. For every ton purchased, \$12.00 goes to purchasing carbon offsets from the Garcia River Forest Project and covering costs associated with locating, researching, and verifying high quality projects as well as the other general operating costs typically incurred by any organization. The remaining \$1.50 goes to the SF Carbon Fund to support local San Francisco carbon reduction projects.

### **V.I.IV Regulation of Diesel Backup Generators**

In 2002, San Francisco passed the Regulation of Diesel Backup Generator Ordinance, adding Chapter 30 to the City’s Health Code. The ordinance establishes a registration program with the Department of Public Health, requires new diesel backup generators to be equipped with emissions control technologies, limits the operation of diesel backup generators in non-emergency cases, requires record-keeping for the operation of the generator, and provides an enforcement mechanism for violation of the ordinance.<sup>3</sup>

### **V.I.V Wood Burning Fireplaces**

Section 3102.8 was added to the San Francisco Building Code in 2002 to ban the installation of non-approved wood-burning fireplaces.<sup>4</sup> With the exception of the following, all other wood burning fireplaces are prohibited:

- A pellet-fueled wood heater;
- An Environmental Protection Agency–certified wood heater; and
- A fireplace certified by the Northern Sonoma Air Pollution Control District.

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<sup>3</sup> A copy of the ordinance is available at:  
<http://www.sfenvironment.org/downloads/library/dieselbackupgenerators.pdf>. Accessed January 8, 2010.

<sup>4</sup> A copy of this ordinance is available at:  
<http://www.sfenvironment.org/downloads/library/woodburningfireplaces.pdf>. Accessed January 8, 2010.

## V.II Transportation

The following identifies policies and programs implemented by San Francisco that advance efforts to reduce the carbon footprint of San Francisco's transportation sector. These programs and policies are in addition to those identified in Section IV and Section VIII of this document.

### V.II.I City and County of San Francisco Charter: Transit First Policy

The City and County of San Francisco is a charter city, meaning that San Francisco has adopted a government system defined by its City Charter document, rather than by state, regional, or national laws. A charter city gives residents the flexibility to choose the kind of government structure allowed by law. San Francisco's current City Charter was adopted on November 7, 1995, and became effective July 1, 1996. The City Charter is the fundamental law of the City and County of San Francisco. The following policies within the City Charter have served, and continue to serve, as policies that mitigate the amount of greenhouse gases emitted within the City.

In 1973 San Francisco instituted the Transit First Policy which added Section 8A.115 to the City Charter with the goal of reducing the City's reliance on freeways and meeting transportation needs by emphasizing mass transportation. The Transit First Policy gives priority to public transit investments; adopts street capacity and parking policies to discourage increased automobile traffic; and encourages the use of transit, bicycling and walking rather than use of single-occupant vehicles. The Transit First Policy continues to be a guiding influence in the planning, designing, and funding of City programs, including the expenditure of funds for transit improvement. The Transit First principles are as follows:<sup>5</sup>

1. To ensure quality of life and economic health in San Francisco, the primary objective of the transportation system must be the safe and efficient movement of people and goods;
2. Public transit, including taxis and vanpools, is an economically and environmentally sound alternative to transportation by individual automobiles. Within San Francisco, travel by public transit, by bicycle and on foot must be an attractive alternative to travel by private automobile;
3. Decisions regarding the use of limited public street and sidewalk space shall encourage the use of public rights of way by pedestrians, bicyclists, and public transit, and shall strive to reduce traffic and improve public health and safety;

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<sup>5</sup> City and County of San Francisco. City Charter. Section 8A.115. 1973 (Amended 2007). The City Charter is available online at: <http://library.municode.com/index.aspx?clientId=14130&stateId=5&stateName=California>. Accessed December 30, 2009.

4. Transit priority improvements, such as designated transit lanes and streets and improved signalization, shall be made to expedite the movement of public transit vehicles (including taxis and vanpools) and to improve pedestrian safety;
5. Pedestrian areas shall be enhanced wherever possible to improve the safety and comfort of pedestrians and to encourage travel by foot;
6. Bicycling shall be promoted by encouraging safe streets for riding, convenient access to transit, bicycle lanes, and secure bicycle parking;
7. Parking policies for areas well served by public transit shall be designed to encourage travel by public transit and alternative transportation;
8. New transportation investment should be allocated to meet the demand for public transit generated by new public and private commercial and residential developments;
9. The ability of the City and County to reduce traffic congestion depends on the adequacy of regional public transportation. The City and County shall promote the use of regional mass transit and the continued development of an integrated, reliable, regional public transportation system;
10. The City and County shall encourage innovative solutions to meet public transportation needs wherever possible and where the provision of such service will not adversely affect the service provided by the Municipal Railway.

#### V.II.II Green Taxi Fleet

San Francisco has approximately 1,400 permitted taxi medallions that operate within the City. In June 2007, the Taxi Commission passed resolution 2007-21, which called for the San Francisco taxi industry to reduce GHG emissions by 20 percent from 1990 levels and 50 percent from current levels by 2012, as well as to work to offset remaining emissions with investments in renewable energy or energy efficiency by 2015, and to move to a Zero Emissions taxi fleet by 2020. In January 2008, the San Francisco Taxi Commission adopted a resolution to address the greenhouse gas emissions from San Francisco's taxi fleet. The resolution calls for reducing the greenhouse gas emissions from the City's taxi fleet by 20 percent by 2012. This goal is consistent with the Board of Supervisors' 2002 Greenhouse Gas Reduction Resolution (number 158-02), which set the greenhouse gas reductions targets for the *Climate Action Plan*. Based on the Taxi Commissions reduction target, all taxi fleets placed into service after July 1, 2008 should emit no more than an average of 38 U.S. tons of CO<sub>2</sub> per year per vehicle. This number corresponds to a gas-powered vehicle rated at approximately 29 miles per gallon combined. In order to achieve the Taxi Commission's greenhouse gas reduction goals, the Board of Supervisors passed the taxicab gate

cap, which ratified previous gate fees, instituted a gate surcharge for low emission vehicles, and requires taxi companies to reduce average per vehicle greenhouse gas emissions by 20 percent from 1990 levels by 2012.

### V.II.III SFMTA's Climate Action Plan

On December 19, 2008, SFMTA released its draft Climate Action Plan pursuant to Proposition A, passed by voters in November 2007. The goal of the plan is to reduce greenhouse gas emissions from the entire San Francisco transportation sector by 20 percent below 1990 levels by 2012, a reduction of 1.8 million U.S. tons of CO<sub>2</sub>. The plan seeks to accomplish this goal in a variety of ways including implementation of some programs already identified in this document (congestion pricing, transit oriented development, etc). The SFMTA's Climate Action Plan is still in draft form, but concludes that in order to meet the greenhouse gas reduction goal, efforts must focus on (1) reduced personal vehicle travel, (2) massive production and use of cleaner vehicles, (3) substantial increases in public transit, bicycles and walking, and (4) development of dense land use patterns to support non-auto modes of travel. The plan outlines a number of transportation improvements, focusing on the multi-modal transportation system in San Francisco, and outlines funding sources for their implementation. Additional details will be available upon finalization of the Climate Action Plan.<sup>6</sup> SFMTA's Draft Climate Action Plan is included as Appendix E.

### V.II.IV SFMTA's Zero Emissions 2020 Plan

The SFMTA has been pursuing cleaner transit vehicles, and in 2004 prepared a clean air plan, known as the *Zero Emissions 2020 Plan*. The SFMTA's *Zero Emissions 2020 Plan* focuses on the purchase of cleaner transit buses including hybrid diesel-electric buses. Under this plan hybrid buses will replace the oldest diesel buses, some dating back to 1988. The hybrid buses emit 95 percent less particle matter (PM, or soot) than the buses they replace, they produce 40 percent less oxides of nitrogen (NO<sub>x</sub>), and they reduce greenhouse gases by 30 percent. San Francisco has operated a network of zero emission cable cars, streetcars, electric trolley buses, and light rail vehicles for almost 70 years.<sup>7</sup> Muni's zero emissions vehicle fleet includes approximately 550 electric vehicles, and over half of all Muni passenger trips are on zero emissions vehicles. The clean air plan seeks to maximize the use of these zero emissions vehicles, replace diesel buses with hybrid buses, and use alternative fuels for the remaining fleet. The following actions within the *Zero Emissions 2020 Plan* have already been completed:

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<sup>6</sup> This document is available online at: <http://www.sfmta.com/cms/rcap/capindx.htm>. Accessed December 31, 2009.

<sup>7</sup> Electric-powered transit vehicles are powered from hydroelectric power produced by the SFPUC, providing zero greenhouse gas emission power.

- Purchase of 86 diesel hybrid electric buses. Muni hybrid buses reduce emissions and use less fuel through more efficient use of fuel energy and the recuperation of brake energy. It is anticipated that the hybrid buses will increase fuel efficiency by 30 percent, resulting in a savings of at least 20,000 gallons of diesel over 12 years.
- Installation of exhaust after-treatment on all 374 modern diesel engines. SFMTA uses B20 fuel (20 percent biodiesel blend and 80 percent conventional diesel) in all diesel vehicles. All but six of San Francisco's articulated diesel buses (all in the reserve fleet) have been upgraded to current diesel bus standards with modern engines and exhaust after-treatment.
- The 86 diesel hybrid buses are the same buses being used by the Federal Transit Administration's Compound Fuel Cell Hybrid Bus Demonstration Project. The purpose of the demonstration project is to show that fuel cell technologies can be readily commercialized and put into production.

## **V.III Land Use**

This section discusses San Francisco's land use designations, as identified in San Francisco's General Plan, Planning Code, and Zoning Maps.

### **V.III.I Land Use Designation and Densities**

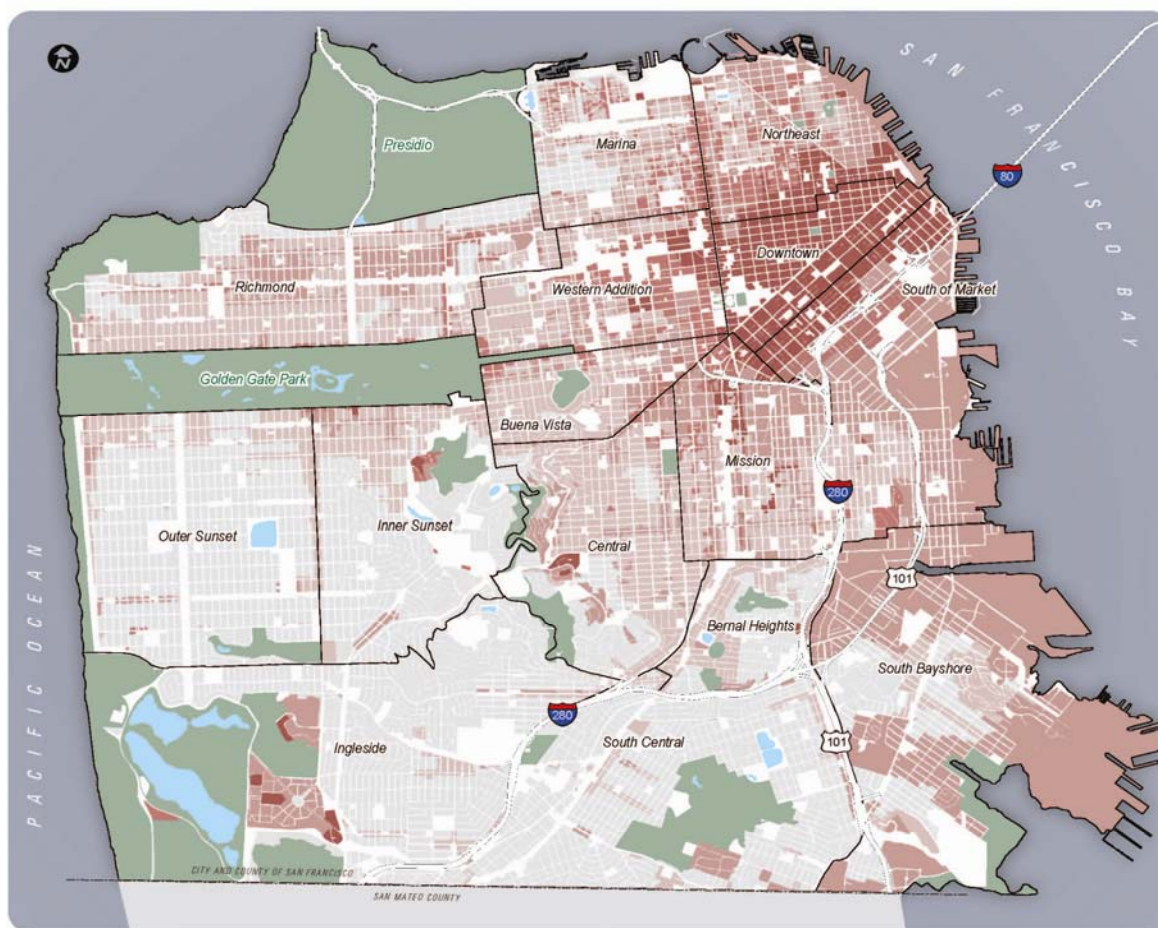
San Francisco's *Climate Action Plan* does not directly address the effects of land use decisions on climate change. Approximately 50 percent of San Francisco's greenhouse gas emissions are from the transportation sector. Intra-regional and in-city road vehicles account for 47 percent of San Francisco's GHG emissions. The most effective means of reducing vehicle emissions is to reduce single-vehicle miles travelled through increased use of a multi-modal transportation network combined with land uses that reduce vehicle miles travelled. Land uses within San Francisco are governed by the policies in the City's General Plan and specific density and land use regulations in the Planning Code. San Francisco does not have a single land use element in its General Plan. Instead, San Francisco's land use policies and maps are contained in the General Plan's Land Use Index, which refers to land use policies within other elements of the General Plan (Housing, Commerce and Industry, Environmental Protection, etc.).<sup>8</sup> The City's land use policies have been instrumental in making San Francisco the most densely populated city in the United States. The northeastern quadrant of the City contains some of the highest residential densities (up to 283 housing units/acre). A vast majority of San Francisco is occupied by moderately low (36 units/acre), medium (54 units/acre), moderately high (91 units/acre) and high-density land use controls. Figure V.1 identifies San Francisco's generalized housing density.

Compared to lower-density residential uses, high-density residential uses with neighborhood services in close proximity result in a mode shift away from vehicles to other modes such as bicycling, walking, and transit. San Francisco's individual neighborhoods have numerous neighborhood commercial districts that provide services, retail, restaurants, and entertainment to their residents. Most of San Francisco's residents are served by local neighborhood commercial districts. Figure V.2 shows neighborhood commercial district service areas in San Francisco.

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<sup>8</sup> *Land Use Index of the General Plan of San Francisco*. June 2009. San Francisco Planning Department. The City's Land Use Index is included as Appendix F of this document and is also available online at: <http://www.sfplanning.org/Modules/ShowDocument.aspx?documentid=3551>. Accessed December 30, 2009.

**Figure V-1. San Francisco's Generalized Housing Density by Zoning District**



**Generalized Housing Densities by Zoning District  
San Francisco, 2008**

0 Miles 1  
**MAP 06**

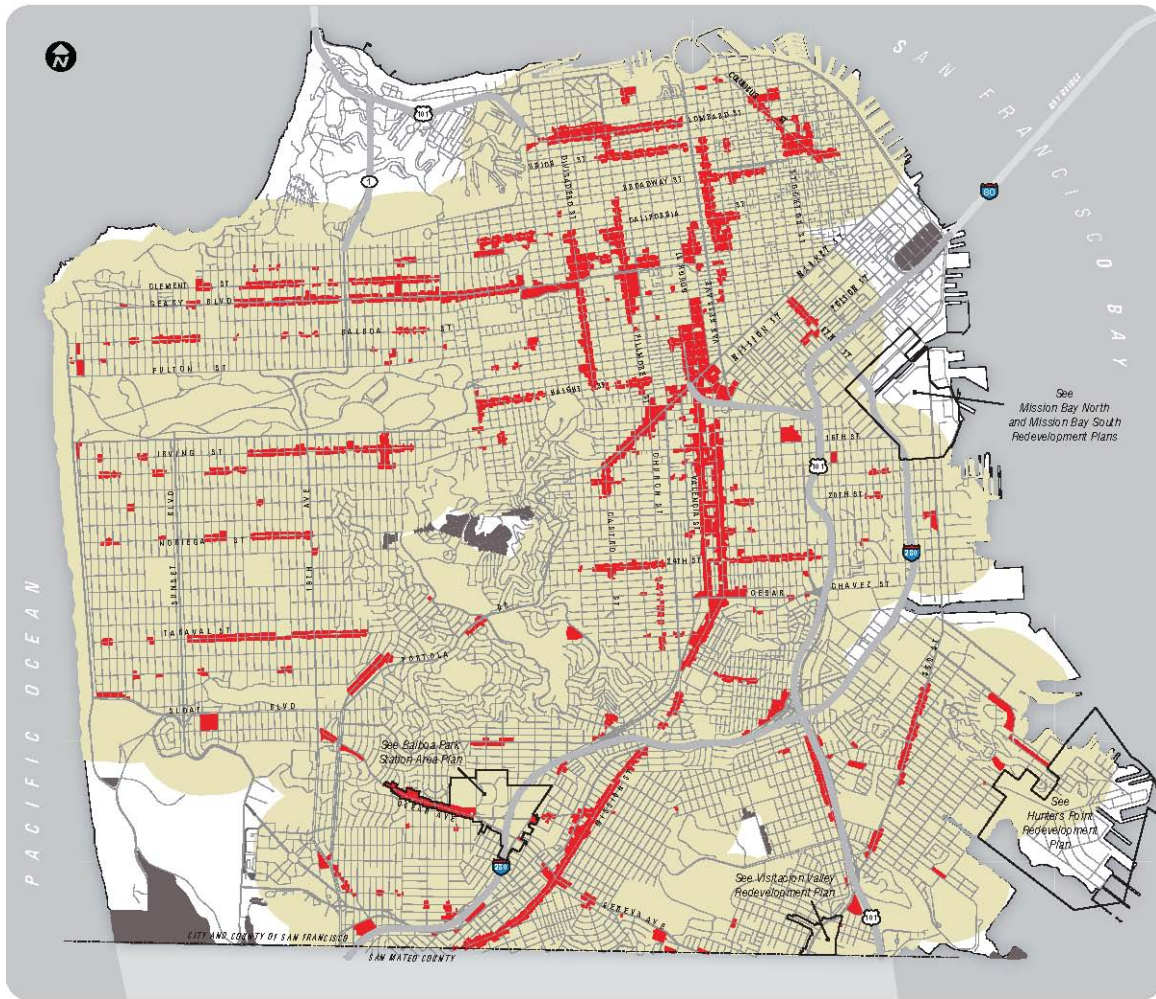
Density (Average Units per Acre)

	Low (14)
	Moderately Low (36)
	Medium (54)
	Moderately High (91)
	High (283)

Source: Draft 2 Housing Element, Part I: Data and Needs Analysis. San Francisco Planning Department. June 2010.



**Figure V-2. Residential Service Areas of Neighborhood Commercial Districts and Uses**



**Residential Service Areas of  
Neighborhood Commercial Districts and Uses**

0 Miles  
**MAP 04**

- Neighborhood Commercial District (Service Radius: 0.5 Mile)
- Commercial Service Areas
- Residential Areas Outside Service Boundaries

Source: Land Use Index of the General Plan of the City and County of San Francisco. San Francisco Planning Department. June 2009.

The City's General Plan elements in combination with the Land Use Index guide land uses in the City and County of San Francisco. The City's Housing Element addresses the general location and extent that land is used for housing as well as population density and building intensity standards. The Commerce and Industry Element discusses population density and building intensity standards and addresses the distribution, location, and use of land for business and industry. The Recreation and Open Space Element describes and indicates the location of land used for open space and recreation. The Community Facilities Element provides coverage of land use issues such as education, public buildings, and waste disposal. The General Plan reduces San Francisco's vehicle miles traveled and overall carbon footprint through its overall guidance towards compact design and high-density infill development in locations with neighborhood-serving retail and where transit service is available.

### V.III.II Jobs-Housing Linkage Program

In 1996, the Board of Supervisors adopted the Jobs-Housing Linkage Program. The Board of Supervisors declared that large-scale entertainment, hotel, office, research and development, and retail developments in the City have attracted and continue to attract additional employees to the City, and there is a connection between those developments and the need for additional housing in the City, particularly housing affordable to households of lower and moderate income. Commercial uses in the City benefit from the availability of housing in close proximity for their employees. Due to the need for additional housing to accommodate commercial growth, Section 313 was added to the Planning Code, requiring that new development pay or contribute land suitable for housing to a housing developer to construct housing or pay an in-lieu fee to the City Treasurer to be used exclusively for the development of housing affordable to households of lower or moderate income. Section 313.6 of the Planning Code establishes the in-lieu fee structure as shown in Table V-1. Providing housing in proximity to jobs is intended to reduce vehicle miles traveled, thereby resulting in less greenhouse gas emissions.

**Table V-1. Jobs Housing Linkage Fee Schedule (2008)**

<b>Economic Activity Category</b>	<b>Fee (Per Net Additional gsf)</b>
Entertainment	\$18.62
Hotel	\$14.95
Office	\$19.96
Research and Development	\$13.30
Retail	\$18.62

Economic Activity Category	Fee (Per Net Additional gsf)
Source: Mayor's Office of Housing, City and County of San Francisco. Memo from Douglas Shoemaker, Director. "Notice of New Jobs-Housing Linkage Fees effective July 15, 2008."	

## V.IV Environment

The following policies and programs advance environmental sustainability goals. The programs below indirectly reduce San Francisco's greenhouse gas footprint by encouraging energy efficiency, reducing waste, increasing the amount of carbon sequestered, and increasing the livability and walkability of San Francisco's city streets.

### V.IV.I City and County of San Francisco Charter: Commission on the Environment

Section 4.118 of the City Charter establishes the Commission on the Environment and directs the commission to regularly produce an assessment of the City's environmental condition and prepare plans for the long-term environmental sustainability of San Francisco. The City Charter gives the Environment Commission the authority to review and make recommendations on policies proposed for sustainability, except for those regarding building and land use. The Environment Commission may investigate and make recommendations on the following environmental issues that relate to climate change:

- Solid waste management;
- Recycling;
- Energy conservation;
- Natural resource conservation;
- Environmental inspections;
- Urban forestry and natural resources; and
- Habitat restoration.

SF Environment has taken the lead Citywide to address climate change with the development of the City's *Climate Action Plan*. As discussed throughout this document, SF Environment and other City departments have and are continuing to develop and enhance programs that address climate change.

### V.IV.II Urban Environmental Accords

San Francisco hosted the United Nations World Environment Day on June 5, 2005. At this meeting, San Francisco Mayor Gavin Newsom presented mayors from around the world with the opportunity to create a set of objectives for an urban future that would be "ecologically sustainable, economically dynamic, and socially equitable." Based on existing best practices and applied to issues like energy, waste reduction, urban nature, transportation, and water, the Urban Environmental Accords have since been signed by more than a hundred mayors who have

begun applying accord principles in their own cities across the globe. Since that time, San Francisco has been adopting three Urban Environmental Accord actions per year.<sup>9</sup> Energy efficiency, transportation improvements, waste reduction, water reduction, and urban greening will continue to reduce citywide greenhouse gas emissions.

#### **V.IV. III Livable City Initiative**

The Livable City Initiative came out of the Urban Environmental Accords discussed above. The goal of the Livable City Initiative is to be a leader in City greening by 2010. The initiative includes three programs: Reforming City Standards and Operations; Creating Great Public Spaces; and Empowering "Grassroots" Greening. In reforming city standards and operations, the initiative seeks to ensure that greening not only beautifies, but increases public safety, reduces noise and airborne pollution, cuts city maintenance costs, improves resource efficiency, reduces our water consumption, and enhances our ability to manage wastewater. Creating great public spaces means to improve the beauty, safety, and sustainability of our streets, parks, and plazas. Greening is now a core part of the everyday work of City departments, through smarter capital planning, maintenance partnerships, and the expansion of environmental priorities in project design and permitting. In empowering grassroots greening, the initiative promotes programs that allow residents and business to take the lead in greening efforts, and to make greening a gateway to neighborhood development, jobs, public safety, and better health. All together, the Livable City Initiative will reduce the amount of greenhouse gases generated by increasing the use of alternative modes of transportation through providing safe and walkable streets, increasing energy efficiency, and aiding in carbon sequestration.<sup>10</sup>

#### **V.IV.IV Extensive Greening**

San Francisco's streetscapes, and the infrastructure and landscaping within them, shape the sense of place and identity that are unique to San Francisco. The trees and landscaping within these streetscapes also alleviate some of the most undesirable characteristics of transportation corridors such as vehicle exhaust, flooding, and visual blight by cleaning the air, storing rainfall, beautifying neighborhoods, and enhancing property values. The Bureau of Urban Forestry within the San Francisco Public Works Department manages street trees and landscaped medians. The Bureau's goal is to increase the number of street trees while maintaining and

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<sup>9</sup> For more information on the Urban Environmental Accords, go to:  
[http://www.sfenvironment.org/our\\_policies/overview.html?ssi=15](http://www.sfenvironment.org/our_policies/overview.html?ssi=15). Accessed December 30, 2009.

<sup>10</sup> For more information on the Livable City Initiative, go to:  
[http://www.sfenvironment.org/our\\_programs/interests.html?ssi=8&ti=20&ii=137](http://www.sfenvironment.org/our_programs/interests.html?ssi=8&ti=20&ii=137). Accessed December 30, 2009.

protecting existing trees and landscapes.<sup>11</sup> The bureau issues permits for sidewalk landscaping and street tree planting and removal permits. SF Environment has also implemented various pilot projects and engages community members in landscaping activities in San Francisco. The City has also adopted a Significant and Landmark Tree Ordinance, as well as requirements for new developments to plant street trees. These are discussed below.

#### Significant and Landmark Tree Ordinance

In 2007, The Urban Forestry Ordinance of the Public Works Code was revised by the Board of Supervisors to protect certain trees on private property that are close to the public right-of-way. Significant trees are those trees within 10 feet of the public right-of-way and also meet one of the following size requirements:

- 20 feet or greater in height,
- 15 feet or greater canopy width, or
- 12 inches or greater diameter of trunk measured at 4.5 feet above grade.

These trees are granted the same protections as street trees, and a permit is required before any significant tree can be removed. Permits are required for planting or removing street trees and significant trees.

#### Planning Code Section 143: Street Tree Planting Requirements for New Construction

Pursuant to Planning Code Section 143, new construction, significant alterations, or relocation of buildings within many of San Francisco's residential, mixed-use and commercial districts are required to plant one 24-inch box tree for every 20 feet of property street frontage.<sup>12</sup>

#### Plant SF

Plant SF is a program that promotes permeable landscaping as a sustainable urban infrastructure and beatification practice. Plant SF provides public information about permeable landscaping and partners with City and neighborhood organizations.<sup>13</sup>

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<sup>11</sup> For more information, go to: [http://www.sfgov.org/site/sfdpw\\_index.asp?id=31963](http://www.sfgov.org/site/sfdpw_index.asp?id=31963). Accessed December 31, 2009.

<sup>12</sup> *San Francisco Municipal Codes, Planning Code Section 143*. The Planning Code is available online at: <http://library.municode.com/index.aspx?clientId=14139&stateId=5&stateName=California>. Accessed December 31, 2009.

<sup>13</sup> For more information on this program and previous projects undertaken by Plant SF, go to: [www.plantsf.org](http://www.plantsf.org). Accessed December 31, 2009.

### Friends of the Urban Forest

The mission of the Friends of the Urban Forest is to promote a larger, healthier urban forest as part of the urban ecosystem, through community planting, maintenance, education, and advocacy. The Friends of the Urban Forest is a nonprofit organization that since 1981 has offered financial, technical, and practical assistance to individuals and neighborhood groups who want to plant and care for trees. Each year, Friends of the Urban Forest helps communities plant nearly 1,000 trees. In 2008 alone, the Friends of the Urban Forest planted 967 new trees in San Francisco.

### Great Streets Capital Improvement Projects

In addition to the Better Streets Plan, the Department of Public Works is in the process of implementing a number of streetscape improvement projects. The Great Streets Program seeks to improve neighborhood streets across the City by demonstrating best practices in design and the value of landscaping, lighting and pedestrian safety. These factors can reduce energy consumption by retrofitting lighting to more energy efficient lighting. Landscaping increases the City's permeable surfaces and reduces the amount of stormwater requiring treatment at the City's wastewater treatment plants, thereby reducing the energy required to treat stormwater before being discharged. As part of this program, the Department of Public Works has completed the San Bruno Avenue Streetscape Improvements<sup>14</sup> and is in the planning, design, or construction phase for the following projects:

- Divisadero Streetscape Improvements
- Valencia Streetscape Improvements, Phase 1
- Lower Polk Street Streetscape Improvements
- Van Ness Avenue Enhancement
- Leland Avenue Streetscape Improvements
- Balboa Streetscape Improvements
- 19th Avenue (Lincoln Way to Junipero Serra Boulevard)
- Cesar Chavez Street

### Urban Forest Plan

In 2006, San Francisco Board of Supervisors adopted the Urban Forest Plan. The plan is the first step in a process to incorporate the Urban Forest Plan into San Francisco's General Plan. The goals of the plan are as follows:

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<sup>14</sup> For more information, go to: [http://www.sfgov.org/site/sfdpw\\_page.asp?id=46077](http://www.sfgov.org/site/sfdpw_page.asp?id=46077). Accessed December 31, 2009.

1. Maintain and conserve the existing urban forest.
2. Expand the urban forest through new planting.
3. Foster a shared set of values about the urban forest through education and action.
4. Manage the urban forest in a coordinated, responsible, and effective manner.
5. Identify sustainable approaches for the funding and implementation of urban forest initiatives.

The Urban Forest Plan also sets forth action items towards achieving its goals. Trees are important sinks for GHG emissions, and the continued urban forestry efforts by the City and San Francisco community groups through its various programs provide important steps in reducing San Francisco greenhouse gas footprint.

#### **V.IV.V Tropical Hardwood and Virgin Redwood Ban**

Environment Code, Chapter 8, amended July 3, 2003, bans the purchase of tropical hardwood and virgin redwood by City departments.<sup>15</sup> The ordinance finds, among other environmental findings, that deforestation of the tropical rainforests have been scientifically linked to global warming and has led to increased concentrations of CO<sub>2</sub> in the atmosphere. The ordinance finds that effects of global warming include drought, floods, melting of the polar ice caps, and changes in weather patterns worldwide. In light of these findings, the ordinance prohibits City departments from procuring, or engaging in contracts that would use ordinance-listed tropical hardwoods and virgin redwood. The ordinance allows for City departments to penalize contractor violations by contract cancellations, fines, disqualification, and withholding of funds.

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<sup>15</sup> City and County of San Francisco Environment Code, Chapter 8. Amended July 3, 2003. This chapter of the Environment Code is available online at: <http://library.municode.com/index.aspx?clientId=14134&stateId=5&stateName=California>. Accessed January 6, 2010.



## V.V Business

The following discusses the San Francisco Green Business Program as well as Executive Directive 08-01, both initiatives that will reduce the climate-related impacts of businesses and within City departments.

### V.V.I Green Business Program

The Green Business Program, established by Chapter 15 of the Environment Code in 2006, is designed to encourage and recognize businesses that conserve the use of natural resources, such as electricity, water and fuel; reduce, reuse, recycle, and compost materials; reduce the use and generation of hazardous materials and hazardous waste; and take affirmative steps to prevent pollution. The Green Business Program helps San Francisco businesses adopt environmental practices that are sustainable and profitable. The program sets stringent criteria, provides technical assistance, and publicly recognizes and promotes green businesses with a seal that enables customers to shop in keeping with their values.<sup>16</sup>

### V.V.II Government Information and Communications Technology

On February 21, 2008, Mayor Gavin Newsom issued Executive Directive 08-01, intended to reduce the environmental impact of the City's Information and Communications Technology (ICT). The directive limits the environmental impact of the lifecycle of equipment, from production through use to disposal. The directive outlines ten actions aimed to reduce the City government's ICT-related greenhouse gas emissions by 24 percent by 2012.<sup>17</sup>

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<sup>16</sup> For more information on the Green Business Program, go to: <http://www.sfgreenbusiness.org/>. Accessed January 4, 2010.

<sup>17</sup> This directive is available online at: [http://www.sfenvironment.org/downloads/library/enmental\\_impact\\_of\\_govt\\_infm\\_\\_communications\\_tool\\_22108.pdf](http://www.sfenvironment.org/downloads/library/enmental_impact_of_govt_infm__communications_tool_22108.pdf). Accessed January 4, 2010.

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## **VI. Progress Towards Emissions Reductions**

Element E of a Greenhouse Gas Reduction Strategy must include a review of the progress made towards implementing the measures outlined in a City's GHG Reduction Strategy. Section IV of this document provides a review of implementation of the individual measures identified in the *Climate Action Plan*. Section V presents other ongoing GHG-related strategies that are currently being undertaken by various City departments. This section provides further support for evaluating the success of San Francisco's Greenhouse Gas Reduction Strategy and is intended to support the requirements of Element E of a Greenhouse Gas Reduction Strategy.

There are a variety of ways for measuring a community's progress towards achieving greenhouse gas emissions reductions. The San Francisco Department of the Environment (SF Environment) has developed progress indicators to evaluate the City's progress towards achieving the goals of the *Climate Action Plan*. Progress indicators allow the City to evaluate the success of a measure or group of measures without conducting a detailed analysis of greenhouse gas emissions. Another way to measure a community's progress is through periodic updates and evaluations of the City's emissions inventory. The following evaluates overall sector progress (progress indicators) for reducing greenhouse gas emissions. An evaluation of the City's greenhouse gas emissions sectors coupled with regular updates of the City's greenhouse gas inventory is an effective means for evaluating the City's progress towards meeting greenhouse gas reduction goals. For example, divergent progress indicators can give a jurisdiction an indication of sectors where policies and programs are not producing desired results, and can explain slowed progress toward meeting reduction goals. However, the most comprehensive means for evaluating how a city's policies and programs are reducing greenhouse gases is through a communitywide inventory. Many programs and policies can act in concert to produce greater or fewer reductions than originally anticipated. (For example: reduced parking supply coupled with an efficient transit system may increase mode shift more or less than originally anticipated.) The net impact of a city's policies and programs are best measured by a comprehensive communitywide inventory.

### **VI.I Progress Indicators**

The following summarizes the City's overall performance for reducing greenhouse gas emissions among the transportation, energy efficiency, renewable energy, waste and environment/conservation sectors. The first four of these sectors mirror the sectors identified in the City's *Climate Action Plan*. A fifth sector (environment/conservation) was added to account for progress made toward greenhouse gas reductions through carbon sequestration and other initiatives citywide.

### VI.I.I Transportation Actions: Summary of Progress

The San Francisco Municipal Transportation Agency publishes annual reports of transportation statistics for the City and County of San Francisco. According to these statistics, San Francisco's per capita vehicle ownership rate is 0.58 and the average number of vehicles per household is 1.04. This is down from the 2008 Transportation Fact Sheet (base year 2006), which recorded per capita vehicle ownership at 0.64 and average vehicles per household at 1.10.<sup>1</sup> Table VI-1 identifies vehicles per household.

**Table VI-1. Vehicles Available by Household**

Number of Vehicles Available	Number of Households	Percent of Households
No vehicle	96,355	29.8
1 vehicle	138,066	42.7
2 vehicles	67,901	21
3 vehicles	20,697	6.4
Total Households	323,016	100.0
<i>Source: San Francisco Transportation Fact Sheet, November 2009. San Francisco Municipal Transportation Agency.</i>		

In the past ten years, San Francisco residents have shown significant changes in their transportation means to work. Although carpooling shows a 2.4 percent decline from 2000 to 2008, the percentage of residents driving alone is down, and the percentage of residents taking public transit, taxi/motorcycle, bicycling, and working at home is up.<sup>2</sup> Table VI-2 shows the changes in San Francisco residents means to work from 2000 to 2008.

San Francisco residents have a fairly low number of vehicles per household and high use of alternative modes of transportation, including carpooling/vanpools and public transportation. However, on a given workday, the City still experiences a net increase in number of vehicles on the order of 35,400.<sup>3</sup> San Francisco should continue to focus on efforts to increase carpooling, public transit, and bicycling as viable options for commuting to work.

<sup>1</sup> San Francisco Transportation Fact Sheet, November 2009. San Francisco Municipal Transportation Agency. This document is available online at:

<http://www.sfmta.com/cms/ains/documents/SFTransportationFactSheet2008.pdf>. Accessed January 4, 2010.

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.

**Table VI-2. Means of Transportation to Work for San Francisco Residents**

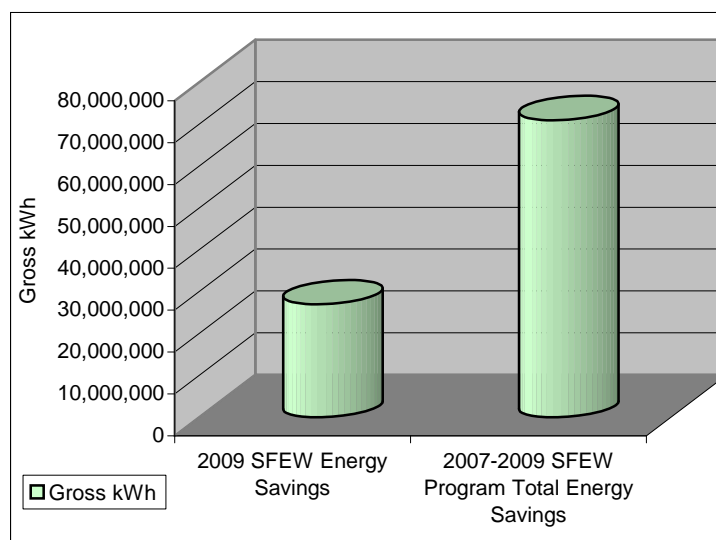
Mode	2000 Percent	2008 Percent	Change
Drive Alone	40.5	38.4	-2.1
Carpool	10.8	8.4	-2.4
Public Transportation	31.1	31.9	+0.8
Taxi/Motorcycle	1.6	1.8	+0.2
Bicycle	2.1	2.7	+0.6
Walk	9.4	9.4	0
Worked at Home	4.6	7.5	+2.9
Total	100	100	

*Source: San Francisco Transportation Fact Sheet, May 2008. San Francisco Municipal Transportation Agency.*

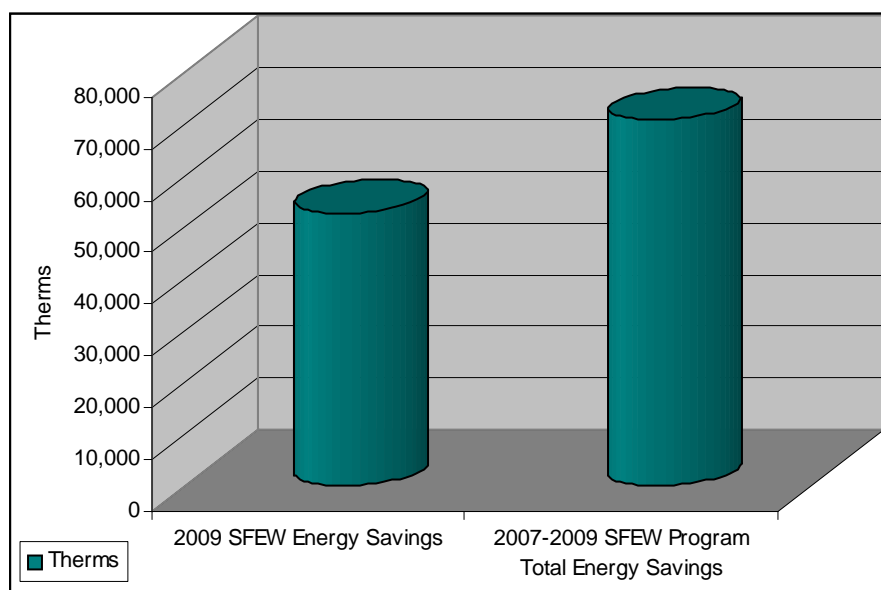
### V.I.II Energy Efficiency Actions: Summary of Progress

SF Environment tracks the progress of its Energy Watch Program. Between 2007 and 2009, the Energy Watch Program has saved approximately 71,000,000 gross kilowatt hours (kWh), 11,000 gross peak kWh, and 71,000 therms. In 2009 alone, the Energy Watch Program saved 27,000,000 gross kWh and 53,000 therms.<sup>4</sup> Figures VI-1 and VI-2 graphically display the Energy Watch Program's energy savings.

Compliance with the City's Green Building Ordinance and other measures identified in Section IV and V of this document will reduce energy consumption citywide.

**Figure VI-1. San Francisco Energy Watch: Gross kWh Savings**

<sup>4</sup> Email correspondence between Jessica Range, San Francisco Planning Department and Peter De Mare, SF Environment. January 27, 2008.

**Figure VI-2. San Francisco Energy Watch: Therms Savings**

### VI.I.III Renewable Energy Actions: Summary of Progress

The City has made considerable strides in the development of solar power and biodiesel. The City closed the Hunters Point Power Plant in 2006. Eliminating the fossil-fueled power plant has helped to generate a more renewable energy profile. Overall, city residents and businesses have installed 1,622 photovoltaic systems, with a total capacity of 8.5 megawatts. These systems generate 11,254 megawatt hours of electricity annually and save 3,379 MTCO<sub>2</sub>E/year. The City is also in the development phase for projects that will produce an additional 6 megawatts of solar electricity. One of these projects, the Sunset Reservoir photovoltaic project, involves the installation of 25,000 solar panels and is expected to generate 5 megawatts of solar electricity and will be one of California's largest solar installations.

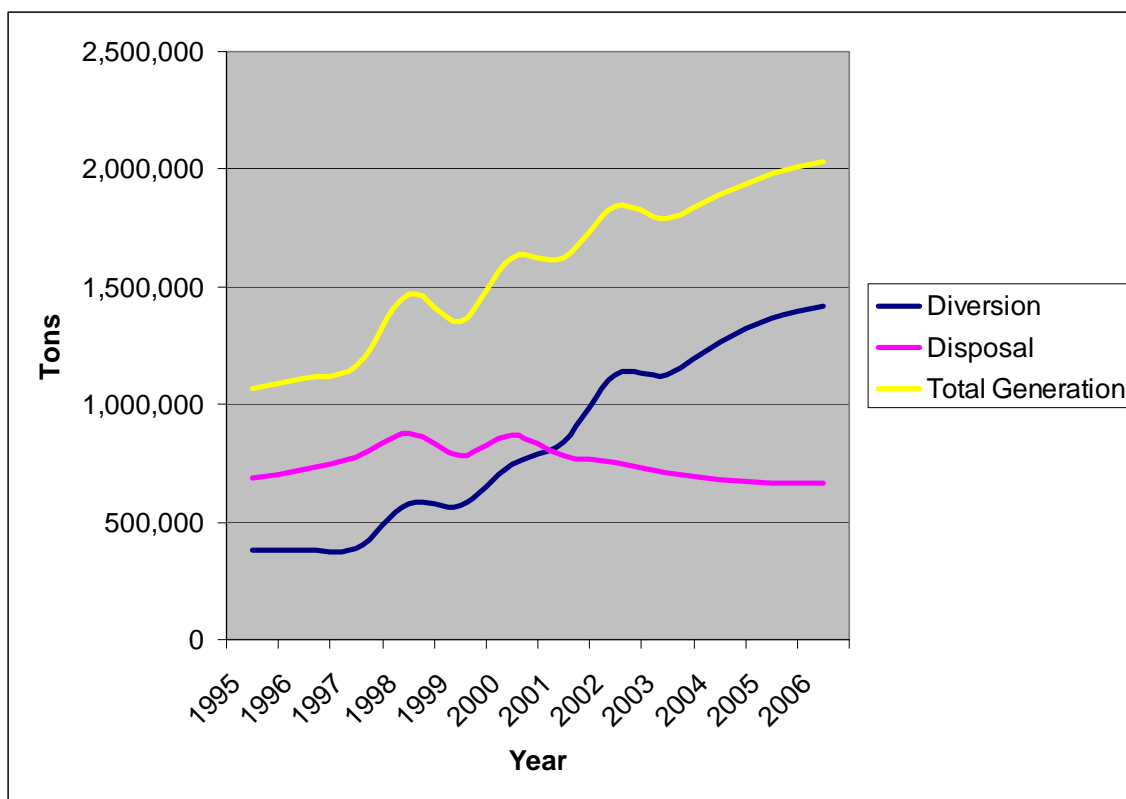
The City has also made significant strides in the use and development of biofuels in San Francisco. SFGreasecycle is a free SFPUC biofuel program in which the City picks up used cooking oil and grease from local restaurants, hotels, and other commercial food preparation establishments. Those substances are then turned into biodiesel, processed and sold to the biofuel industry, turning trash into fuel for the City fleet. For every gallon of vegetable waste oil produced, one gallon of petroleum is displaced, reducing the amount of CO<sub>2</sub> produced by 17.3 pounds. Many City departments including Muni currently operate using B20, biodiesel. Biodiesel can also be used to comply with the City's Clean Construction Ordinance, which requires City projects to use B20 fuel.

Lastly, the City has made considerable progress in implementing CleanPowerSF. Once certified, CleanPowerSF will begin offering reliable, affordable renewable power to every San Francisco resident and business. Under the goals of the program, San Francisco should have 51 percent of its electric energy generated from renewable sources by 2012.

#### VI.I.IV. Waste Reduction Actions: Summary of Progress

San Francisco has implemented numerous actions to meet an aggressive goal of diverting 75 percent of its waste from the landfill to recycling and composting. Most recently, the City has mandated participation in the City's recycling and composting program for all residents and businesses. Figure VI-3 shows San Francisco's progress in waste diversion.<sup>5</sup> Although waste generation has increased, waste disposal is slowly declining and waste diversion has risen steadily since 1997. San Francisco's programs have shown measured success in reducing the amount of waste disposed of in landfills and increasing the amount diverted through composting and recycling programs. San Francisco currently recovers 72 percent of the material discarded.<sup>6</sup>

**Figure VI-3. Waste Generation, Disposal and Diversion in San Francisco**



Source: Correspondence with Julie Bryant, SF Environment. December 3, 2009

<sup>5</sup> Email correspondence on 12/3/09 between Jessica Range, San Francisco Planning Department and Julie Bryant, SF Environment.

<sup>6</sup> San Francisco Department of the Environment. Zero Waste. Website: [http://www.sfenvironment.org/our\\_programs/overview.html?ssi=3](http://www.sfenvironment.org/our_programs/overview.html?ssi=3). Accessed December 29, 2009.

#### VI.I.IV Environment/Conservation Actions: Summary of Progress

The City's efforts to design a more sustainable streetscape have culminated in the *Better Streets Plan*. The *Better Streets Plan* provides design guidelines for streetscape improvement projects, including guidelines for the number and placement of street trees and guidelines for increasing the City's permeable surfaces. As discussed in Section V, the City has undertaken numerous greening programs and projects. Together with the help of community organizations and nonprofits, the City continues its greening efforts, which will increase the amount of CO<sub>2</sub> sequestered and reduce the amount of greenhouse gases generated by vehicles by providing safe, walkable, and pedestrian-friendly streets.<sup>7</sup>

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<sup>7</sup> For more information on the Livable City Initiative, go to:

[http://www.sfenvironment.org/our\\_programs/interests.html?ssi=8&ti=20&ii=137](http://www.sfenvironment.org/our_programs/interests.html?ssi=8&ti=20&ii=137). Accessed December 30, 2009.



## VI. II Communitywide Inventory

The most comprehensive way to measure San Francisco's success towards achieving its greenhouse gas emission reduction goals is through periodic updates of the communitywide inventory. As discussed previously, the current greenhouse gas reduction goals for the City are as follows:

- Determine 1990 City greenhouse gas emissions by 2008, the baseline level with reference to which target reductions are set;
- Reduce greenhouse gas emissions by 25 percent below 1990 levels by 2017;
- Reduce greenhouse gas emissions by 40 percent below 1990 levels by 2025; and
- Reduce greenhouse gas emissions by 80 percent below 1990 levels by 2050

GHG emissions in the City are reported in terms of municipal emissions and communitywide emissions. In 2008, SF Environment commissioned an independent study prepared by IFC International to review the City's communitywide greenhouse gas emissions inventory. The study confirmed the City's 1990 community wide emissions inventory at 7.49 million metric tons carbon dioxide equivalent (MMTCO<sub>2</sub>E).<sup>8</sup> When added to the City's municipal GHG emissions, total 1990 GHG emissions levels were approximately 8.26 MMTCO<sub>2</sub>E.<sup>9</sup> The study also found that overall communitywide emissions have decreased from 7.49 MMTCO<sub>2</sub>E in 1990 to 7.09 MMTCO<sub>2</sub>E in 2005 (the most recent reporting year), representing a reduction of 0.4 MMTCO<sub>2</sub>E (5.3 percent reduction) in communitywide GHG emissions between 1990 and 2005.<sup>10</sup> Total GHG emissions estimated for the year 2005 (communitywide and municipal GHG emissions) is 7.82 MMTCO<sub>2</sub>E.<sup>11</sup> As such, total GHG emissions have decreased by approximately 0.44 MMTCO<sub>2</sub>E since 1990, representing a 5 percent reduction in GHG emissions from 1990 levels. Although San Francisco has a long way to go in meeting its aggressive greenhouse gas reduction goals, the City has shown measured progress towards reducing greenhouse gas emissions. Many of the programs identified in this document are in the development phase, and once fully implemented those programs are anticipated to result in additional greenhouse gas reductions.

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<sup>8</sup> *City and County of San Francisco, Community GHG Inventory Review*. August 1, 2008. IFC International. Prepared for the City and County of San Francisco.

<sup>9</sup> *Climate Action Plan For San Francisco: Local Actions to Reduce Greenhouse Gas Emissions*. September 2004. San Francisco Department of the Environment and San Francisco Public Utilities Commission. At Page 2-1. When U.S. tons are converted to metric tons, total 1990 GHG emissions are approximately 8.25 MTCO<sub>2</sub>E.

<sup>10</sup> When municipal emissions are added to the communitywide inventory, total emissions for the year 2000 are estimated at 8.8 MTCO<sub>2</sub>E and total emissions for the year 2005 are estimated at 7.3 MTCO<sub>2</sub>E.

<sup>11</sup> Total communitywide GHG emissions in 2005 is 7.09 MMTCO<sub>2</sub>E and total municipal GHG emissions in 2005 is 213,897 MTCO<sub>2</sub>E, for a total of 7.3 MMTCO<sub>2</sub>E in 2005.

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## VII. Monitoring and Reporting Greenhouse Gas Emissions

A Greenhouse Gas Reduction Strategy must also identify procedures for monitoring and updating the City's greenhouse gas inventory every three to five years (Element E of a Greenhouse Gas Reduction Strategy). This section addresses how the City plans to update its greenhouse gas inventory.

The San Francisco Department of the Environment (SF Environment) plans to update the City's Communitywide Emissions Inventory again in 2010. Following this update, the City will continue future updates every other year. For the 2010 update, SF Environment will reframe the structure of the communitywide emissions inventory from the traditional supply side "sector"-based framework to a demand side "systems"-based framework. This framework pioneered by the U.S. Environmental Protection Agency<sup>1</sup> allows the City as a municipal jurisdiction to include several emissions sources that were previously unaccounted for in its inventory; these include emissions from solid waste and avoided emissions from recycling and composting, emissions from land use practices and material consumption, as well as emissions sinks from the urban forest and other ecosystems within our jurisdiction. In addition to empowering the municipal actions, this framework helps the City fit into the State and regional greenhouse gas inventories in a more (though not completely) cohesive manner because of the land use system basis for reporting emissions.

Since 2005, SF Environment has reported San Francisco's municipal emissions to the California Climate Action Registry as a municipal entity. As part of this process, the City's annual emissions are verified by a third party entity and logged for public view on the California Registry. This process has been instrumental in forging new data reporting methods across City departments. In 2008, per mandate by the Board of Supervisors, each City department is required to assemble and implement its own departmental climate action plan. This level of climate planning takes the City another step forward in reporting transparency, as emissions are now being tracked at a higher level of detail across all City facilities and includes emissions not only from electricity and liquid fuels, but also from water consumption, waste production, and urban tree planting. SF Environment is charged with organizing the quarterly reporting of all relevant data types, providing education on climate related issues and other city environmental mandates (including zero waste, green product purchasing, alternative employee commute, energy efficiency best

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<sup>1</sup> "Opportunities to Reduce Green House Gas Emissions through Materials and Land Management Practices". US EPA Office of Solid Waste and Emergency Response; September 2009  
[http://www.epa.gov/oswer/docs/ghg\\_land\\_and\\_materials\\_management.pdf](http://www.epa.gov/oswer/docs/ghg_land_and_materials_management.pdf)

practices, etc) to departmental Climate Liaisons and the annual update of Department Climate Action Plans.

The department-level emissions inventories provide much more detail, and therefore present a more informative picture of municipal operations' carbon footprint. Additionally, city governments are not classified as regulated entities under the AB 32 Scoping Plan and SF Environment will cease reporting to the California Climate Action Registry as municipal entity. The San Francisco Public Utilities Commission will continue to use third party verification to determine the Hetch Hetchy emissions factor, which is applied to electricity use from municipal facilities and which is part of the City's communitywide emissions factor. SF Environment will continue to track community-wide and municipal GHG emissions for the City and County of San Francisco.

## VIII. Anticipated Greenhouse Gas Reduction Efforts

This section discusses continuing efforts that are underway by the San Francisco Department of the Environment (SF Environment) and other key City departments. Although a Qualified Greenhouse Gas Reduction Strategy is not required to provide a list of ongoing actions, the purpose of this section is to demonstrate San Francisco's continuing commitment to further development of climate change programs and policies.

### VIII.I Department of the Environment 2010-2012 Strategic Plan

SF Environment's 2010–2012 Strategic Plan outlines the department's goals, objectives, and actions as they relate to climate action, energy, clean air transportation, green building, urban forestry, zero waste, toxics reduction, environmental justice, environmental education, and public outreach. Those objectives and actions related to climate change are discussed below under each of the respective program headings.<sup>1</sup> Where program actions overlap, they are noted in parentheses.

#### VIII.I.I Climate Action Program

Goal 1: The goal of the climate action program is to reduce San Francisco's contribution to global climate change to 20 percent below 1990 levels by 2012. In order to accomplish this goal, SF Environment has identified the following objectives and actions.

Objective A: Calculate and certify San Francisco's greenhouse gas emissions; track and report findings.

Actions:

1. Work with the U.S. EPA, Green Cities CA, and the San Francisco Planning Department to create a systems-based emissions inventory, looking at materials management and land use. (Zero Waste, Urban Forestry)
2. Identify subcategories of the emissions sources and determine greenhouse gas reduction objectives for each. Make the information publicly available.
3. Create a master mapping tool to integrate existing mapping efforts and act as a visual illustration of the new communitywide Climate Action Plan. (Energy, Green Building, Outreach)

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<sup>1</sup> The Department of the Environment's Strategic Plan 2010-2012 is available online at: [www.sfenvironment.org](http://www.sfenvironment.org). Accessed August 8, 2010.

Objective B: Develop internal infrastructure and strategic external relationships to inform and support policy and other community actions.

Actions:

1. Develop a Climate Action Campaign. (Outreach, Environment Now)
  - a. Conduct residential and commercial outreach activities focusing on natural gas reductions. (Energy Watch, Energy)
  - b. Assist city departments in messaging climate change to the public, e.g. libraries. (Outreach)
  - c. Develop partnerships with non-governmental organizations to coordinate climate education campaigns. (Outreach)
2. Develop a city policy on carbon trading/auction/tax and advocate in regional, state, and national forums, including the California Air Resources Board, Bay Area Air Quality Management District, San Francisco Bay Conservation and Development Commission, California Public Utilities Commission.
3. Explore local carbon fees, consumption tax, or other policies to reduce demand for carbon intensive products and services. Consider a local application of the policy via ordinance or City Charter amendment.
4. Advocate for harmonizing carbon accounting standards and methodologies at the regional and state level.
5. Shift the San Francisco Carbon Fund to fund municipal as well as private local carbon reduction projects and support Urban Forestry and impacted communities. Develop new funding sources, e.g., CEQA greenhouse gas impact fees. (Environmental Justice [EJ], Outreach)

Goal 2: Develop and implement a Climate Adaptation Plan

Objective A: Coordinate climate adaptation planning

Actions:

1. Develop a working group with the Mayor's Office that includes city departments, local planning groups, universities, and regional and federal agencies.
2. Create a climate adaptation plan, including relevant recommendations from the Peak Oil Task Force. (EJ)

### VIII.I.II Energy Program

The Energy Program's three-year goal is to maximize the energy efficiency of new developments. In order to accomplish this goal, SF Environment has identified the following objectives and actions.

Goal 1: Zero net energy for all buildings.

Objective A: Maximize the energy efficiency of businesses and residences, reducing 370,000 tons of CO<sub>2</sub> annually by 2012.

Actions:

1. Focus on natural gas savings and developing projects in multi-family and two- to four-unit buildings. Investigate and adapt home performance analysis to the specifics of San Francisco's older residential buildings and make the information publicly available.
2. Develop a strategy and action plan to achieve Zero Net Energy usage in both commercial and residential buildings. Integrate efficiency retrofits with demand reduction, demand response, and co-and tri-generation to get deeper savings. Include zero waste and water conservation services.
3. Complete legislation, including the Commercial Lighting Efficiency Ordinance (10) that requires benchmarking commercial buildings (Green Building) (10), and amending the Residential Energy Conservation Ordinance that affects buildings at time of sale.
4. Deliver comprehensive energy retrofit services to low-income and affordable multi-family housing units. Encourage bundling with state programs such as the Low-income Solar Program and other City services such as waste reduction, indoor air quality improvements, etc., and include tenant education. (EJ)
5. Coordinate work force training programs and help place the graduates in jobs conducting performance-based energy assessments and retrofits. (EJ, MOEWD)
6. Assist with launching the Green Finance SF program and develop other financing structures to assist building owners to make efficiency improvements.
7. Target Redevelopment Agency projects. (Zero Waste)
8. Conduct outreach and education for business start-ups to demonstrate the benefits of efficiency measures.
9. Organize meetings with other local governments to stay informed about new approaches, tools, and technologies.

10. Advocate that the California Public Utility Commission's 2012 decision on the next era of efficiency programs order the administration of funds through a single statewide independent agency dedicated to energy efficiency.
11. Continue advocating for the acquisition of PG&E data.
12. Support the Energy Efficiency Task Force and incorporate its recommendations.

Objective B: Develop renewable energy and co-generation resources in San Francisco by 2012 to displace 30,000 tons of CO<sub>2</sub> annually.

Actions:

1. Develop solar access legislation to address shading of existing systems by new construction projects. (Green Building, Planning Department)
2. Develop streamlined permitting, incentive program, and public outreach campaign for solar water heating.
3. Develop pilot projects for large-scale wave and wind power in or close to San Francisco.
4. Develop legislation requiring all new construction and renovations to include solar electricity or solar water heating, as physical conditions permit. (Green Building)
5. Clarify and promote streamlined interconnection requirements for distributed generation. (Green Building)
6. Profile and identify barriers and opportunities for commercial co-generation / combined heat and power (CHP) development in San Francisco. Market CHP along with energy efficiency and zero waste to owners and managers of owner-occupied buildings in cooperation with Energy Watch and Green Building Programs. (Zero Waste, Green Building)
7. Assist in development of the local solar work force (Photovoltaic and Water Heating).
8. Implement Urban Wind Task Force Recommendations: enable local wind data collection and dissemination, work with the Department of Building Inspection (DBI) to clarify permitting requirements, develop informational materials on urban wind technologies and permitting requirements, support local wind industry, encourage the rapid implementation of the Small Wind Certification Council's (SWCC's) certification procedures and wide-scale adoption of SWCC standards by small wind generator manufacturers.



9. Develop web-based tools for identifying local potential for renewable energy.
10. Explore opportunities for new or expanded district heating and cooling systems.

### VIII.I.III Clean Air Transportation Program

The goal of the Clean Air Transportation Program is to improve air quality and mitigate traffic congesting in San Francisco. In order to accomplish this goal, SF Environment has identified the following objectives and actions.

#### Objective A: Promote Walking.

##### Actions:

1. Assist with the implementation of the pedestrian master plan.
2. Assist with the implementation of Walk2School Program.
3. Promote telecommuting policy & monitor emissions reduction.

#### Objective B: Promote Bicycle Use.

##### Actions:

1. Work with Mayor's Office and other City agencies to promote bicycle-sharing programs.
2. Manage the City Hall Bike Room, providing secure bicycle storage, lockers, and showers for bicycle commuters in the Civic Center area.
3. Administer and promote the City Bicycle Fleet Program to replace single-occupancy vehicle trips with bicycles.
4. Work with the Department of Parking and Traffic, the San Francisco Bicycle Coalition, and others to promote and encourage bicycling in the community, including assisting with the annual Bike to Work Day event, and improvement of the Caltrain Bike Station and the Embarcadero Bike Station.
5. Develop an online bike mapping application and multilingual bicycle outreach program for all San Francisco residents.

#### Objective C: Promote Rideshare (Carpool/Vanpool—switching people from single occupancy vehicles to ridesharing).

##### Actions:

1. Work with Mayor's Office and appropriate City agencies to designate 500 parking spaces for car-share vehicles.

2. Maintain a website with information on carpool/vanpool incentives and driving alternatives for all San Francisco commuters.
3. Support the efforts of community groups to advocate for and encourage the use of alternative modes of transit in San Francisco, such as Car Free Day, Spare the Air, Rideshare Week, and events sponsored by the Transportation Management Association, Regional RideShare Program (511) Bay Area Commuters, and the Association for Commuter Transportation, Northern California Chapter.
4. Develop and promote a vanpool program in collaboration with 511 Regional Rideshare Program and vanpool service vendors.

Objective D: Increase the use of public transit, discourage driving, and promote employer based transit encouragement programs—people switching from single-occupancy vehicles to transit.

Actions:

1. Work with the San Francisco Municipal Transportation Agency (SFMTA) to investigate opportunities to introduce variable pricing for parking, city garages, and transit, and develop pertinent legislation.
2. Work with Mayor's Office and appropriate city agencies to develop a program and enact legislation through which MUNI passes are included with hotel package for all visitors to San Francisco.
3. Provide commute assistance information to city employees by maintaining an Intranet web site and distributing information about commuter alternatives to city employees and the private sector.
4. Administer and promote the Commuter Benefit Program, providing an incentive for employees to take transit or vanpools.
5. Maintain and expand the countywide Emergency Ride Home Program to increase the use of driving alternatives.
6. Implement a subsidized transit program for students at all San Francisco colleges/universities in partnership with transit agencies.
7. Manage and expand the municipal commuter benefits program focused at outreach and citywide implementation of the Commuter Benefits Ordinance.
8. Work with City departments to administer and analyze their annual transportation surveys for the employee commute section of the Climate Action Plans.

Objective E: Promote alternative fuels and clean, energy-efficient vehicles to reduce petroleum consumption.

Actions:

1. Report annual reductions in petroleum usage in gallons by fuel type and petroleum displacement through the switch to alternative fuels by San Francisco Clean Cities Coalition stakeholders.
2. Conduct outreach to the 20 largest commercial fleets in San Francisco to encourage them to reduce their petroleum use and save money by providing technical assistance on clean fleets best management practices, including vehicle retrofits, idle reduction, the use of alternative fuels, in partnership with U.S. EPA Region 9, the Bay Area Air Quality Management District and the San Francisco County Transportation Authority.
3. Target public- and private-sector fleet managers and conduct ten half-day workshops on a particulate alternative fuel or vehicle technology in partnership with the San Francisco Clean Cities Coalition, which is funded by the U.S. Department of Energy. (Climate, Environmental Justice)
4. Identify opportunities to build alternative fuel stations in San Francisco for public and private use in partnership with the San Francisco Clean Cities Coalitions, the California Air Resources Board, and U.S. EPA Region 9.
5. Coordinate work of the City's interdepartmental electric vehicle (EV) working group to implement the Mayor's initiative to make the San Francisco Bay Area the EV capital of America, including establishing a network of public EV charging stations, streamlining installation of residential EV chargers, developing policies to encourage purchase and use of plug-in vehicles, and helping develop the regional Bay Area EV Corridor Program.
6. Update the Healthy Air and Smog Prevention Ordinance to reflect clean vehicle and alternative fuel infrastructure advancements.
7. Obtain and administer incentive funds for purchasing clean, energy-efficient, and alternative fuel vehicles for municipal and commercial fleets and residential vehicle incentive programs.
8. Obtain funding to continue rapid clean-up of diesel truck fleets in the city. (Environmental Justice)

9. Help implement City policies for use of low-emission equipment at construction sites. (Environmental Justice, Zero Waste)
10. Collaborate with SFMTA to continue greening San Francisco's taxi fleet by increasing the number of compressed natural gas, hybrid and electric vehicles in the city's taxi fleet.

Objective F: Promote higher national fuel efficiency standards for vehicles.

Actions:

1. Urge continued strengthening of federal corporate average fuel economy (CAFE) standards. (Climate)

Objective G: Integrate Clean Air Transportation with Smart Growth.

Actions:

1. Collaborate with the Mayor's office, planning department, SFMTA and other relevant city agencies to integrate transportation demand management measures in new development and redevelopment projects in San Francisco.
2. Integrate EV charging and other clean vehicle measures in planning and housing initiatives.
3. Work with businesses to replace conventionally fuelled shuttles with alternative fuel shuttles.

#### **VIII.I.IV Green Building Program**

The three-year goal for the Green Building Program is to enhance the environmental performance of buildings in San Francisco to reduce costs while increasing efficiency and livability. In order to accomplish this goal, SF Environment has identified the following objectives and actions.

Objective A: Develop and implement policies and practices that will require new construction for municipal, commercial, and residential projects to achieve LEED Gold or equivalent by 2012.

Actions:

1. Work with appropriate City departments to implement and modify, as needed, Chapter 13C of the San Francisco Building Code: "Green Building Requirements." (Zero Waste)
2. Collaborate with the Planning Department, DBI, the San Francisco Public Utilities Commission (SFPUC), and the San Francisco Redevelopment Agency to integrate

green building principles and practices into citywide planning and development processes.

3. Assist the Departments of Building Inspection and the Planning Department in the administration of the City's Priority Permit Processing Program.
4. Provide implementation assistance to Chapter 7 of the Environment Code to ensure that municipal buildings achieve LEED certification, by working with City departments and other stakeholders, and coordinating the Resource Efficient Building (REB) Task Force (Zero Waste, Toxics Reduction, Clean Air, Urban Forestry, and EJ)
5. Coordinate the input from City agencies represented on the REB Task Force to amend Chapter 7 of the Environment Code raising the level of certification for municipal projects to LEED Gold for new projects in 2010.

Objective B: Develop and implement policies to improve the environmental performance of San Francisco's existing building stock.

Actions:

1. Coordinate the development and implementation of legislation and programs stemming from the Existing Commercial Buildings Task Force report. (Energy, Zero Waste)
2. Coordinate with City departments, consultants, and private sector stakeholders to launch and implement San Francisco Sustainable Financing. (Energy)
3. Coordinate with the Mayor's Office and DBI to form and staff a residential existing buildings task force to update residential energy, water, and waste reduction requirements and incentives. (Energy, Zero Waste)
4. Represent San Francisco in other policy initiatives targeting existing buildings to ensure consistency, minimize duplication, and avoid potential conflicts with local environmental and policy goals.
5. Initiate a municipal LEED for an existing buildings pilot project at One South Van Ness Avenue.
6. Develop outreach tools, including interactive three-dimensional maps, to enhance the ability of public and private decision makers to improve the performance of buildings. (Climate, Energy, Outreach)

Objective C: Provide green building technical assistance and oversight to project teams.

Actions:

1. Manage citywide professional services contract to provide City departments access to as-needed Green Building Technical Assistance.
2. Advise and support green building initiatives within the Planning Department, the San Francisco Redevelopment Agency, the Mayor's Office of Housing, Economic and Workforce Development, the Mayor's Office of Disability, the Transbay Joint Powers Authority, the Treasure Island Development Authority, the Department of Public Health, and others.
3. Incorporate green building strategies and environmentally preferable materials choices into the city's 10-year Capital Plan by collaborating with the General Services Administration's Capital Planning Group. (Zero Waste)
4. Incorporate green building specifications into the automated construction document system utilized by the Department of Public Works. (Zero Waste)
5. Develop and maintain a stable funding mechanism to support green building program activities through interdepartmental work orders, legislation, fees, and grant funding and by leveraging other partnership resources. (Energy, EJ, Zero Waste, Toxics Reduction)

Objective D: Support green building educational efforts for key public and private building industry stakeholders.

Actions:

1. Coordinate and host technical green building educational opportunities for public and private building industry stakeholders, including: the Green Building Professionals Guild (monthly), Certified Green Building Professional/GreenPoint Rater, small and medium contractor training, community-based job training organizations, LEED technical workshops, LEED exam prep workshops, and meetings of the REB Task Force.
2. Promote green building education opportunities offered through other organizations, such as the U.S. Green Building Council, the Bay Area LEED Users Group, Build it Green, and Pacific Energy Center.
3. Monitor and track local green building activity in municipal, commercial, and residential sectors, promote projects, and share lessons learned through website, awards, tours, publications, announcements, and press releases. (Outreach)

#### VIII.I.V Urban Forest Program

The goal of the urban forest program is to promote a healthy and sustainable urban forest. Urban forests serve to reduce the urban heat-island effect and increase the amount of carbon dioxide sequestered. In order to accomplish the urban forest program's goals, SF Environment has identified the following objectives and actions.

Objective A: Research and analyze potential funding sources for urban forest program.

Actions:

1. Explore potentials for new long-term funding mechanisms.
2. Work with the Climate Change Coordinator to include urban forest initiatives in climate change goals and programs, including the Local Carbon Fund. (Energy)

Objective B: Implement the Urban Forestry Council Ordinance (Environment Code Chapter 12).

Actions:

1. Provide program staffing support for the Urban Forestry Council and subcommittees, as funding permits.
2. Support the landmark tree program by evaluating and reporting on nominated trees, scheduling site reviews and hearings, supporting the nominating party, and performing follow-up after the final Urban Forestry Council hearing to ensure process completion, as funding permits.
3. Obtain and compile budget and program information from City departments and agencies that manage trees. Draft and distribute the annual Urban Forest Report, as funding permits.

Objective C: Maintain and continue to develop education and outreach programs, and provide information on city tree management and related activities.

Actions:

1. Provide information to members of the public, City departments, and community groups regarding city services, policies, and projects related to the urban forest. (Outreach)
2. Support development of the Urban Forest mapping project, as funding permits.
3. Organize an annual workshop for City staff and contractors on best management practices and standards. Implement educational programs and host educational

events that promote public understanding of city tree programs and laws and approved tree maintenance techniques. (Outreach and Education)

4. Promote and create special events that highlight the importance and value of the urban forest, e.g., citywide Arbor Day, Green Christmas, and Landmark Tree Tour. (Outreach)

#### **VIII.I.VI Zero Waste Program**

The Zero Waste Program has a three-year goal to increase overall diversion to 75 percent by calendar year (CY) 2010 to further protect ecosystems, conserve resources and energy, and reduce pollution and climate change. The Zero Waste Program also has a goal to advance towards zero waste by holding producers and consumers responsible for their waste.

Goal 1: Increase overall diversion to 75 percent by CY 2010 to further protect ecosystems, conserve resources and energy, and reduce pollution and climate change.

Objective A: Increase residential diversion to 55 percent.

Actions:

1. Reduce waste in San Francisco by working with other organizations to decrease unsolicited deliveries to households (e.g., phone books, newspapers, handbills, junk mail), increase bag reuse regionally, and cut consumption. (Outreach)
2. Expand reuse and other diversion at the Public Disposal & Recycling Area, and award and manage grants to nonprofits to divert over 2,000 tons of reusables and other materials annually while creating green jobs. (EJ)
3. Achieve rate process residential diversion goals by bringing composting and recycling to the remaining apartment buildings and increasing participation citywide. (Outreach)
4. Ensure that recycling centers are properly operated and convenient for all San Franciscans, and work with Recology, the Police Department, and District Attorney to enforce anti-poaching laws against organized vehicles.
5. Train producers and service providers to make sure that 130 large events recycle and compost and 65 events exceed 50 percent diversion each year. (Outreach)
6. Work with Recology to keep Fantastic 3 recycling residuals below 10 percent. (Outreach)

Objective B: Increase commercial diversion to 80 percent.



Actions:

1. Promote source reduction (including double-sided printing and copying), reuse and purchasing recyclable/compostable products with recycled content such as through the Green Business Program and via presentations to commercial audiences. (Toxics)
2. Achieve rate process commercial diversion goals through bringing recycling and composting to the remaining commercial accounts by conducting outreach, responding to requests for assistance, presenting at merchant associations and property management companies, conducting business corridor compliance sweeps, targeting large material generators and multi-tenant properties, helping to implement needed programs and coordinating with owners/managers, service providers, janitorial companies, unions and others. (Outreach)
3. Achieve Food Service Waste Reduction Ordinance compliance through on-site monitoring and assistance and through coordination with the City Administrator on enforcement.
4. Divert 10,000 additional tons per year continuing to implement the Construction and Demolition Debris Recovery Ordinance by (re)registering facilities and transporters, conducting outreach (with emphasis on architects and associations) and in-field monitoring, working with DBI, promoting material reuse, identifying additional recycling markets, finalizing the City's Construction and Demolition Debris Recovery Plan, training city employees and participating in disaster debris recovery planning. (Green Building)
5. Work with the Port and others to support local processing that benefits the community, including providing green jobs, and further develop Piers 92-96 as an eco-industrial park providing infrastructure supporting zero waste. (EJ).

Objective C: Increase city government diversion to 85 percent and further facilitate departments leading by example.

Actions:

1. Advance source reduction by facilitating compliance with Mayor's Executive Directive 08-02 to reduce paper use by 20 percent, working with departmental IT managers and the Department of Technology to purchase second generation multi-function devices, network and fully use their capabilities (including double-sided printing and copying) at 20 department locations, institutionalizing paperless

paystubs and electronic distribution of forms at 10 departments, and installing 71 electric hand driers.

2. Decrease purchase of new items and increase reuse and recycling of office furniture, equipment, and supplies and divert 2,000 tons of scrap metal per year through managing and promoting the Virtual Warehouse and metal recycling by making presentations to 1,200 employees who are moving, renovating or unfamiliar with these services, increasing transactions by 15 percent, the proportion of items redistributed to departments by 20 percent, the number of transactions that provide 30 days notice by 20 percent and further developing relationships with the Department of Real Estate, the Department of Technology, the Recreation and Parks Department, and the Public Library.
3. Expand diversion of 10,000 tons by facilitating compliance with the Resource Conservation Ordinance, the Construction and Demolition Debris Recovery Ordinance, and other ordinances, making recommendations and improving programs, expanding recycling and composting at 50 priority locations, assisting 20 departments in reducing costs by a total of \$400,000, training 75 recycling coordinators annually, presenting on zero waste principles and procedures to 1,200 City employees, ensuring all departments complete the yearly waste diversion questionnaire, and providing feedback to 15 key department directors or upper managers each year.
4. Facilitate compliance with the Precautionary Purchasing Ordinance and Extended Producer Responsibility Resolution to promote purchasing reusable, recyclable/compostable products with recycled content by assisting the Office of Contract Administration with incorporating environmental specifications in the three bid processes, working with departments to reduce packaging and increase takeback, training 200 end-users on environmental benefits of preferable products, and collecting sales data and evaluating progress. (Toxics)
5. Divert 3,000 tons per year of street sweepings that passed testing and evaluate other geographic areas to determine suitability, and assist the SFPUC in developing sewage sludge diversion contingencies.
6. Showcase key department efforts as models of zero waste to encourage other agencies and the private sector.

Actions (for all three objectives of Zero Waste Program Goal 1):

1. Implement the Mandatory Recycling and Composting Ordinance by educating all generators about its requirements and providing assistance or enforcement where necessary. (Outreach)
2. Work with DBI to implement the administrative bulletin and Green Building Ordinance requiring adequate and convenient space for recycling and composting in new buildings, and convert or close trash chutes in existing buildings. (Green Building)
3. Plan facilities to expand and enhance processing, test and evaluate low-temperature, mechanical/biological technologies (such as bio-separation and digestion), increase the material types recycled and composted, and further develop markets.
4. Keep the ecofinder updated, and improve and expand web-based and other information that motivates people to achieve zero waste. (Outreach)

Goal 2: Advance towards zero waste by holding producers and consumers responsible for their waste.

Objective A: Require diversion program participation in all sectors.

Actions:

1. Work with the Mayor's Office, the Board of Supervisors, and others to support State legislation mandating recycling and composting at apartments and businesses, and regionally to ban materials such as cardboard from landfills. (Outreach)

Objective B: Reduce use and encourage re-engineering of disposable products, increase reuse, recyclability, compostability, and recycled content of selected categories, and secure producer participation or funding for recovery.

Actions:

1. Work with the Mayor's office, Board of Supervisors and others to introduce and support local and State policies targeting problem products (e.g., film plastic, asphalt roofing, textiles, disposable diapers, and carpet) and improving labeling of compostable products. (Outreach, Toxics Reduction)

Goal 3: Assist with disposal alternatives planning and refuse rate process.

Objective A: Help secure any disposal capacity needed beyond the current Altamont agreement while incentivizing achieving zero waste by 2020.

Actions:

1. Aid in negotiating landfill contract terms and obtaining Board of Supervisors approval as necessary to finalize agreement prior to rate process.

Objective B: Help set refuse rates, incentives, and program funding leading to zero waste by 2020.

Actions:

1. Assist in preparing for and completing the next rate process. (Toxics Reduction)

#### VIII.I.VII Toxics Reduction

The goal of the Toxic Reduction Program is to safeguard human and environmental health from exposure to toxic chemicals in household and institutional products. Many of the efforts to protect human health under the toxic reduction program would also reduce greenhouse gas emissions; those actions are discussed below.

Objective A: Through an alternatives analysis process, develop and apply science-based criteria to identify environmentally preferable products.

Actions:

1. Complete the establishment of new standards and Citywide contracts for long lasting, energy efficient, and low-mercury lighting products. Develop science-based criteria and (as appropriate) product lists to identify environmentally preferable alternatives for lighting.

Objective B: Facilitate the use of safer alternatives through training, outreach and legislative mandates.

Actions for Lighting:

1. Complete the establishment of new standards and Citywide contracts for long-lasting, energy-efficient, and low-mercury lighting products. (Energy)
2. Work with City staff and the SFPUC to increase purchases of San Francisco-approved lighting products by City departments.
3. Develop and maintain a publicly available list of long-lasting, energy-efficient, and low-mercury lighting products.

Actions for General Green Purchasing:

1. Develop a new website for the San Francisco-approved green catalog to make it easier for City agencies to purchase San Francisco-approved products and services, and include performance reviews of San Francisco-approved products. (Outreach)

2. Develop an integrated database tool, for use by all toxics reduction program areas, to review and track the environmental and health impacts of products.

Objective C: Increase the number and environmental impact of local green businesses.

Actions:

1. Continue implementation of the Green Business Program, including recruitment of local businesses, application tracking, onsite trainings and assessments, quantification of environmental savings made, and reporting. (Zero Waste, Clean Air, Energy, Outreach)
2. In conjunction with technical consultants, recognize 50 new green businesses each year, and recertify existing participants on a three-year cycle. (Zero Waste, Clean Air, Energy, Outreach)
3. Update and improve recognition standards for business sectors currently eligible for the program. (Zero Waste, Clean Air, Energy, Outreach)
4. Quantify and track the environmental savings (energy and water saved, mercury recycled, hazardous waste properly disposed, and greenhouse gas emissions reductions) achieved by green businesses. (Zero Waste, Clean Air, Energy, Outreach)
5. Develop a fee structure for the Green Business Program based on size, sector, and complexity. (Zero Waste, Clean Air, Energy, Outreach)
6. Develop and implement the Green Business marketing plan to increase visibility of the program brand and continue to promote recognized green businesses through the website, newsletter, and public events. (Zero Waste, Clean Air, Energy, Outreach)

Objective D: Maintain and enhance opportunities to recycle and dispose of unwanted toxic products.

Actions:

1. Ensure implementation of the goals and commitments under the garbage rate agreement with Norcal Waste Systems, including staffing, outreach, waste collection rates, and program development.
2. Partner with the Department of Public Health and private collection entities to provide training, outreach, and collection options for the recycling and disposal of hazardous wastes (fluorescent tubes, batteries, and computers) from City facilities.

Objective E: Increase the availability and use of safer alternatives through the support of regulatory changes and the promotion of product stewardship among manufacturers and retailers.

Actions:

1. Support local, state, and national efforts to expand product stewardship on the part of manufacturers and retailers of consumer products containing toxic chemicals by creating funded systems to collect and recycle unwanted consumer products at their end of life. (Zero Waste)

### VIII.I.VIII Environmental Justice

The goal of the Environmental Justice Program is to protect the environment and public health of low-income neighborhoods of San Francisco and support the capacity and education of local residents to address environmental justice concerns. The objectives and actions of the Environmental Justice Program that relate to climate change are listed below.

Objective C: Promote Energy Efficiency and Renewable Energy Systems

Actions:

1. Provide support to SF Environment's Energy Program and provide assistance to nonprofit organizations and community groups serving low-income residents to promote energy efficiency and renewable energy systems. (Energy)
2. Provide support to SF Environment's Green Building Program and City agencies working to integrate energy efficiency, renewable energy systems, and green building practices in the development of major projects such as the Hunters Point Shipyard and affordable "green" public housing in the southeast area of the city. (Zero Waste, Green Building)

Objective D: Promote urban forestry, public spaces, and neighborhood beautification initiatives in the southeast area of the city.

Actions:

1. Work with community groups, city agencies, and property owners in the southeast area of the city to promote tree planting and maintenance, neighborhood beautification and educational services. Support economic development along the Third Street corridor in the Bayview Hunters Point community by participating in and supporting community events in public spaces. (Zero Waste, Urban Forestry)

Objective F: Promote green collar jobs.

Actions:

1. Support city agencies and nonprofit workforce development organizations in providing green collar job training to help low-income residents prepare for and obtain employment in green jobs in San Francisco.
2. Promote and support SF Environment Now! Program by providing administrative and educational services. (Outreach, Zero Waste, Energy)
3. Work with City agencies and nonprofit organizations to promote and identify job training opportunities and support San Francisco's local green economy. (Zero Waste, Energy, Toxics Reduction, Green Building)

## **VIII.II Department Climate Action Plans**

Pursuant to the Greenhouse Gas Reduction Ordinance, May 2008, all City departments are required to prepare departmental climate action plans and report on the progress of their climate action plans annually. Each department climate action plan must include a departmental profile stating the department's mission, budget, number of employees, and description of facilities. The plan must also include a greenhouse gas inventory. The 2009 inventory includes a calculation of greenhouse gas emissions resulting from electricity and natural gas use and fleet vehicles. Departments are also required to prepare a commuter survey. The plans must include a description of existing actions to reduce greenhouse gas emissions from energy use and vehicle trips, and through waste reduction strategies. The plans describe how the department may influence communitywide greenhouse gas emissions and must develop strategies to reduce communitywide emissions, along with an implementation program. Two of the larger contributors to greenhouse gas emissions, or with the most influence over greenhouse gas emissions, are the San Francisco Airport (SFO) and the SFPUC. Highlights from their climate action plans are discussed briefly below. In addition, the San Francisco Municipal Transportation Agency's Climate Action Plan was discussed extensively throughout this document.

### **VIII.II.I San Francisco Airport Climate Action Plan**

The Airport Commission has established a goal to achieve carbon neutrality by 2020. SFO's Departmental Climate Action Plan is a blueprint for achieving carbon neutrality. In 1990 SFO generated an estimated 63,919 U.S. tons of CO<sub>2</sub>E from operations that were under the control of the Airport Commission. In 2007 the greenhouse gas emission from SFO-controlled operations was 38,500 tons, or 39.8 percent below their 1990 emissions level. This reduction in greenhouse gas emissions was achieved by implementing the following measures:

- Installation of preconditioned air and 400 hertz power supply systems at the new International Terminal reduced aircraft auxiliary power unit emissions by 12,800 U.S. tons of CO<sub>2</sub>E per year.
- Replacement of refrigerant gas R-12 with the less harmful gas R-134a in SFO's central plant reduced greenhouse gas emissions attributable to fugitive refrigerant gas releases by 5,700 U.S. tons of CO<sub>2</sub>E per year.
- The recycling of 6,300 tons of solid waste and over 112,000 tons of construction and demolition waste offset greenhouse gas emissions by 4,200 U.S. tons of CO<sub>2</sub>E per year.
- Construction of the AirTrain allowed the elimination of 1,990 U.S. tons of CO<sub>2</sub>E per year by minimizing the use of rental car agency shuttle buses.



- Implementation of various energy efficiency measures saved 3,500 megawatt hours of electricity per year and resulted in a greenhouse gas emission offset of 1,200 U.S. tons of CO<sub>2</sub>E per year.
- Implementation of Employee Commute and Compressed Work Week Programs encouraging employees to use more environmentally friendly modes of commute such as BART, Samtrans, Caltrain, etc. These programs resulted in a greenhouse gas emission reduction of 570 U.S. tons of CO<sub>2</sub>E per year.
- Implementation of various fuel efficiency measures such as the use of biodiesel and compressed natural gas fuels, and hybrid vehicles yielding an estimated greenhouse gas emission offset of 480 U.S. tons of CO<sub>2</sub>E per year.
- Installation of 52,000 square feet of solar panels generating 582 megawatt hours of electricity which offset greenhouse gas emissions by an equivalent of 225 U.S. tons of CO<sub>2</sub>E per year.
- Planting of 2,020 trees at SFO, as a component of Airport's landscaping program, which would sequester about 17 U.S. tons of CO<sub>2</sub> per year.

Passenger traffic is expected to grow by as much as 46 percent by 2017 and 72 percent by 2025. Comparison of the City greenhouse gas reduction targets with projected greenhouse gas emission levels indicates that SFO needs to achieve the following additional greenhouse emission offsets in the future in order to achieve carbon neutrality:

- By 2017 SFO needs to reduce or offset greenhouse gas emissions by 3,700 to 9,700 tons per year; and
- By 2025 SFO needs to reduce or offset greenhouse gas emissions by 19,100 to 29,000 tons per year.

SFO has developed a number of new and expanded greenhouse gas emission reduction measures, which are currently underway or in the planning stage, that would enable SFO to achieve carbon neutrality by the year 2020. These measures are estimated to yield a total greenhouse gas emission offset of 18,500 U.S. tons of CO<sub>2</sub>E per year by 2017 and a maximum offset of 65,000 U.S. tons of CO<sub>2</sub>E per year by 2025. The following are major elements of the planned greenhouse gas reduction measures:

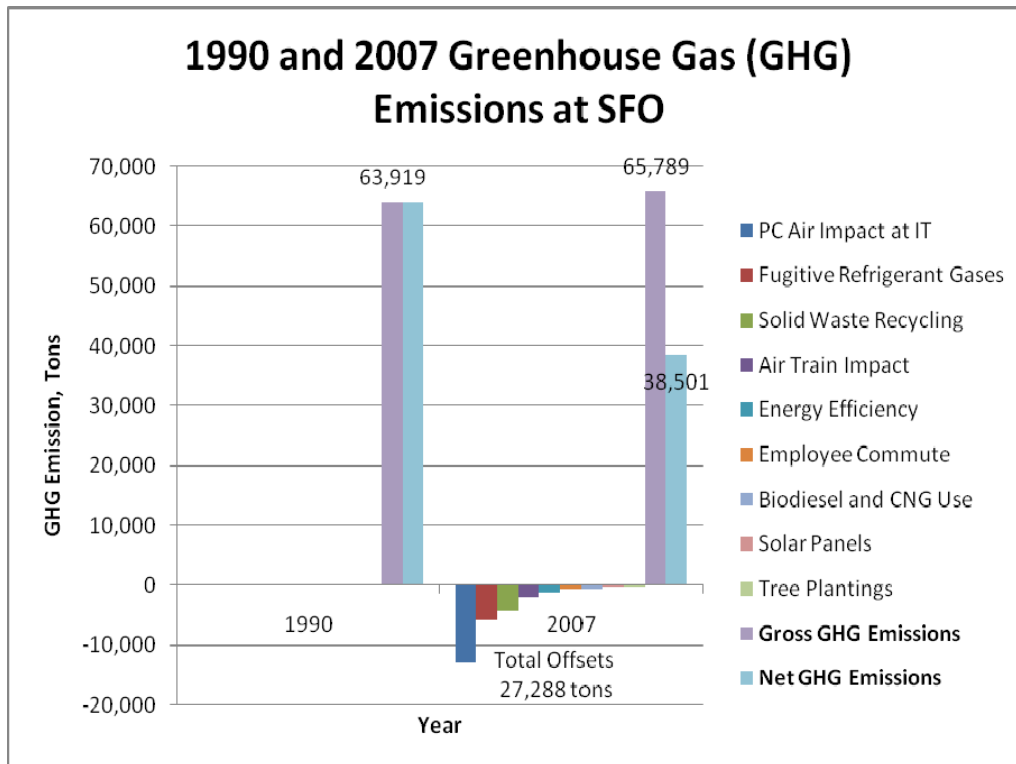
- Installation of additional PC Air and 400-hertz power supply systems, which would offset 38,000 U.S. tons of CO<sub>2</sub>E per year; and

- Ongoing and planned energy efficiency measures including equipment replacement and adoption of energy conservation practices, which would offset 22,000 U.S. tons of CO<sub>2</sub>E per year.

SFO will address the reduction of greenhouse gas emissions from operations of airlines, airline support services, concessionaires, and other activities at SFO in cooperation with all of the stakeholders as a part of SFO's future climate action initiatives.

SFO's 1990 emissions as compared to 2007 emissions and resulting offset programs are graphically shown in Figure VIII-1.<sup>2</sup>

**Figure VIII-1. 1990 and 2009 Greenhouse Gas Emissions for SFO**



Source: Climate Action Plan for San Francisco Airport. 2009.

## VIII.II.2 San Francisco Public Utilities Climate Action Plan

The SFPUC is composed of water, wastewater, and power enterprises. The SFPUC provides water and wastewater service to San Francisco businesses and residents, and water to jurisdictions throughout the Bay Area. The SFPUC also provides power to San Francisco's municipalities, including the hydroelectric power required to operate San Francisco's electric transportation system. The SFPUC has implemented a number of energy retrofit projects. Other

<sup>2</sup> SFO Climate Action Plan. January 2009. San Francisco Airport. Contact: Sam Mehta, Environmental Services Group, Bureau of Design and Construction, San Francisco International Airport.

projects that are in progress or in development are discussed below. Additional SFPUC energy efficiency and renewable energy programs have been discussed in Section IV of this document. The total energy savings potential for all SFPUC facilities is estimated to be 11.8 million kilowatt hours (kWh) of electricity and 185,000 therms of natural gas per year.<sup>3</sup>

#### Completed Projects

- Wastewater Enterprise. Lighting Retrofit, Phase 1 (Southeast Wastewater Treatment Plant). Retrofit or replacement of 1,200 fluorescent fixtures. Estimated energy savings of 40,000 kWh/year.
- Kirkwood Powerhouse lighting retrofit. Estimated energy savings of 250,000 kWh/year.

#### Projects in Progress

- Wastewater Enterprise Lighting Retrofit, Phase 2 (Northpoint and Oceanside Wastewater Treatment Plants). Retrofit or replacement of fluorescent high-pressure sodium fixtures, timers, and sensors. Estimated savings of 500,000 kWh/year.
- City Distribution Division (CDD) lighting. Retrofit or replacement of fluorescent fixtures, timers, and sensors. Estimated savings of 133,000 kWh/year.
- Water Supply and Treatment (WST). Design review at the Tesla Treatment Facility.

#### Projects in Development- Wastewater Enterprise Facilities

- Variable Frequency Drive Upgrades - at treatment plants and major pump stations for energy savings, peak reductions and reduction of heat damage and AC requirements.
- Oxygen Plant Modifications (Oceanside Plant). Sizing and installation of ambient air heat exchanger and other modifications.
- Compressor replacements (Southeast Plant). Replacement of air compressors with smaller lower pressure units.
- An assessment of energy and heat loop at the Oceanside Plant, currently with 20-year-old technology.
- Review of the proposed Treasure Island Wastewater Treatment Plant design plans.

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<sup>3</sup> *Climate Action Plan, Report to the Mayor's Climate Team*. January 2009. San Francisco Public Utilities Commission.

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## **IX. Regulations Applicable to New Development**

This section identifies regulations that are applicable to new development and renovations that are expected to yield greenhouse gas (GHG) reductions. These regulations have been discussed in previous sections of the document, but are summarized here for ease of reference. The regulations are divided into municipal projects and private projects. BAAQMD's *CEQA Air Quality Guidelines* (2010) states that if the GHG Reduction Strategy consists of a number of different elements, then each element applicable to new development projects, for which the GHG Reduction Strategy relies upon, must have completed environmental review in order for new development to tier from the GHG Reduction Strategy. Tables IX-1 and IX-2 identify those regulations that are being relied upon in this GHG Reduction Strategy for which environmental review has been completed and the appropriate findings of that environmental review are attached. Appendix G contains each environmental review document for which this GHG Reduction Strategy relies upon. Although the environmental review documents have not been located for some regulations, they are included in this table as they are still regulations that are consistently applied to new development projects and are required by municipal code, but for which this GHG Reduction Strategy does not solely rely upon.

### **IX.I Regulations Applicable to Municipal Projects**

Table IX-1 lists regulations and requirements that apply to municipal projects or City employees. Additional policies, programs, and initiatives that would also apply to specific municipal projects are discussed extensively throughout this document. An example includes the Better Streets Plan, which will guide the design of new streetscape projects. All future streetscape projects would be held to the policies in the Better Streets Plan, which includes unified streetscape design, space for public life, enhancement of pedestrian safety, improved street ecology, universal design, integration of pedestrians with transit, creative use of parking lanes, traffic calming measures, pedestrian-priority design, and extensive greening.

The City is also engaged in a number of projects to increase energy efficiency and provide renewable energy sources for municipal buildings. These projects have been discussed extensively throughout this document in Sections IV, V, and VIII.

**Table IX-1. Regulations Applicable to Municipal Projects**

Regulation	Effective Date	Requirements	Enforcement	Monitoring/Reporting	Environmental Review
<b>Transportation Sector<sup>1</sup></b>					
Commuter Benefits Ordinance (Environment Code, Section 421) <sup>2</sup>	08/22/08	All City employees are offered commuter benefits for transit and vanpool expenses. The City Hall bike room provides secure bicycle parking, showers and lockers for bicycle commuters. City employees are also eligible for telecommuting and alternative work schedules.	The following fines would apply for failure to comply with the ordinance: 1. \$100.00 for a first violation, 2. \$200.00 for a second violation within the same year, and 3. \$500.00 for each additional violation within the same year.	Department Climate Action Plans report on the number of employees that commute to work via alternative modes of transportation.	Appendix G-1
Emergency Ride Home Program <sup>3</sup>	08/22/08	All City employees are automatically eligible for the emergency ride home program.	Ordinance requires the Department of the Environment to develop rules and regulations to implement the program.	Ordinance requires the Department of the Environment to develop rules and regulations to implement the program.	Appendix G-1
Healthy Air and Smog Ordinance (Environment Code, Chapter 4) <sup>4</sup>	Updated 7/3/03	Requires all new purchases or leases of passenger vehicles and light-duty trucks to be the cleanest and most efficient vehicles available on the market. There are also requirements for medium and heavy duty vehicles		Annual report to Mayor and Board of Supervisors on fuel costs, maintenance costs and reduction of vehicle emissions.	

<sup>1</sup> In addition to the following regulations, municipal projects are required to comply with the Planning Code requirements for parking spaces for the buildings zoning district. As discussed throughout this document, many of the City's mixed use and transit oriented zoning districts have recently revised the parking requirements from parking minimums to parking maximums. Planning Code parking requirements are described under Section 151.1 of the Planning Code.

<sup>2</sup> The City and County of San Francisco has been offering its employees commuter benefits since before adoption of the Commuter Benefit Ordinance. A summary of City and County of San Francisco Employee Benefits are available online at:

[http://www.sfenvironment.org/downloads/library/sfe\\_commuter\\_programs\\_for\\_ccsf\\_employees.pdf](http://www.sfenvironment.org/downloads/library/sfe_commuter_programs_for_ccsf_employees.pdf). Accessed January 6, 2010. The Commuter Benefit Ordinance is available online at: <http://library.municode.com/index.aspx?clientId=14134&stateId=5&stateName=California>. Accessed January 6, 2010.

<sup>3</sup> Ibid.

<sup>4</sup> City and County of San Francisco Environment Code, Chapter 4. Available online at:

<http://library.municode.com/index.aspx?clientId=14134&stateId=5&stateName=California>. Accessed January 6, 2010.

Regulation	Effective Date	Requirements	Enforcement	Monitoring/Reporting	Environmental Review
		and for phasing out highly polluting vehicles (diesel MUNI buses).			
Biodeisel for Municipal Fleets (Executive Directive 06-02) <sup>5</sup>	5/18/06	Requires all diesel using City Departments to begin using biodiesel (B20). Sets goals for all diesel equipment to be run on biodiesel by 2007 and goals for increasing biodiesel blends to B100.		The Department to Environment prepare an annual report on the efforts that diesel-using departments are making towards achieving the City's biodiesel goals.	
Clean Construction Ordinance (Administrative Code, Section 6.25) <sup>6</sup>	4/2/07	Effective March 2009, all contracts for large (20+ day) City projects are required to:  Fuel diesel vehicles with B20 biodiesel, and  Use construction equipment that meet USEPA Tier 2 standards or best available control technologies for equipment over 25 hp.	Violations can result in contractor penalties, suspension of contract, withholding of funds, or other enforcement mechanisms as listed in the clean construction ordinance.		Appendix G-2
Bicycle Parking in City-Owned and Leased Buildings (Planning Code, Section 155.1) <sup>7</sup>	Updated 8/12/09	Class 1 and 2 Bicycle Parking Spaces Class 1 Requirements: (A) Provide two spaces in buildings with 1-20 employees. (B) Provide four spaces in buildings with 21 to 50 employees. (C) In buildings with 51 to 300 employees, provide bicycle parking equal to at least five percent of the	Upon investigation, if it is found that a City official is in violation and the violation has not been cured within the 30 days, a penalty of \$50/day shall be assessed commencing with the first date of the violation.		Appendix G-3

<sup>5</sup> Executive Directive 06-02, Biodeisel for Municipal Fleets. May 16, 2006. This directive is available online at: <http://www.sfenvironment.org/downloads/library/biodieseledfinal.doc>. Accessed January 6, 2010.

<sup>6</sup> City and County of San Francisco Administrative Code, Section 6.25. Available online at: <http://library.municode.com/index.aspx?clientId=14131&stateId=5&stateName=California>. Accessed January 6, 2010.

<sup>7</sup> City and County of San Francisco Planning Code, Section 155.1: Available online at: <http://library.municode.com/index.aspx?clientId=14139&stateId=5&stateName=California>. Accessed January 6, 2010.

Regulation	Effective Date	Requirements	Enforcement	Monitoring/Reporting	Environmental Review
		<p>number of employees at that building, but no fewer than five bicycle spaces.</p> <p>(D) In buildings with more than 300 employees, provide bicycle parking equal to at least three percent of the number of employees at that building, but no fewer than 16 bicycle spaces.</p> <p>In addition to the Class 1 bicycle parking spaces provide Class 2 bicycle parking.</p> <p>Class 2 Requirements:</p> <p>(A) In buildings with one to 40 employees, at least two bicycle parking spaces shall be provided.</p> <p>(B) In buildings with 41 to 50 employees, at least four bicycle parking spaces shall be provided.</p> <p>(C) In buildings with 51 to 100 employees, at least six bicycle parking spaces shall be provided.</p> <p>(D) In buildings with more than 100 employees, at least eight bicycle parking spaces shall be provided.</p> <p>Wherever a responsible City official is required to provide eight or more Class 2 bicycle parking spaces, at least 50 percent of those parking spaces shall be covered.</p>			
Bicycle parking in parking garages (Planning Code, Section 155.2) <sup>8</sup>	11/19/98	<p>(A) Every garage will supply a minimum of six bicycle parking spaces.</p> <p>(B) Garages with between 120 and 500 automobile spaces shall provide</p>	<p>If a garage is in violation of this section of the Planning Code, a notice of violation will be issued.</p> <p>If the violation has not been rectified within 30-day, the</p>		Appendix G-4

<sup>8</sup> City and County of San Francisco Planning Code, Section 155.2. Available online at: <http://library.municode.com/index.aspx?clientId=14139&stateId=5&stateName=California>. Accessed January 6, 2010.



Regulation	Effective Date	Requirements	Enforcement	Monitoring/Reporting	Environmental Review
		one bicycle space for every 20 automobile spaces. (C) Garages with more than 500 automobile spaces shall provide 25 spaces plus one additional space for every 40 automobile spaces over 500 spaces, up to a maximum of 50 bicycle parking spaces.	garage is added to a list of garages not in compliance with the Planning Code section.		
Transportation Management Programs (Planning Code, Section 163) <sup>9</sup>	Updated 12/19/08	Requires new buildings or additions over a specified size (buildings >25,000 sf or 100,000 sf depending on the use and zoning district) within certain zoning districts (including downtown and mixed-use districts in the City's eastern neighborhoods and south of market) to implement a Transportation Management Program and provide on-site transportation management brokerage services for the life of the building.		Preparation of a Transportation Management Program	Appendix G-5
<b>Energy Efficiency Sector</b>					
Resource Efficiency and Green Building Ordinance (Environment Code, Chapter 7) <sup>10,11</sup>	5/27/04	The ordinance specifies requires for all city buildings as well as requirements for construction and demolition debris recycling, and requirement for new construction. All new construction must comply achieve at a minimum the LEED® Silver	N/A- Required unless a waiver is obtained. <sup>12</sup>	All City Departments proposing new construction must submit a report to the Green Building Task Force annually. The Green Building Task Force is required to report to	

<sup>9</sup> City and County of San Francisco Planning Code, Section 163. Available online at:  
<http://library.municode.com/index.aspx?clientId=14139&stateId=5&stateName=California>. Accessed January 6, 2010.

<sup>10</sup> City and County of San Francisco Environment Code, Chapter 7. Available online at:  
<http://library.municode.com/index.aspx?clientId=14134&stateId=5&stateName=California>. Accessed January 6, 2010.

Regulation	Effective Date	Requirements	Enforcement	Monitoring/Reporting	Environmental Review
		<p>standard. These buildings are required to perform commissions to ensure achievement of design standards.</p> <p>All other buildings are required to meet the following minimum specifications related to energy efficiency:</p> <ol style="list-style-type: none"> <li>1. Toilets must use no more than 1.6 gal/flush</li> <li>2. Showerheads must use no more than 1.5 gal/ min.</li> <li>3. All lighting and electrical fixtures must meet specified requirements.</li> <li>4. All fluorescent lamps must be replaced</li> </ol>		the Board of Supervisors on implementation of the ordinance every three years.	
<b>Waste Reduction Sector</b>					
Resource Efficiency and Green Building Ordinance (Environment Code, Chapter 7)	5/27/04	<p>The ordinance requires all demolition (&amp; new construction) projects to prepare a Construction and Demolition Debris Management Plan designed to recycle construction and demolition materials to the maximum extent feasible, with a goal of 75% diversion.</p> <p>The ordinance specifies requires for all city buildings to provide adequate recycling space</p>	N/A	<p>All city contractors are required to prepare a Construction and Demolition Debris Management Plan.</p> <p>The Green Building Task Force is required to report to the Board of Supervisors on implementation of the ordinance every three years.</p>	
Resource Conservation Ordinance	Updated 7/03/03	This ordinance establishes a goal for each City department to (i) maximize purchases of recycled products and		Requires an annual update of the Department's Waste Assessment and well as an	

<sup>11</sup> According to the Department of the Environment's Strategic Plan for 2009-2011, the Department anticipates upgrading Environment Code, Chapter 7 to require municipal projects to be LEED® Gold by 2012.

<sup>12</sup> Waivers may be obtained when necessary to respond to an emergency which endangers public health or safety, or by demonstrating that the requirement is cost prohibitive.

Regulation	Effective Date	Requirements	Enforcement	Monitoring/Reporting	Environmental Review
(Environment Code, Chapter 5) <sup>13</sup>		(ii) divert from disposal as much solid waste as possible so that the City can meet the state-mandated 50% diversion requirement. Each City department shall prepare a Waste Assessment. The ordinance also requires the Department of the Environment to prepare a Resource Conservation Plan that facilitates waste reduction and recycling. The ordinance requires janitorial contracts to consolidate recyclable materials for pick up. Lastly, the ordinance specifies purchasing requirements for paper products.		annual update summarizing departmental waste assessments.	
Mandatory Recycling and Composting Ordinance (Environment Code, Chapter 19) <sup>14</sup>	6/23/09	The mandatory recycling and composting ordinance requires all persons in San Francisco to separate their refuse into recyclables, compostables and trash, and place each type of refuse in a separate container designated for disposal of that type of refuse.	The ordinance requires the Department of the Environment to adopt specific regulations governing enforcement and fines. However, the ordinance stipulates that the fine for any violation of a use generating less than one cubic yard of refuse/week may not initially exceed \$100.	None	Appendix G-6
Construction Recycled Content Ordinance (Administrative)	Updated 3/23/07	Ordinance requires the use of recycled content material in public works projects to the maximum extent feasible and gives preference to local	Public Works contractors would be held to the City's contracting requirements.		

<sup>13</sup> City and County of San Francisco Environment Code, Chapter 5. Available online at: <http://library.municode.com/index.aspx?clientId=14134&stateId=5&stateName=California>. Accessed January 6, 2010.

<sup>14</sup> City and County of San Francisco Environment Code, Chapter 19. Available online at: <http://library.municode.com/index.aspx?clientId=14134&stateId=5&stateName=California>. Accessed January 6, 2010.

Regulation	Effective Date	Requirements	Enforcement	Monitoring/Reporting	Environmental Review
Code, Section 6.4) <sup>15</sup>		manufacturers and industry.			
<b>Environment/ Conservation Sector</b>					
Street Tree Planting Requirements for New Construction (Planning Code Section 143) <sup>16</sup>	Updated 12/19/08	Planning Code Section 143 requires new construction, significant alterations or relocation of buildings within many of San Francisco's zoning districts to plant on 24-inch box tree for every 20 feet along the property street frontage			
Environmentally Preferable Purchasing Ordinance (Formerly Precautionary Purchasing Ordinance)	Updated 6/17/2005	Requires City Departments to purchase products on the Approved Green Products List, maintained by the Department of the Environment. The items in the Approved Green Products List has been tested by San Francisco City Depts. and meet standards that are more rigorous than ecolabels in protecting our health and environment.	The city may cancel a vendors contract or debar them from business with the City and County of San Francisco if the vendor knowingly falsely represented the product or violated the ordinance.	The ordinance requires an annual report of sales data in compliance with the Environmentally Preferable Purchasing Ordinance.	
Tropical Hardwood and Virgin Redwood Ban (Environment Code, Chapter 8) <sup>17</sup>	Updated 7/3/03	The ordinance prohibits City departments from procuring, or engaging in contracts that would use the ordinance-listed tropical hardwoods and virgin redwood.	The ordinance allows for City departments to penalize contractor violations by contract cancellations, fines, disqualification, and withholding of funds.	The purchaser is required to prepare semi annual reports to the Board of Supervisors on compliance with this ordinance.	

<sup>15</sup> City and County of San Francisco Administrative Code, Section 6.4. Available online at:

<http://library.municode.com/index.aspx?clientId=14131&stateId=5&stateName=California>. Accessed January 6, 2010.

<sup>16</sup> City and County of San Francisco Planning Code, Section 143. Available online at:

<http://library.municode.com/index.aspx?clientId=14139&stateId=5&stateName=California>. Accessed January 6, 2010.

<sup>17</sup> City and County of San Francisco Environment Code, Chapter 8. Available online at:

<http://library.municode.com/index.aspx?clientId=14134&stateId=5&stateName=California>. Accessed January 6, 2010.

Regulation	Effective Date	Requirements	Enforcement	Monitoring/Reporting	Environmental Review
Wood Burning Fireplace Ordinance (San Francisco Building Code, Chapter 31, Section 3102.8) <sup>18</sup>	1/14/02	Bans the installation of wood burning fire places except for the following: <ul style="list-style-type: none"> <li>• Pellet-fueled wood heater</li> <li>• EPA approved wood heater</li> <li>• Wood heater approved by the Northern Sonoma Air Pollution Control District</li> </ul>			
Regulation of Diesel Backup Generators (San Francisco Health Code, Article 30) <sup>19</sup>	9/27/02	Requires: All diesel generators to be registered with the Department of Public Health All new diesel generators must be equipped with the best available air emissions control technology.	The Department of Public Health may impose fines for violations from \$200-\$2,000 per day depending upon the violation.		

<sup>18</sup> City and County of San Francisco Building Code, Chapter 31, Section 3102.8. Available online at: [http://amlegal.com/nxt/gateway.dll/California/sfbuilding/cityandcountyofsanfranciscobuildingelect?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:sf\\_building](http://amlegal.com/nxt/gateway.dll/California/sfbuilding/cityandcountyofsanfranciscobuildingelect?f=templates$fn=default.htm$3.0$vid=amlegal:sf_building). Accessed January 8, 2010.

<sup>19</sup> City and County of San Francisco Health Code, Article 30. Available online at: <http://library.municode.com/index.aspx?clientId=14136&stateId=5&stateName=California>. Accessed January 8, 2010.

## **IX.II Regulations Applicable to All Other Projects**

The following Table IX-2 lists the regulations and requirements for all other projects within the City and County of San Francisco. Some requirements would only apply to residential projects and others only to commercial projects, or to specific operations. Table IX-2, below is modified slightly from Table IX-1 to indicate the types of projects for which the requirement applies. There may be additional Planning Code requirements not cited in the table below, however, those requirements would only apply to a limited number of projects and are therefore omitted from Table IX.2.

The San Francisco Green Building Ordinance requires a variety of green building standards for new development depending upon the size, use, and type of construction. The Green Building Ordinance applies to all new construction, commercial interiors or major alterations to existing buildings greater than 25,000 square feet, and to renovations of historic buildings. The Green Building Ordinance specifies, generally, that all new commercial buildings adhere to LEED® requirements and all residential buildings meet a specified number of GreenPoints under the Green Point Rated system. The requirements listed in Table IX-2 describe only those requirements explicitly required by the Green Building Ordinance and therefore, the Green Building requirements are included in Appendix H. The Green Building Ordinance specifies a sliding scale of requirements; by 2012 new large commercial buildings and commercial interiors will be required to achieve LEED® Gold certification and all new residential buildings will be required to obtain at least 75 GreenPoints under the Green Point Rated system.

Table IX-2. Regulations Applicable to All Other Projects

Regulation	Date	Applicability	Requirements	Enforcement	Monitoring/ Reporting	Environmental Review
<b>Transportation Sector<sup>20</sup></b>						
Commuter Benefits Ordinance (Environment Code, Section 421) <sup>21</sup>	08/22/08	Commercial Sector- All employers with 20 or more employees	<p>All employers must provide at least one of the following benefit programs:</p> <ol style="list-style-type: none"> <li>1. A Pre-Tax Election consistent with 26 U.S.C. § 132(f), allowing employees to elect to exclude from taxable wages and compensation, employee commuting costs incurred for transit passes or vanpool charges, or</li> <li>(2) Employer Paid Benefit whereby the employer supplies a transit pass for the public transit system requested by each Covered Employee or reimbursement for equivalent vanpool charges at least equal in value to the purchase price of the appropriate benefit, or</li> <li>(3) Employer Provided Transit furnished by the employer at no cost to the employee in a vanpool or bus, or similar multi-passenger vehicle</li> </ol>	<p>The following fines would apply for failure to comply with the ordinance:</p> <ol style="list-style-type: none"> <li>1. \$100.00 for a first violation,</li> <li>2. \$200.00 for a second violation within the same year, and</li> <li>3. \$500.00 for each additional violation within the same year.</li> </ol>		Appendix G-1

<sup>20</sup> In addition to the following regulations, all projects are required to comply with the Planning Code requirements for parking spaces for the buildings zoning district. As discussed throughout this document, many of the City's mixed use and transit oriented zoning districts have recently revised the parking requirements from parking minimums to parking maximums. Planning Code parking requirements are described under Section 151.1 of the Planning Code.

<sup>21</sup> The Commuter Benefit Ordinance is available online at: <http://library.municode.com/index.aspx?clientId=14134&stateId=5&stateName=California>. Accessed January 6, 2010.

Regulation	Date	Applicability	Requirements	Enforcement	Monitoring/ Reporting	Environmental Review
			operated by or for the employer.			
Emergency Ride Home Program <sup>22,23</sup>	08/22/08	Commercial Sector- All employees are eligible	All persons employed in San Francisco are eligible for the emergency ride home program.	Ordinance requires the Department of the Environment to develop rules and regulations to implement the program.	Ordinance requires the Department of the Environment to develop rules and regulations to implement the program.	Appendix G-1
Transportation Management Programs (Planning Code, Section 163) <sup>24</sup>	Updated 12/19/08		Requires new buildings or additions over a specified size (buildings >25,000 sf or 100,000 sf depending on the use and zoning district) within certain zoning districts (including downtown and mixed-use districts in the City's eastern neighborhoods and south of market) to implement a Transportation Management Program and provide on-site transportation management brokerage services for the life of the building.		Preparation of a Transportation Management Program	Appendix G-5
Transit Impact Development Fee (Administrative Code, Chapter 38) <sup>25</sup>	Updated 8/05/04	All Commercial Sectors	Establishes the following fees for all commercial developments. Fees are paid to the SFMTA to improve local transit services.	For unpaid fees, the City Treasurer may have the County Recorder record a Notice of Delinquent TIDF fee and in some cases	The SFMTA records all TIDF fees paid to their department.	Appendix G-7

<sup>22</sup> Ibid.

<sup>23</sup> Although the program is currently elective, it is free and available to all persons employed in San Francisco.

<sup>24</sup> City and County of San Francisco Planning Code, Section 163. Available online at:

<http://library.municode.com/index.aspx?clientId=14139&stateId=5&stateName=California>. Accessed January 6, 2010.



Regulation	Date	Applicability	Requirements		Enforcement	Monitoring/ Reporting	Environmental Review
			<b>Economic Activity Category</b>	<b>TIDF/GSF</b>	property.		
			Office Space in New Development in the Downtown Area	\$5.00			
			Cultural/ Institution/ Education	\$10.00			
			Management, Information and Professional Services	\$10.00			
			Medical and Health Services	\$10.00			
			Production/ Distribution/ Repair	\$8.00			
			Retail/Entertainment	\$10.00			
			Visitor Services	\$8.00			
Jobs-Housing Linkage Program (Planning Code)	Updated 12/19/09	Commercial Sector	The Jobs-Housing Program found that new large scale development attract new employees to the City who require housing. The		A project sponsor's failure to comply with the requirements of the Jobs-Housing Linkage		

<sup>25</sup> City and County of San Francisco Administrative Code, Chapter 38, Sections 38.1-38.14. Available online at: <http://library.municode.com/index.aspx?clientId=14131&stateId=5&stateName=California>. Accessed January 6, 2010.

Regulation	Date	Applicability	Requirements	Enforcement	Monitoring/ Reporting	Environmental Review												
Section 413) <sup>26</sup>			<p>program is designed to provide housing for those new uses within San Francisco, thereby allowing employees to live close to their place of employment.</p> <p>The program requires a developer to pay a fee or contribute land suitable for housing to a housing developer or pay an in-lieu fee as follows:</p> <table><tr><th>Economic Activity Category</th><th>Fee/GSF</th></tr><tr><td>Entertainment</td><td>\$18.62</td></tr><tr><td>Hotel</td><td>\$14.95</td></tr><tr><td>Office</td><td>\$19.96</td></tr><tr><td>Research and Development</td><td>\$13.30</td></tr><tr><td>Retail</td><td>\$18.62</td></tr></table>	Economic Activity Category	Fee/GSF	Entertainment	\$18.62	Hotel	\$14.95	Office	\$19.96	Research and Development	\$13.30	Retail	\$18.62	Program constitutes cause for the City to record a lien against the development project.		
Economic Activity Category	Fee/GSF																	
Entertainment	\$18.62																	
Hotel	\$14.95																	
Office	\$19.96																	
Research and Development	\$13.30																	
Retail	\$18.62																	

<sup>26</sup> City and County of San Francisco Planning Code, Section 313. Available online at: <http://library.municode.com/index.aspx?clientId=14139&stateId=5&stateName=California>. Accessed January 6, 2010.

Regulation	Date	Applicability	Requirements	Enforcement	Monitoring/ Reporting	Environmental Review
Bicycle Parking in New and Renovated Commercial Buildings (Planning Code, Section 155.4) <sup>27</sup>	Updated 8/12/09	Commercial Sector (Professional and Retail Services)	<p>Professional Services:</p> <p>(A) Where the gross square footage of the floor area is between 10,000-20,000 feet, 3 bicycle spaces are required.</p> <p>(B) Where the gross square footage of the floor area is between 20,000-50,000 feet, 6 bicycle spaces are required.</p> <p>(3)Where the gross square footage of the floor area exceeds 50,000 square feet, 12 bicycle spaces are required.</p> <p>Retail Services:</p> <p>(A) Where the gross square footage of the floor area is between 25,000 square feet - 50,000 feet, 3 bicycle spaces are required.</p> <p>(2) Where the gross square footage of the floor area is between 50,000 square feet- 100,000 feet, 6 bicycle spaces are required.</p> <p>(3) Where the gross square footage of the floor area exceeds 100,000 square feet, 12 bicycle spaces are required.</p>	Required by code prior to approval of plans.		Appendix G-8

<sup>27</sup> City and County of San Francisco Planning Code, Section 155.4. Available online at: <http://library.municode.com/index.aspx?clientId=14139&stateId=5&stateName=California>. Accessed January 6, 2010.

Regulation	Date	Applicability	Requirements	Enforcement	Monitoring/ Reporting	Environmental Review
Bicycle parking in parking garages (Planning Code, Section 155.2) <sup>28</sup>	11/19/98	All Garages	(C) Garages with more than 500 automobile spaces shall provide 25 spaces plus one additional space for every 40 automobile spaces over 500 spaces, up to a maximum of 50 bicycle parking spaces.	If a garage is in violation of this section of the Planning Code, a notice of violation will be issued. If the violation has not been rectified within 30-day, the garage is added to a list of garages not in compliance with the Planning Code section.		Appendix G-4
Bicycle parking in Residential Buildings (Planning Code, Section 155.5) <sup>29</sup>	Updated 8/12/09	Residential Sector	(A) For projects up to 50 dwelling units, one Class 1 space for every 2 dwelling units.  (B) For projects over 50 dwelling units, 25 Class 1 spaces plus one Class 1 space for every 4 dwelling units over 50.	Required by code prior to approval of plans.		Appendix G-3
Car Sharing Requirements (Planning Code, Section 166) <sup>30</sup>	Updated 12/19/08	Residential Sector	New residential projects or renovation of buildings being converted to residential uses within most of the City's mixed-use and transit-oriented residential districts are required to provide car share parking spaces as follows:	Required by code prior to approval of plans.		

<sup>28</sup> City and County of San Francisco Planning Code, Section 155.2. Available online at: <http://library.municode.com/index.aspx?clientId=14139&stateId=5&stateName=California>. Accessed January 6, 2010.

<sup>29</sup> City and County of San Francisco Planning Code, Section 155.5. Available online at: <http://library.municode.com/index.aspx?clientId=14139&stateId=5&stateName=California>. Accessed January 6, 2010.

Regulation	Date	Applicability	Requirements		Enforcement	Monitoring/ Reporting	Environmental Review
			<b>Number of Residential Units</b>	<b>Required Car Share Spaces</b>			
			0—49	0			
			50—200	1			
			201 or more	2, plus 1 for every 200 dwelling units over 200			
			Number of Parking Spaces Provided for Non-Residential Uses or in a Non-Accessory Parking Facility	Number of Required Car Share Parking Spaces			
			0—24	0			
			25—49	1			
			50 or more	1, plus 1 for every 50 parking spaces			

<sup>30</sup> City and County of San Francisco Planning Code, Section 166. Available online at: <http://library.municode.com/index.aspx?clientId=14139&stateId=5&stateName=California>. Accessed January 6, 2010.

Regulation	Date	Applicability	Requirements			Enforcement	Monitoring/ Reporting	Environmental Review
				over 50				
Parking requirements for San Francisco's Mixed-Use zoning districts (Planning Code Section 151.1) <sup>31</sup>	4/17/09	All	The following parking maximums have been applied to the below listed zoning districts <sup>32</sup> :					Appendix G-5
			Residential Uses	Parking Maximum				
			RH-DTR	1 space/2 units				
			C-3 and SB- DTR	1 space/4 units				
			MUG, MUR, MUO, SPD	1 space/4 dwelling units				
			NCT	1 space/2 units				
			RTO	3 spaces/4 units				
			UMU	0.75 spaces/ unit				
			Office Uses	Parking Maximum				

Regulation	Date	Applicability	Requirements			Enforcement	Monitoring/ Reporting	Environmental Review
			C-3, DTR, SPD, MUG, MUR, MUO	7% of the gross floor area				
			UMU, PDR-1- D, PDR-1-G	1 space/ 1,000 sf				
			Retail	Parking Maximum				
			Retail in EN Mixed Use Districts	1 space/ 1,500 sf				
Energy Efficiency Sector <sup>33</sup>								
San Francisco Green Building Requirements for Energy Efficiency (SF Building Code, Chapter 13C) <sup>34</sup>	11/03/08	Commercial Buildings ≥ 5,000 sf	Commercial buildings greater than 5,000 sf will be required to be at a minimum 14% more energy efficient than Title 24 energy efficiency requirements. By 2008 large commercial buildings will be required to have their energy systems commissioned, and by 2010, these large buildings will be required to provide enhanced commissioning in compliance with LEED® Energy and Atmosphere Credit 3. Mid-sized commercial buildings will be required to have their systems commissioned by 2009, with enhanced commissioning by 2011.			Required by code prior to approval of plans.		Appendix G-9

Regulation	Date	Applicability	Requirements	Enforcement	Monitoring/ Reporting	Environmental Review
San Francisco Green Building Requirements for Energy Efficiency (SF Building Code, Chapter 13C) <sup>35</sup>	11/03/08	All Residential properties	Under the Green Point Rated system and in compliance with the Green Building Ordinance, all new residential buildings will be required to be at a minimum 15% more energy efficient than Title 24 energy efficiency requirements.	Required by code prior to approval of plans.		Appendix G-9
San Francisco Green Building Requirements for Stormwater Management (SF Building Code, Chapter 13C) <sup>36,37</sup>	11/03/08	All Residential projects with 5+ units and all commercial buildings $\geq$ 5,000 sf	<p>These projects are required to comply with LEED® Sustainable Sites Credits 6.1 and 6.2. Credit 6.1 is designed to reduce the amount of impervious service cover, increase infiltration and manage stormwater run off. Credit 6.1 would decrease the amount of stormwater requiring treatment, thereby decreasing the amount of energy required to treat stormwater.</p> <p>Credit 6.2 is similar in that it is designed to reduce the amount of impervious surfaces, but also requires that 90% of the stormwater be captured and 80% of the total suspended solids to be removed onsite. Similar to Credit 6.1, this credit also reduces the amount of stormwater requiring treatment.</p>	Required by code prior to approval of plans.		Appendix G-9
San Francisco Green Building Requirements for water efficient	11/03/08	Commercial Buildings $\geq$ 5,000 sf and high-rise	All new commercial buildings greater than 5,000 sf are required to reduce the amount of potable water used for	Required by code prior to approval of plans.		Appendix G-9



Regulation	Date	Applicability	Requirements	Enforcement	Monitoring/ Reporting	Environmental Review
landscaping (SF Building Code, Chapter 13C) <sup>38</sup>		residential buildings	landscaping by 50%.			
San Francisco Green Building Requirements for water use reduction (SF Building Code, Chapter 13C) <sup>39,40</sup>	11/03/08	Commercial Buildings $\geq$ 5,000 sf and high-rise residential buildings	All new commercial buildings greater than 5,000 sf are required to reduce the amount of potable water used by 20%. <sup>41</sup>	Required by code prior to approval of plans.		Appendix G-9
Commercial Water Conservation Ordinance (SF Building Code, Chapter 13A) <sup>42</sup>	Updated 07/01/09	Commercial properties	Requires all existing commercial properties undergoing tenant improvements to achieve the following minimum standards:  1. All showerheads have a maximum flow of 2.5 gallons per minute (gpm) 2. All showers have no more than one showerhead per valve 3. All faucets and faucet aerators have a maximum flow rate of 2.2 gpm 4. All Water Closets (toilets) have a maximum rated water consumption of 1.6 gallons per flush (gpf) 5. All urinals have a maximum flow rate of 1.0 gpf 6. All water leaks have been repaired.	Required by code prior to approval of plans.		
Residential Water Conservation Ordinance (SF Building Code,	Updated 07/01/09	Residential properties	Requires all residential properties (existing and new), prior to sale, to upgrade to the following minimum standards:	Required prior to sale of property. An official water conservation inspection is required prior to sale of		

Regulation	Date	Applicability	Requirements	Enforcement	Monitoring/ Reporting	Environmental Review
Housing Code, Chapter 12A) <sup>43</sup>			<ol style="list-style-type: none"> <li>1. All showerheads have a maximum flow of 2.5 gallons per minute (gpm)</li> <li>2. All showers have no more than one showerhead per valve</li> <li>3. All faucets and faucet aerators have a maximum flow rate of 2.2 gpm</li> <li>4. All Water Closets (toilets) have a maximum rated water consumption of 1.6 gallons per flush (gpf)</li> <li>5. All urinals have a maximum flow rate of 1.0 gpf</li> <li>6. All water leaks have been repaired.</li> </ol> <p>Although these requirement apply to existing buildings, compliance must be completed through the Department of Building Inspection, for which a discretionary permit (subject to CEQA) would be issued.</p>	property.		
Residential Energy Conservation Ordinance  (SF Building Code, Housing Code, Chapter 12) <sup>44</sup>	Updated 16/04/92	Residential Properties	Requires all residential properties to provide, prior to sale of property, certain energy and water conservation measures for their buildings: attic insulation; weather-stripping all doors leading from heated to unheated areas; insulating hot water heaters and insulating hot water pipes; installing low-flow showerheads; caulking and sealing any openings or cracks in the building's exterior; insulating accessible heating and cooling ducts; installing low-flow water-tap aerators; and installing or retrofitting toilets to	Required prior to sale of property. An official inspection and certification is required prior to sale of property.		

Regulation	Date	Applicability	Requirements	Enforcement	Monitoring/ Reporting	Environmental Review
			<p>make them low-flush. Apartment buildings and hotels are also required to insulate steam and hot water pipes and tanks, clean and tune their boilers, repair boiler leaks, and install a time-clock on the burner.</p> <p>Although these requirements apply to existing buildings, compliance must be completed through the Department of Building Inspection, for which a discretionary permit (subject to CEQA) would be issued.</p>			
<b>Renewable Energy Sector</b>						
San Francisco Green Building Requirements for renewable energy (SF Building Code, Chapter 13C) <sup>45</sup>	11/03/08	Commercial Buildings ≥ 5,000 sf	<p>By 2012, all new commercial buildings will be required to provide on-site renewable energy or purchase renewable energy credits pursuant to LEED® Energy and Atmosphere Credits 2 or 6.</p> <p>Credit 2 requires providing at least 2.5% of the buildings energy use from on-site renewable sources. Credit 6 requires providing at least 35% of the building's electricity from renewable energy contracts.</p>	Required by code prior to approval of plans.		Appendix G-9
<b>Waste Reduction Sector</b>						
San Francisco	11/03/08	Commercial	Pursuant to Section 1304C.0.4 of the	Required by code prior to		Appendix G-9

Regulation	Date	Applicability	Requirements	Enforcement	Monitoring/ Reporting	Environmental Review
Green Building Requirements for solid waste (SF Building Code, Chapter 13C) <sup>46</sup>		and Residential buildings	Green Building Ordinance, all new construction, renovation and alterations subject to the ordinance are required to provide recycling, composting and trash storage, collection, and loading that is convenient for all users of the building.	approval of plans.		
San Francisco Green Building Requirements for construction and demolition debris recycling (SF Building Code, Chapter 13C) <sup>47</sup>	11/03/08	Commercial Buildings ≥ 5,000 sf  And High-rise residential buildings	These projects proposing demolition are required to divert at least 75% of the project's construction and demolition debris to recycling.	Required by code prior to approval of plans.		Appendix G-9
Mandatory Recycling and Composting Ordinance (Environment Code, Chapter 19) <sup>48</sup>	6/23/09		The mandatory recycling and composting ordinance requires all persons in San Francisco to separate their refuse into recyclables, compostables and trash, and place each type of refuse in a separate container designated for disposal of that type of refuse.	The ordinance requires the Department of the Environment to adopt specific regulations governing enforcement and fines. However, the ordinance stipulates that the fine for any violation of a use generating less than one cubic yard of refuse/week may not initially exceed \$100.	None	Appendix G-6

Regulation	Date	Applicability	Requirements	Enforcement	Monitoring/ Reporting	Environmental Review
<b>Environment/ Conservation Sector</b>						
Street Tree Planting Requirements for New Construction (Planning Code Section 428) <sup>49</sup>	Updated 12/19/08		Planning Code Section 143 requires new construction, significant alterations or relocation of buildings within many of San Francisco's zoning districts to plant on 24-inch box tree for every 20 feet along the property street frontage.			
Wood Burning Fireplace Ordinance (San Francisco Building Code, Chapter 31, Section 3102.8) <sup>50</sup>	1/14/02	All Residential and Commercial	<p>Bans the installation of wood burning fire places except for the following:</p> <ul style="list-style-type: none"> <li>• Pellet-fueled wood heater</li> <li>• EPA approved wood heater</li> <li>• Wood heater approved by the Northern Sonoma Air Pollution Control District</li> </ul>			
Regulation of Diesel Backup Generators (San Francisco Health Code, Article 30) <sup>51</sup>	9/27/02	All diesel backup generators	<p>Requires (among other things):</p> <p>All diesel generators to be registered with the Department of Public Health</p> <p>All new diesel generators must be equipped with the best available air emissions control technology.</p>	The Department of Public Health may impose fines for violations from \$200-\$2,000 per day depending upon the violation.		

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## X. Conclusion

This section relates the City's greenhouse gas reduction efforts to those at the State level, summarizes how new development is addressed by the Greenhouse Gas Reduction Strategy, and identifies how updates to this document will be prepared.

### X.I California's Greenhouse Gas Reduction Strategy

Statewide GHG emissions limits and reduction goals have been established by Executive Order 2-3-05 and the California Global Warming Solutions Act of 2005. Executive Order 2-3-05 sets forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.<sup>1</sup> The City's 2002 and 2008 GHG reduction targets are more aggressive in some cases (year 2020 goals) or equivalent (year 2050) to statewide GHG emissions targets.

The California Global Warming Solutions Act of 2006 (Assembly Bill 32, California Health and Safety Code Division 25.5, Sections 28500, et seq., or AB 32), requires the California Air Resources Board (ARB) to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions).<sup>2</sup> The AB 32 Scoping Plan was the culmination of this effort and identified measures to meet the State's GHG reduction targets. Table X-1, below lists the AB 32 Scoping Plan measures, by sector, and anticipated GHG reductions resulting from full implementation of those measures by year 2020.

**Table X-1. GHG Reductions from the AB 32 Scoping Plan**

Measure No	GHG Reduction Measure	GHG Reductions (MMT CO <sub>2</sub> E)
	<b>Transportation Sector</b>	<b>Total 62.33</b>
T-1	Pavley I and II – Light Duty Vehicle Greenhouse Gas Standards	31.7
T-2	Low Carbon Fuel Standard (Discrete Early Action)	15
T-3	Regional Transportation-Related Greenhouse Gas Targets	5
T-4	Vehicle Efficiency Measures	4.5
T-5	Ship Electrification at Ports (Discrete Early Action)	0.2
T-6	Goods Movement Efficiency Measures	3.5
T-7	Heavy-Duty Vehicle GHG Emissions Reduction - Aerodynamic Efficiency (Discrete Early Action)	0.93

<sup>1</sup> California Air Resources Board (CARB), *Climate Change Scoping Plan: A Framework for Change*, December 2008. Available on the internet at: <http://www.climatechange.ca.gov/index.php>. Accessed July 7, 2009.

<sup>2</sup> Ibid.

Measure No	GHG Reduction Measure	GHG Reductions (MMT CO <sub>2</sub> E)
T-8	Medium- and Heavy-Duty Vehicle Hybridization	0.5
T-9	High Speed Rail	1
	<b>Electricity and Natural Gas</b>	<b>Total 49.7</b>
E-1	Energy Efficiency (32,000 GWh of Reduced Demand) <ul style="list-style-type: none"> <li>Increased Utility Energy Efficiency Programs</li> <li>More Stringent Building &amp; Appliance Standards</li> <li>Additional Efficiency and Conservation Programs</li> </ul>	15.2
E-2	Increase Combined Heat and Power Use by 30,000 GWh (Net reductions include avoided transmission line loss)	6.7
E-3	Renewable Portfolio Standard (33% by 2020)	21.3
E-4	Million Solar Roofs (including California Solar Initiative, New Solar Homes Partnership and solar programs of publicly owned utilities) <ul style="list-style-type: none"> <li>Target of 3000 MW Total Installation by 2020</li> </ul>	2.1
CR-1	Energy Efficiency (800 Million Therms Reduced Consumptions) <ul style="list-style-type: none"> <li>Utility Energy Efficiency Programs</li> <li>Building and Appliance Standards</li> <li>Additional Efficiency and Conservation Programs</li> </ul>	4.3
CR-2	Solar Water Heating (AB 1470 goal)	0.1
	<b>Water<sup>†</sup></b>	<b>Total 4.8</b>
W-1	Water Use Efficiency	1.4
W-2	Water Recycling	0.3
W-3	Water System Energy Efficiency	2
W-4	Reuse Urban Runoff	0.2
W-5	Increase Renewable Energy Production	0.9
W-6	Public Goods Charge for Water	TBD
	<b>Green Buildings<sup>†</sup></b>	<b>Total 26</b>
GB-1	Green Buildings <ul style="list-style-type: none"> <li>New and Existing State Buildings</li> <li>Public Schools</li> <li>New Residential and Commercial Construction</li> <li>Existing Homes and Commercial Buildings</li> </ul>	26
	<b>Industry</b>	<b>Total 1.44</b>
I-1	Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	TBD
I-2	Oil and Gas Extraction GHG Emission Reduction	0.2
I-3	GHG Leak Reduction from Oil and Gas Transmission	0.9
I-4	Refinery Flare Recovery System Improvement	0.33
I-5	Removal of Methane Exemption from Existing Refinery Regulations	0.01
	<b>Recycling and Waste Management</b>	<b>Total 10</b>
RW-1	Landfill Methane Control Measure (Discrete Early Action)	1.0
RW-2	Increasing the Efficiency of Landfill Methane Capture	TBD
RW-3	High Recycling/ Zero Waste <sup>†</sup>	9.0



Measure No	GHG Reduction Measure	GHG Reductions (MMT CO <sub>2</sub> E)
	<ul style="list-style-type: none"> <li>Commercial Recycling</li> <li>Composting</li> <li>Anaerobic Digestion</li> <li>Extended Producer Responsibility</li> <li>Environmentally Preferable Purchasing</li> </ul>	
	<b>Forestry</b>	<b>Total 5</b>
F-1	Sustainable Forest Target	5
	<b>High Global Warming Potential GHGs</b>	<b>Total 20.16</b>
H-1	Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing (Discrete Early Action)	0.26
H-2	SF <sub>6</sub> Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)	0.3
H-3	Reduction of Perfluorocarbons in Semiconductor Manufacturing (Discrete Early Action)	0.15
H-4	Limit High GWP Use in Consumer Products (Discrete Early Action)	0.25
H-5	High GWP Reductions from Mobile Sources	3.3
H-6	High GWP Reductions from Stationary Sources	10.9
H-7	Mitigation Fee for High GWP Gases	5
	<b>Government Operations<sup>†</sup></b>	<b>Total 1-2</b>
	State Government Operations	1-2
	Local Government Operations	TBD
	<b>Agriculture</b>	<b>Total 1</b>
A-1	Methane Capture at Large Dairies <sup>†</sup>	1
<b>TOTAL ANNUAL GHG REDUCTIONS</b>		<b>180.43</b>
<sup>†</sup> These reductions are not accounted for in the AB 32 Scoping Plan and Represent Additional reductions beyond the estimated 174 MMTCO <sub>2</sub> E		

Some of the AB 32 Scoping Plan measures may require new legislation to implement, some will require subsidies, some have already been developed, and some will require additional effort to evaluate and quantify. Additionally, some emissions reductions strategies may require their own environmental review under CEQA or the National Environmental Policy Act (NEPA). Many of the Scoping Plan measures require implementation at the State level; however some measures may be implemented by local governments.

Additionally, ARB has identified a GHG reduction target of 15 percent from current levels for local governments themselves and notes that successful implementation of the Scoping Plan relies on local governments' land use planning and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. Some of the Scoping Plan measures are at least partially applicable to development projects, such as increasing energy efficiency in new construction, installing solar panels on individual building roofs, and enacting a green building strategy. As evidenced in this document, the City has already implemented several of these measures that require local government action, such as a

green building ordinance, a zero waste strategy, a construction and demolition debris recovery ordinance, and a solar energy generation subsidy program, to realize meaningful reductions in GHG emissions. The policies, regulations, and programs outlined in this document collectively comprise San Francisco's GHG reduction strategy and continue San Francisco's efforts to reduce the City's greenhouse gas emissions to 20 percent below 1990 levels by the year 2012, a goal stated in the City's *Climate Action Plan*.

Through a combination of mandatory requirements and incentives, the City has measurably reduced its greenhouse gas emission to below 1990 levels, thereby meeting current statewide 2020 greenhouse gas emissions reduction goals. As such, the City's GHG reduction strategy furthers the State's efforts to reduce statewide GHG emissions as mandated by AB 32.

The City and County of San Francisco continues to reach its aggressive greenhouse gas reduction goals and has prioritized climate change actions among City departments by requiring departmental climate action plans and as evidenced by programmed actions in the Department of the Environment's Strategic Plan for 2010-2012.

## **X.II New Development Addressed by this Greenhouse Gas Reduction Strategy**

New development and major renovations in San Francisco are required to comply with San Francisco's ordinances that reduce greenhouse gas emissions. These regulations are summarized in Section IX of this document. Depending upon a proposed project's size, use, and location, a variety of controls are in place such that new development would not impair the State's ability to meet statewide GHG reduction targets outlined in AB 32, nor impact the City's ability to meet San Francisco's local GHG reduction targets.

A number of GHG-mitigating requirements are placed on new development in the city. For example, all projects generating 20+ employees must offer a commuter benefit and all new development in the City is subject to a sliding scale of green building requirements. Larger developments are required to achieve a higher level of green building than smaller developments. The City's green building requirements mandate energy and water efficiency (both from landscaping and potable water use), include requirements for increased onsite stormwater infiltration, recycling of construction and demolition debris, and adequate space for recycling and composting facilities. Larger developments are also required to provide renewable energy. Additionally, a number of the City's mixed-use and transit-oriented zoning districts have parking maximums that have replaced parking minimums whereby generally one parking space per every four dwelling units is permitted by the Planning Code. Table IX-2 lists additional regulations that apply to projects proposed in the City and would further reduce the contribution of GHG's resulting from new development.

Given that (1) San Francisco has implemented regulations to reduce greenhouse gas emissions specific to new construction and renovations of private developments and municipal projects; (2) San Francisco's sustainable policies have resulted in the measured success of reduced greenhouse gas emissions levels, (3) San Francisco has met and exceeded AB 32 greenhouse gas reduction goals for the year 2020, and (4) current and probable future state and local greenhouse gas reduction measures will continue to reduce a project's contribution to climate change, projects that are consistent with San Francisco's regulations would not contribute significantly, either individually or cumulatively, to global climate change.

### **X.III Updates to San Francisco's Greenhouse Gas Reduction Strategy**

As San Francisco continues to implement programs to further reduce greenhouse gas emissions or other programs that yield GHG-reduction co-benefits, this document should be updated accordingly. Sections IV, V, and IX of this document identify programs, regulations, and initiatives being undertaken by the City in support of reducing the City's GHG emissions. Section III identifies City policies in the General Plan that support GHG reductions. These sections should be updated annually to reflect new legislation that has passed or newly adopted City policies. Any applicable environmental review document that supports changes to this document should be collected and included in Appendix G. Additional GHG reduction efforts programmed by City departments are reflected in Section VIII of this document.

The City's GHG inventory will be updated pursuant to the procedures described in Section VII of this document and reflected in Section II (Greenhouse Gas Emissions Inventory and Reduction Targets). Section VI (Progress Towards Emissions Reductions) should be updated annually and any divergent patterns in GHG reduction progress indicators should be identified.

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