ENVIRONMENTAL JUSTICE ANALYSIS FOR BAYVIEW-HUNTERS POINT

Biosolids Digester Facilities Project and Community Benefits Program

Prepared for
San Francisco Public Utilities Commission

June 2017

ESA

EXECUTIVE SUMMARY

Environmental Justice Analysis for Bayview-Hunters Point: Biosolids Digester Facilities Project and Community Benefits Program

The U.S. Environmental Protection Agency's (USEPA) Office of Environmental Justice defines environmental justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. The San Francisco Public Utilities Commission's (SFPUC) Environmental Justice Policy affirms this definition as it applies to all of its operations, programs, and policies.

The report presents existing conditions related to a broad selection of potential environmental justice indicators for the community of Bayview-Hunters Point, followed by analysis of the potential adverse or beneficial effects of the Biosolids Digester Facilities Project (BDFP) as well as of the potential beneficial effects of SFPUC's Community Benefits Program on relevant indicators.

Chapter 1 presents the purpose of the report and introductions to the Sewer System Improvement Program (SSIP, of which the BDFP is a component), SFPUC's Environmental Justice Policy, its Community Benefits Policy and Program, and the Southeast Community Mitigation Agreement. Chapter 2 presents the regulatory setting and federal and state guidance on environmental justice analyses. Chapter 3 describes the socioeconomic setting for San Francisco as a whole and for the Bayview-Hunters Point neighborhood.

Chapter 4 presents existing conditions with respect to potential environmental justice indicators. It analyzes the community's minority and low-income status (the typical indicators used to identify a community where environmental justice may be a concern), and also presents a larger set of indicator types to better understand the existing environmental justice challenges facing the Bayview-Hunters Point community. Indicators are available from a variety of sources, depending on the geographic area and the environmental issue being analyzed. They can relate to pollution and environmental degradation, neighborhood infrastructure and the availability of services and community support, and demographics and health statistics, for example. In preparation for this report, SFPUC staff met with the Southeast Working Group and the SFPUC Citizens Advisory Committee Wastewater Subcommittee to gather input on potential indicators and existing sources of information. This report reflects the input of these groups.

The report presents information for each indicator on the conditions in Bayview-Hunters Point and the larger San Francisco area and draws a comparison between the neighborhood and the citywide context to determine whether conditions related to that indicator are disproportionately adverse in Bayview-Hunters Point. As shown in the table below, 33 of the 62 indicators studied in this report were found to be indicators of environmental justice concern for Bayview-Hunters Point, meaning that they indicate an existing disproportionate adverse condition in this neighborhood compared to San Francisco as a whole. Two – residential density and linguistic isolation – were found to be possible indicators, dependent on context.

In outreach to the community groups described above, SFPUC asked members to rank potential indicators by level of concern. Although no clear consensus was observable, the potential indicators that received the highest rankings were unemployment, poverty status, cost of living, educational attainment, diesel particulate matter (DPM) concentration, toxic releases from facilities, and groundwater threats. The following paragraphs address these in greater detail.

As indicated in the table below and expanded upon in the full report, Bayview-Hunters Point experiences double the citywide unemployment rate and more than double the citywide poverty rate, and has one of the lowest high school graduation rates among San Francisco neighborhoods, and each is considered an indicator of an existing disproportionate adverse condition. Several measures of the cost of living were reviewed as potential indicators. These include housing affordability, childcare costs, and proximity to goods and services. The report found that the rental affordability gap (difference between median income and median rental price), childcare burden, and proximity to healthy food retail and financial services were indicators of existing disproportionate adverse conditions related to the cost of living.

Review of available information indicated that DPM concentrations in Bayview-Hunters Point census tracts are below the citywide average, and therefore are not disproportionately high and adverse in this neighborhood. Similarly, several studies indicate that other neighborhoods experience a substantially higher burden from toxic releases from facilities than does the Bayview-Hunters Point neighborhood, and that the neighborhood is not disproportionately exposed to toxic releases from facilities. While the potential for groundwater contamination is considered disproportionately greater in Bayview-Hunters Point than citywide, groundwater is not used as a recognized or approved potable water source in Bayview-Hunters Point and thus groundwater threats were not considered an environmental justice indicator. However, conversations with community members have indicated that there are groundwater wells present in Bayview-Hunters Point for which no documentation is known to exist. SFPUC intends to research this issue during the preparation of the environmental review for SSIP projects.

The full report provides detail and sources of information for the indicators presented in the summary table. The existing conditions portion (Chapter 4) of the report is intended to serve as a baseline evaluation for the analysis of potential contributions of SFPUC's SSIP implementation to environmental justice impacts. It is also meant to indicate to SFPUC and community stakeholders where existing disproportionate adverse conditions exist in Bayview-Hunters Point that could

benefit from initiatives to avoid or eliminate disproportionate impacts of SFPUC decisions and activities, as directed by SFPUC's Community Benefits Policy.

Accordingly, in Chapters 5 and 6 of the report, SFPUC examines the potential adverse or beneficial effects of the Biosolids Digester Facilities Project (BDFP) as well as of the potential beneficial effects of SFPUC's Community Benefits Program on relevant indicators. Some indicators are more closely related to SFPUC activities and initiatives (e.g., nuisance odors from operation of the Southeast Plant) and some will have a less clear connection (e.g., academic performance).

Chapter 5 begins by screening the 33 indicators of environmental justice identified in Chapter 4 for their potential nexus to effects that would occur as a result of BDFP implementation. For all indicators that could be affected by the BDFP, a detailed analysis is presented to determine whether the BDFP would contribute to existing adverse conditions (e.g., by increasing toxic air contaminant emissions), benefit the neighborhood by improving upon existing conditions (e.g,, by reducing nuisance odors), or have no effect on the indicator. The report makes several recommendations for measures that SFPUC should consider implementing to address potential environmental justice effects of the BDFP, as summarized below:

- Routinely monitor air pollutant emissions at the Southeast Plant
- Implement a PM2.5 offset program if monitoring indicates PM2.5 emissions exceed future emissions rates under the no-project alternative
- Expand the City's electric vehicle charging station network by installing publically accessible electric vehicle charging stations
- Require equipment and haul trucks to not park in or block the loading zone at the Wu Yee South East Development Center (daycare) during times when children are most likely to be outdoors
- Consider implementing dedicated bike lanes along Jerrold Avenue
- Ensure that replacement night lighting along Jerrold Avenue is consistent with the San Francisco Better Streets Plan
- Meet the spirit of the San Francisco Urban Forest Plan of replacing all removed trees at a minimum 1:1 ratio
- Provide public construction signage in both Spanish and Chinese

Chapter 6 begins by screening the 33 indicators from Chapter 4 for their potential nexus to SFPUC's Community Benefits Program. For all indicators that could be affected by the initiatives, activities, and investments under this program, analysis is presented to determine what potential effects may be and how SFPUC can best direct its investments in community benefits. The report makes several recommendations for measures that SFPUC can implement to improve environmental justice outcomes of the Community Benefits Program, as summarized below:

- Monitor ambient air quality at the new Southeast Community Facility and implement community based-programming to support monitoring

- Bring back the Bayview Garden Supply pop-ups program
- Ensure that Community Benefits grant programs supporting the planting and maintenance of trees and gardens target the neighborhood around BDFP sites
- Expand its electric vehicle charging station network by installing publically accessible electric vehicle charging stations at the new Southeast Community Facility
- Provide paid internships to 150 to 200 young people annually in Bayview-Hunters Point, continue to support the SSIP Job Training and Opportunities Program and the Business Opportunities Program to create job and small business contracting opportunities for Bayview-Hunters Point
- Incorporate opportunities for pedestrian and bicycle connections to the new Southeast Community Facility
- Double square footage of Southeast Community Facility childcare facility and number of children served
- Use future greenhouses, in part, for growing food
- After 5 years, review outcomes and progress related to the environmental justice indicators and the Community Benefits program actions and initiatives to assess and record progress on environmental justice indicators in Bayview-Hunters Point

SUMMARY OF ENVIRONMENTAL JUSTICE INDICATORS

Indicator Type	EJ Indicator	Notes Regarding Disproportionality
Ozone Concentrations		Citywide rates are all the same (and lowest statewide)
PM2.5 Concentrations	●	Percentage of people in an area with a PM2.5 concentration at or above 10 µg/m3 is 3.7 times the citywide percentage
DPM Concentrations		DPM concentrations below citywide average
Toxic Releases from Facilities		Rate of exposure to toxic releases is consistent with other tracts citywide
Cancer Risk from TACs	●	Percentage of people in an area with total cancer risk greater than 100 cases per 1 million people is 1.6 times the citywide percentage
Nuisance Odors	●	Nuisance odors are a known issue for this neighborhood
Traffic Density	●	Only an indicator for western census tracts near U.S. 101 and I-280
Truck Routes		Lower percentage of residents live near truck routes than citywide
Outdoor Noise Levels		Lower percentage of residents live in an area of high outdoor noise than citywide
Traffic-Related Injuries		Lower rates of injuries than citywide
Polluted Discharges / Impaired Water Bodies		Census tracts in proximity to Bay, Golden Gate, and Ocean all have high rates
Drinking Water Contamination		SFPUC water is some of the least contaminated in the state
Agricultural Pesticide Use		Data not available for or applicable to BV-HP
Presence of Cleanup / Brownfield Sites	●	While several neighborhoods have a higher concentration of sites, approximately one-third of all sites citywide are located in BV-HP
LUST Concentration		LUSTs are most associated with gas stations, evenly distributed throughout City
Hazardous Waste Generators / Facilities Proximity	●	Proximity score between 1.3 and 2.5 times the citywide average
Solid Waste Sites and Facilities Proximity	●	Highest concentration in BV-HP compared to all other neighborhoods
Groundwater Threats		Groundwater is not used as a potable supply in San Francisco
Zoning for Industrial Uses	●	More than half of all industrial-zoned land in City is in BV-HP
Affordability Gap: Homeownership		One of the lowest affordability gaps in the City
Affordability Gap: Rental	●	Among the highest affordability gaps in the City
Rent Burden		Citywide concern, with every neighborhood burdened
Percent of Housing Stock Affordable		BV-HP housing stock almost five times more affordable than citywide stock
Prevalence of At Risk Foreclosure	●	BV-HP foreclosure rate four times citywide average
Overcrowding		Less overcrowded than citywide, and several neighborhoods more overcrowded
Displacement	●	Percentage of BV-HP residents living in low-income tracts experiencing displacement is more than 35 percent greater than the city as a whole.
Housing Tenure		Higher homeownership rate in BV-HP than citywide
New Housing Construction		Not considered an indicator in and of itself
Housing Condition / Code Violations		Lower rate of Code violations than citywide
Residential Mobility		Similarly likely to move away as residents in City as a whole
Homelessness	●	Citywide homelessness concentrated in Districts 10 and 6
Residential Density	○	Most neighborhoods have a density at least double that of BV-HP
Motor Vehicle Access		Higher car ownership rate than citywide
Public Transit Ridership and Score	●	Less access to high-transit ridership streets than citywide
Bicycle Network	●	Limited bike lanes, especially given geographic size of neighborhood
Walkability	●	Most of San Francisco has low-to-moderate walkability, but walking is perceived as substantially less safe in BV-HP compared to other neighborhoods

SUMMARY OF ENVIRONMENTAL JUSTICE INDICATORS (Continued)

Indicator Type	EJ Indicator	Notes Regarding Disproportionality
Library Proximity		Similar proximity rate to citywide
Religious / Spiritual Density		Higher concentration of such facilities than citywide
Community Center Proximity		Similar concentration of such facilities citywide
Academic Performance of Schools	●	Some of the lowest test scores in the City
Recreational Area Score	●	Markedly lower score than citywide, although partially offset by other facilities
Open Space and Trees	●	Poor proximity and access to open space, among the lowest concentration of trees in the City
Child Care Availability		Performs less well than citywide, but not disproportionately so
Average Child Care Burden	●	Cost burden higher; higher percentage of children not receiving subsidies
Healthy Food Retail Proximity	●	Much lower proximity score than citywide
Financial Services Proximity	●	Much lower proximity score than citywide
Concentration of Alcohol Vendors		Lower concentration than citywide
Poverty: % Below Two Times Federal Poverty Level	●	Also indicated in standard and enhanced community screening
Unemployment	●	Double the citywide rate
Earned Income Tax Credit	●	Percentage of EITC filers in BV-HP is more than double citywide
Population of Children	●	Percentage of households with children more than double citywide
Population of Elderly		Lower percentage of elderly residents than citywide
Pre-Natal Care Rate	●	Worst pre-natal care rate in the City
Low Birth Weight	●	BV-HP census tracts among the highest rate of low-birth weight babies statewide
Asthma Hospitalization Rate	●	Rate is 3 times the citywide average
Preventable Hospitalizations / Emergency Room Visits	●	Rate is almost double the citywide average
Voter Turnout	●	Markedly lower than citywide participation rate
Educational Attainment	●	Rate of non-high school graduates almost double citywide rate
Linguistic Isolation	○	Only one BV-HP census tract ranks at or about 75th percentile citywide, but overall limited English proficiency population is greater than citywide
Violent Crime Rate	●	Double the citywide rate
Property Crime Rate		Close to the citywide rate
Community Resiliency to Climate Change	●	Ranked least resilient citywide, with five other neighborhoods

Symbol Key: ● Means this is an indicator of environmental justice concern ○ Means this may be an indicator

NOTE: Bayview-Hunters Point is abbreviated BV-HP in indicator tables throughout this section.

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ACRONYMS AND ABBREVIATIONS

μg/m^3	micrograms per cubic meter
ABAG	Association of Bay Area Governments
ACE	adverse childhood experience
ACS	American Community Survey
API	Academic Performance Index
BAAQMD	Bay Area Air Quality Management District
BAEHC	Bay Area Environmental Health Collaborative
BARHII	Bay Area Regional Health Inequalities Initiative
BTIP	Bayview Transportation Improvements Project
CAC	Citizens' Advisory Committee
CalEPA	California Environmental Protection Agency
CalEnviroScreen	California Communities Environmental Health Screening Tool
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CARE	Community Air Risk Evaluation
CDFI	Community Development Financial Institution
CDPH	California Department of Public Health
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	(President's) Council on Environmental Quality
CEQA	California Environmental Quality Act
CHIP	Community Health Improvement Program
COPD	chronic obstructive pulmonary disease
CPM	California Poverty Measure
CRRP	Community Risk Reduction Program
CTIP	Census Tract Integration Program
CYW	Center for Youth Wellness
dB	decibel

DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EA	environmental assessment
ENCHIA	Eastern Neighborhoods Community Health Impact Assessment
EIR	environmental impact report
EIS	environmental impact statement
EITC	Earned Income Tax Credit
EO 12898	Executive Order 12898
HCSMP	Health Care Services Master Plan
HDMT	Healthy Development Measurement Tool
HUD	U.S. Department of Housing & Urban Development
LBE	Local Business Enterprise
Ldn	day-night average sound level
LUST	leaking underground storage tank
MBE	Minority-Owned Business Enterprise
NEPA	National Environmental Policy Act
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
PDR	Production, Distribution, and Repair
PM	particulate matter
PPIC	Public Policy Institute of California
PTA	Parent-Teacher Association
REC	Recognized Environmental Condition
SB	Senate Bill
SCI	Sustainable Communities Index
SEP	Southeast Plant
SEWG	Southeast Working Group
SFCTA	San Francisco County Transportation Authority
SFDPH	San Francisco Department of Public Health
SFPUC	San Francisco Public Utilities Commission
SFUSD	San Francisco Unified School District
SNAP	Supplemental Nutrition Assistance Program

SPM	Supplemental Poverty Measure
SSA	Social Security Administration
SSIP	Sewer System Improvement Program
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminant
TBA	Targeted Brownfields Assessment
UPC	Universal Paragon Corporation
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
WBE	Woman-Owned Business Enterprise

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CHAPTER 1
Introduction

1.1 Overview

The U.S. Environmental Protection Agency's (USEPA) Office of Environmental Justice defines environmental justice as "The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies" (USEPA, 1998). The San Francisco Public Utilities Commission's (SFPUC) Environmental Justice Policy (2009) affirms this definition as it applies to all of its operations, programs, and/or policies.

1.1.1 Content

This report provides an evaluation of existing conditions related to environmental justice in the Bayview-Hunters Point neighborhood, shown in **Figure 1**, and an analysis of the potential effects of the proposed Biosolids Digester Facilities Project (BDFP) and on SFPUC's ongoing Community Benefits Program components within this neighborhood. Described further below, the Community Benefits Program promotes environmental justice and meaningful stakeholder and community engagement in implementation of SFPUC policies, programs, and projects, including the BDFP.

Chapters 1 through 4 provide discussions of the regulatory framework related to environmental justice, the socioeconomic setting, and potential environmental justice indicators present in the Bayview-Hunters Point neighborhood. The environmental justice indicators examined in this report have been selected based on direct input from the community. In preparation for this report, SFPUC staff met with the Southeast Working Group and the SFPUC Citizens Advisory Committee Wastewater Subcommittee to gather input on potential indicators and existing sources of information. This report reflects the input of these groups.

Chapter 5 presents the analysis of the potential environmental justice effects of the BDFP, both in terms of its potential to exacerbate or to improve upon the environmental justice indicators identified in Chapter 4, and in terms of whether it would result in new disproportionately high and adverse effects on minority and low-income communities.

Chapter 6 describes ongoing and proposed Community Benefits Program activities and presents an analysis of the potential community impacts. The SFPUC Community Benefits Policy and Program are described in Section 1.4, below.

1.1.2 Purpose of this Report

This underlying data in this report will support compliance with the SFPUC Environmental Justice Policy and is consistent with requirements of Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations. This report will also describe the components and effects of implementation of the SFPUC Community Benefits Program, and provide direction for its continued implementation in the Bayview-Hunters Point neighborhood.

In accordance with its 2009 Environmental Justice Policy, the SFPUC is proactively undertaking this *Bayview Hunters Point Environmental Justice Analysis* to "[i]dentify SFPUC projects that may have additional environmental impacts on communities already affected by disproportionate environmental impacts and work to minimize those impacts" and "ensure that public benefits are shared across all communities." Accordingly, this document is not part of the California Environmental Quality Act (CEQA) analysis being prepared for the BDFP. Though the Draft Environmental Impact Report (EIR) for the BDFP is used as a source of information about the physical environmental impacts of the project, the analysis in Chapter 5 is separate and distinct from the CEQA process.

As described in Section 2.2.1, below, a CEQA Lead Agency may use information about the economic or social impacts of a project to determine the significance of physical changes caused by the project, but the economic or social effects of a project are not treated as significant effects on the environment. Additionally, CEQA does not use the term "environmental justice" or require the evaluation of impacts on minority or low-income communities in the way required by EO 12898. The Office of the California Attorney General (OAG) has clarified that environmental justice concerns are relevant to the analysis of a project under CEQA, but has recommended that lead agencies address environmental justice by evaluating whether a project's impacts would affect a community whose residents are particularly sensitive to the impact (i.e., sensitive receptors) and whether a project would have significant effects on communities when considered together with any environmental burdens those communities already are bearing, or may bear from probable future projects (i.e., cumulative impacts) (OAG, 2012). Because of these varying approaches to evaluating environmental justice, the SFPUC seeks to ensure a comprehensive analysis that looks at these important issues from all relevant aspects. Accordingly, the agency, in partnership with the community, designed this proactive analysis to be a distinct, yet complimentary, analysis from what is required under CEQA.

SOURCE: U.S. Census Bureau, 2013

Environmental Justice Analysis for Bayview-Hunters Point . 120468.06

Figure 1

Census Tracts in the Bayview-Hunters Point Neighborhood

1.2 Sewer System Improvement Program

The SSIP is the SFPUC's wastewater capital improvement program, a 20-year, multibillion-dollar citywide program to upgrade the aging sewer infrastructure to ensure a reliable and seismically safe wastewater system. In 2012, the SFPUC Commission approved $2.7 billion for Phase I of the SSIP and established goals and levels of service to guide development of SSIP projects.

The SSIP is the culmination of several years of wastewater system planning efforts, public meetings, and SFPUC workshops to develop proposed improvements to address the following challenges:

- Aging infrastructure and poor condition of existing facilities;
- Seismic deficiencies and the lack of structural integrity;
- Limited operating flexibility and lack of redundancy; and
- An ongoing need to protect the environment and public health, meet regulatory challenges, and conserve resources. (SSIP Program Management Consultant, 2013)

The SSIP guiding principles focus on the development of SSIP goals and objectives, levels of service, implementation strategies, and capital improvement projects and include:

- Protect public health, safety, and the environment;
- Ensure the long-term sustainability and reliability of the sewer system;
- Minimize sewer system burdens on all sectors of the community and ensure that no sector of the community bears a disproportionate share of the burdens of system operations;
- Promote environmental stewardship, including the sustainable use of natural resources;
- Address the effects of climate change on the wastewater collection and treatment facilities;
- Develop and implement, (where technically and economically feasible) new technologies to treat wastewater and biosolids in an efficient, sustainable, and environmentally benign fashion; and
- Maximize employment and educational opportunities. (SSIP Program Management Consultant, 2013)

1.3 SFPUC Environmental Justice Policy

SFPUC adopted Resolution No. 98-0170 (Environmental Justice Policy) on October 13, 2009. A copy of this resolution is included as Appendix B. As specified in the resolution, SFPUC defines environmental justice as "the fair treatment of people of all races, cultures, and incomes and believes that no group of people should bear a disproportionate share of negative environmental consequences resulting from the operations, programs, and/or policies of the SFPUC."

The Environmental Justice Policy affirms and commits to the goals of environmental justice to prevent, mitigate, and lessen disproportionate impacts of SFPUC activities on communities and to ensure that public benefits are shared across all communities. The resolution further acknowledges that enforcement of environmental laws, rules, regulations, and best practices that apply to its resource supply, operations, and delivery of water, wastewater, and power services is core to the fair treatment of the people served and the stewardship of SFPUC lands. The resolution directs staff to develop and implement environmental justice training programs, recognize community need for employment, implement initiatives to avoid or eliminate disproportionate impacts, develop diverse and appropriate communication strategies, and work with stakeholders to:

(1) Develop a checklist of environmental justice guidelines or best practices;

(2) Identify SFPUC projects that best demonstrate the implementation of the policy;

(3) Identify SFPUC projects that may have disproportionate environmental impacts; and

(4) Continue to partner with organizations to prioritize, establish, and fund activities to improve environmental justice performance in communities affected by disproportionate impacts of SFPUC activities.

1.4 SFPUC Community Benefits Policy & Program

SFPUC adopted Resolution No. 11-0008 (Community Benefits Policy) on January 11, 2011. A copy of this resolution is included as Appendix C. As specified in the resolution, SFPUC defines community benefits as "those positive effects on a community that result from the SFPUC's operation and improvement of its water, wastewater and power services."

Referred to as the SFPUC's "good neighbor policy," the resolution "affirms and commits to the goal of developing an inclusive and comprehensive community benefits program to better serve and foster partnership with communities in all SFPUC service areas and to ensure that public benefits are shared across all communities." The resolution commits SFPUC to develop a Community Benefits Program and to devote sufficient resources and authority to staff for stakeholder and community engagement in design and implementation of SFPUC policies and projects; workforce development; environmental programs; economic development; support for arts and culture related to SFPUC's mission; use of land in a way that maximizes health, environmental sustainability, and innovative ideas; diversity and inclusion programs; in-kind contributions and volunteerism; and improvement in community health. The resolution directs SFPUC staff to:

- Develop processes to effectively engage stakeholders and communities in all SFPUC service areas;
- Develop and update a budget and staffing plan to implement and sustain the Community Benefits Program;

- Develop an implementation strategy to review, analyze and coordinate community benefits initiatives and integrate these initiatives into an agency-wide Community Benefits Program;
- Implement the Environmental Justice Policy that the SFPUC adopted on October 13, 2009;
- Develop and implement guidelines, metrics, and evaluation methodologies for existing and future community benefits initiatives;
- Develop diverse and culturally competent communication strategies to ensure that stakeholders can participate in decisions and actions that may impact their communities;
- Develop performance measures to evaluate the Community Benefits Program and report the results; and
- Develop new and continue to implement existing initiatives to avoid or eliminate disproportionate impacts of SFPUC decisions and activities.

Based upon outreach efforts and stakeholder meetings conducted both before and since adoption of the resolution, the SFPUC undertook this study to summarize the existing environmental justice concerns in Bayview-Hunters Point, which will be used as a reference during community discussions regarding community benefits related to implementation of the SSIP.

1.5 Southeast Community Mitigation Agreement

Following the passage of the Clean Water Act in 1972, the Southeast Water Pollution Control Plant (Southeast Plant) located in Bayview-Hunters Point was expanded to comply with federal law by providing for secondary wastewater treatment at the facility. Although federal law required expansion of the Southeast Plant to ensure the vital protection of water quality in the San Francisco area, the plant expansion generated significant local community opposition.

At that time, the City and County of San Francisco (the City, or San Francisco) determined that a mitigation project was essential to give back to the community and should be done in conjunction with the mandatory plant expansion. The City worked closely with Bayview-Hunters Point citizens to study the various types of projects that could provide a mitigation alternative that would address the social and economic impacts of the plant expansion. After the City initially pursued a mitigation plan that would have constructed playing fields on top of the expanded Southeast Plant, the community instead expressed the desire for a hands-on job training and skills-building location, combined with an educationally focused skills-building facility. This plan generated community support for the construction of the Southeast Community Facility and a greenhouse facility (Greenhouses) to be located immediately south of the Southeast Plant. SWRCB Order No. WQG 81-1 concluded that the construction of these facilities was "a reasonable, necessary and appropriate means of mitigation of the social and economic impacts associated with the proposed Southeast Plant expansion" (SWRCB, 1981). The Order further stated:

> The Bayview-Hunter's Point Community is already suffering the cumulative effects of a series of governmental decisions to locate unwelcome public facilities, such as freeways

> and the existing Southeast Plant, in its neighborhood. These unwanted facilities tend to generate a lack of pride in the community and to decrease the desirability of residence in the area. The commercial greenhouse and skills-training center should reduce these impacts. The support of the Bayview-Hunter's Point citizens demonstrates their belief that these facilities are necessary and that they will satisfactorily mitigate the adverse social and economic impacts of the project.
>
> * * *
>
> While studies show that the new facilities will be self-supporting, we and the residents of the Bayview-Hunter's Point Community need some guarantee that the City will assure continued operation and maintenance of the greenhouse and skills-training center. A provision for the costs of operating and maintaining the facilities which exceed the amount actually generated by the facilities themselves should, therefore, be included in the City's revenue program. Revenue should be generated by the City to fund these costs, in the same manner that revenues are generated for the other administrative and operational costs of the City's wastewater treatment system. (SWRCB, 1981)

The legal ownership of the Southeast Community Facility and Greenhouses, as with any City assets, lies with the City, and the legal responsibility for maintaining and operating the facilities lies with the City department assigned jurisdiction over such functions by the City Charter. Until 1996, jurisdiction over the City's sewer system, and thus the Southeast Community Facility and Greenhouses, was exercised by the City's Department of Public Works. Upon transfer of jurisdiction over the sewer system from that department to the SFPUC, maintaining and operating the Southeast Community Facility and Greenhouses became the legal responsibility of the SFPUC.

The Southeast Community Facility Commission, a seven-member commission appointed by the Mayor, provides guidance to the SFPUC in its operation and maintenance of the facilities.

Chapter 54 of the San Francisco Administrative Code established the Southeast Community Facility Commission for the purpose of fostering:

- Full employment of residents of chronically economically depressed areas of the City;
- Development of marketable job skills for untrained and undertrained City residents;
- Creation and expansion of day and evening education programs;
- Creation and expansion of day care services at a low and reasonable cost to parents;
- Expansion of opportunities for special community services for senior citizens; and
- The overall improvement of the general economic prosperity, health, safety and welfare of residents of chronically economically depressed areas of the City.

Although this language codified in the San Francisco Administrative Code does not expressly utilize the term "environmental justice," the goals of the mitigation agreement and the creation of the Southeast Community Facility Commission speak directly to environmental justice and are thus relevant to this report.

1.6 Environmental Justice Indicators

This report presents an expanded environmental justice analysis protocol[1] to better document existing conditions within the Bayview-Hunters Point community. It analyzes the community's minority and low-income status, but also presents a set of indicators to better understand the existing environmental justice challenges facing the Bayview-Hunters Point community. As described above, these indicators were selected with input received from members of the Southeast Working Group and the SFPUC Citizens Advisory Committee Wastewater Subcommittee.

The USEPA defines environmental justice indicators as "data that highlight some aspect of current conditions and trends in the environment or within a community or geographic area. They provide information that can be used in an environmental justice assessment to supplement, as appropriate, information more specific to the environmental decision being evaluated (e.g., impacts from a facility being sited or permitted, or potential impacts from a proposed rule) and data required by the statutes and regulations that apply to the particular situation." (USEPA, 2004)

Indicators are available from a variety of sources, depending on the geographic area and the environmental issue being analyzed. They can relate to pollution and environmental degradation, neighborhood infrastructure and availability of services and community support, and demographics and health statistics.

[1] Typical environmental justice analysis for NEPA and EO 12898 is based on socioeconomic and demographic indicators such as income levels, unemployment rates, race, etc., but does not typically include many of the other indicators evaluated in this report.

CHAPTER 2
Regulatory Setting and Guidance

2.1 Federal

As described in Chapter 1, this report has been prepared in compliance with EO 12898 to meet requirements for the State Revolving Fund loan application process. Therefore, the following discussion of federal laws, rules, regulations, and guidelines pertaining to environmental justice is relevant to the federal compliance needs of projects applying for State Revolving Fund loans. Additionally, federal guidance on evaluation of environmental justice issues provides informative direction for implementing SFPUC's Environmental Justice Policy. **Table 1** provides a summary of the federal and state regulatory setting for environmental justice which is described in more detail below.

2.1.1 Executive Order 12898

Federal EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations (59 Federal Register 32; February 1994), requires all federal agencies to address potential effects regarding environmental justice when considering actions. A copy of this order is provided as Appendix D. The order states that each Federal agency shall make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The order also requires that representatives from minority and low-income populations that could be affected by the project be engaged and participate in the effects assessment and public involvement process. Section 3-301(c) of the order states that "Federal agencies shall provide minority populations and low-income populations the opportunity to comment on the development and design of research strategies undertaken pursuant to this order." Section 5-5(c) states that federal agencies "shall work to ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public." EO 12898 also established the Federal Interagency Working Group on Environmental Justice to guide, support, and enhance federal environmental justice and community-based activities. In the memorandum to heads of departments and agencies that accompanied EO 12898, President Clinton specifically recognized the importance of procedures under the National Environmental Policy Act (NEPA) for identifying and addressing environmental justice concerns. The memorandum states that "each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by [NEPA]" (White House, 1994). Although the SFPUC's SSIP is not a

TABLE 1
FEDERAL AND STATE LAWS, RULES, REGULATIONS
AND GUIDELINES PERTAINING TO ENVIRONMENTAL JUSTICE

Law, Rule, or Regulation	Relevance to Environmental Justice Issues
National Environmental Policy Act (NEPA) Statute (42 U.S.C. §§4321-4375) and Implementing Regulations (40 CFR Parts 1500-1508)	• Statute establishes Council on Environmental Quality (CEQ) • Requires federal agencies to consider a proposed action's effects on the quality of the human environment. including social and economic considerations
Executive Order 12898	• Requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations • Requires all federal agencies to provide environmental justice populations the opportunity to comment on the development and design of research strategies pursuant to this order
CEQ Environmental Justice Guidance	• States that in cases where a federal agency is not required to prepare an EIS or EA, a federal agency should augment its procedures to ensure that the otherwise applicable process or procedure for the federal action addresses environmental justice concerns • Defines "minority," "minority population," "disproportionately high and adverse human health effects," and "disproportionately high and adverse environmental effects"
USEPA Final Guidance	• Describes key environmental justice terms and factors and their application in the context of standard NEPA analyses • Describes key steps in the NEPA process, including both EISs and EAs, where analyses of environmental justice concerns should be incorporated • Discusses public participation approaches of direct relevance to minority and/or low-income communities
California Environmental Quality Act (CEQA)	• Requires state and local agencies to consider a proposed action's effects on the quality of the human environment excluding socioeconomics • Allows state and local agencies to include economic and social factors in an EIR or otherwise present these factors in whatever form the agency desires • States that an EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes
California Government Code Section 65040.12 and California Office of Planning and Research (OPR)	• Identifies the Office of Planning and Research (OPR) as the coordinating agency in State government for environmental justice programs through consultation with the Interagency Working Group, State agencies, and other interested members of the public and private sectors • Defines environmental justice as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies"
California Urban Forestry Act (Public Resources Code Sections 4799.06 – 4799.12)	• Authorizes the director of the California Department of Forestry and Fire Protection to make grants to provide assistance of 25 to 90 percent of the costs for projects meeting guidelines established by the board upon recommendation from the director, who may waive cost share requirements for projects that are in disadvantaged or severely disadvantaged communities • Defines "disadvantaged community" as a "community with a median household income less than 80 percent of the statewide average" • Defines "Severely disadvantaged community" as a "community with a median household income less than 60 percent of the statewide average"

TABLE 1 (Continued)
FEDERAL AND STATE LAWS, RULES, REGULATIONS
AND GUIDELINES PERTAINING TO ENVIRONMENTAL JUSTICE

Law, Rule, or Regulation	Relevance to Environmental Justice Issues
Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Public Resources Code §§75001-75130)	• Defines "disadvantaged community" and "severely disadvantaged community" using the same definitions as the Urban Forestry Act • Prioritizes making bond funds available to disadvantaged and severely disadvantaged communities for projects related to safe drinking water, water quality and supply, flood control, natural resource protection, and park improvements
Water Quality, Supply, and Infrastructure Improvement Act of 2014 (Public Resources Code §79700 et seq.)	• Defines "disadvantaged community" and "severely disadvantaged community" using existing definitions similar to those used for the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act • Gives priority to projects that serve these communities, as well as to projects that address public health hazards
California Global Warming Solutions Act of 2006 (Assembly Bill 32; California Health and Safety Code §§39711, 39713, 39715, 39721, and 39723)	• Requires the California Environmental Protection Agency (CalEPA) to identify "disadvantaged communities" for investment opportunities of funds from the "Greenhouse Gas Reduction Fund" (monies collected by CARB from the auction or sale of allowances as part of the market-based compliance mechanism) • Requires the Department of Finance to allocate 25 percent of the available money from the Greenhouse Gas Reduction Fund to projects that provide benefits to disadvantaged communities, and to allocate a minimum of 10 percent of the available money to projects located within disadvantaged communities
California State Revolving Fund Loan Program	• Funding from the U.S. Environmental Protection Agency for water quality control projects, administered by the California State Water Resources Control Board • Projects applying for this funding must fulfill Executive Order 12898 requirements for evaluating environmental justice effects • Compliance with federal requirements, including analysis of environmental justice effects, is required in addition to the analysis of the project under CEQA (called "CEQA-plus")

federal project and is therefore not subject to NEPA, the NEPA guidance for implementing this aspect of EO 12898 has been reviewed to inform the process of evaluating environmental justice under the State Revolving Fund loan application process and SFPUC's Environmental Justice Policy.

2.1.2 National Environmental Policy Act and Council on Environmental Quality

The National Environmental Policy Act (NEPA), enacted January 1, 1970, establishes national environmental policy and goals for protection, maintenance, and enhancement of the environment and provides a process for implementing these goals within federal agencies (42 USC §§4321-4375). The act requires federal agencies to consider a proposed action's effects on the quality of the human environment. This requirement ensures that environmental factors are weighed when compared to other factors in the decision-making process undertaken by federal agencies. As discussed above, although the SFPUC's SSIP is not a federal project and is therefore not subject to NEPA, the NEPA guidance for implementing this aspect of EO 12898 has been reviewed to inform the process of evaluating environmental justice under the State Revolving Fund loan application process and SFPUC's Environmental Justice Policy.

The act also established the President's Council on Environmental Quality (CEQ)[2] to oversee NEPA. In 1978, CEQ promulgated regulations implementing NEPA (40 CFR Parts 1500-1508). These regulations state that "effects" include ecological, aesthetic, historic, cultural, economic, social, or health, both direct or indirect (40 CFR §1508.8). Regarding economic or social effects, the regulations state that the "human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. This means that economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement will discuss all of these effects on the human environment" (40 CFR §1508.14).

2.1.3 Council on Environmental Quality Guidance

CEQ has oversight of the federal government's compliance with EO 12898 and NEPA. CEQ, in consultation with USEPA and other affected agencies, developed guidance to assist federal agencies with NEPA procedures so that environmental justice concerns are effectively identified and addressed (CEQ, 1997). The 1997 guidance states that agencies should recognize that the question of whether agency action raises environmental justice issues is highly sensitive to the history or circumstances of a particular community or population, the type of environmental or health impact, and the nature of the action itself. The guidance specifically recommends that in cases where a federal agency is not required to prepare an environmental impact statement (EIS) or environmental assessment (EA), a federal agency should augment its procedures to ensure that the otherwise applicable process or procedure for the federal action addresses environmental justice concerns.

This CEQ guidance document includes Interagency Working Group-developed guidance on key terms in EO 12898 that are pertinent for environmental justice analysis, including "minority," "minority population," "disproportionately high and adverse human health effects," and "disproportionately high and adverse environmental effects." Chapter 4 of this report addresses these definitions.

2.1.4 United States Environmental Protection Agency

Under Section 309 of the Clean Air Act, USEPA is required to review all EISs drafted by federal agencies and to comment on the adequacy and the acceptability of the environmental impacts of the proposed action. Therefore, USEPA has published guidance for addressing environmental justice under NEPA and has developed a toolkit for federal agencies to use.

[2] CEQ's duties and functions include gathering information on the conditions and trends in environmental quality, evaluating federal programs in light of the goals of NEPA, developing and promoting national policies to improve environmental quality, and conducting studies, surveys, research, and analyses relating to ecosystems and environmental quality.

Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis

In 1998, USEPA published the *Final Guidance For Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses* regarding incorporating environmental justice goals into the agency's own preparation of EISs and EAs under NEPA (USEPA, 1998). Although the document is specific to USEPA's NEPA compliance analysis, the framework provided can be interpreted and incorporated in NEPA analyses prepared by other agencies. The guidance describes key environmental justice terms and factors and their application in the context of standard NEPA analyses; describes key steps in the NEPA process, including both EISs and EAs, where analyses of environmental justice concerns should be incorporated; and discusses public participation approaches of direct relevance to minority and/or low-income communities.

Toolkit for Assessing Potential Allegations of Environmental Justice

In 2004, USEPA published the *Toolkit for Assessing Potential Allegations of Environmental Justice* (USEPA, 2004). The document sets forth various research tools and provides a systematic approach for gathering and analyzing data related to environmental, social, economic, and health-related technical information to determine whether or not an environmental injustice situation appears to exist or may be avoided altogether. It sets forth a procedure comprising problem formulation, data collection, assessment for the potential of adverse environmental and human health effects or impacts, and assessment of the potential for disproportionately high and adverse effects or impacts. The document specifically provides examples of "adverse effect or impact" to include:

- Bodily impairment, infirmity, illness, or death;
- Air, noise, soil, and water pollution or contamination;
- Destruction or disruption of man-made or natural resources;
- Destruction or disruption of aesthetic values;
- Destruction or disruption of community cohesion or a community's economic vitality;
- Destruction or disruption of the availability of public and private facilities and services;
- Vibration;
- Adverse employment effects;
- Displacement of persons, businesses, farms, or nonprofit organizations; and
- Increased traffic congestion, isolation, exclusion, or separation of individuals within a community or from a broader community.

Indicators are categorized, and example data sources for each category are provided, as follows:

- Environmental (sources of stress placed on the community, potential exposure to stresses, environmental conditions resulting from stressors, and environmental vulnerability);
- Health (existing health conditions, health impacts from environmental stressors);
- Social (vulnerability to exposure, government response actions, community participation); and
- Economic.

2.2 State

2.2.1 California Environmental Quality Act

The California Environmental Quality Act of 1970 (CEQA) requires public agencies to consider the potential environmental impacts of proposed development projects. The objectives of CEQA are:

1. To disclose to the decision-making body and the public the potential physical environmental impacts of proposed activities;
2. To propose feasible alternatives or mitigation measures that avoid, eliminate or reduce project-related environmental effects;
3. To describe the analytical process which led to the public agency's decision on the project;
4. To promote interagency coordination when evaluating projects; and
5. To provide a mechanism for increasing public participation in the planning process.

CEQA Guidelines Appendix G provides a sample Environmental Checklist. This form provides a checklist of environmental factors that may be affected by a project, including aesthetics, agricultural and forestry resources, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and utilities and service systems.

The City and County of San Francisco Planning Department is typically the CEQA lead agency for projects in San Francisco with responsibility to administer CEQA. The Environmental Planning Division of the Planning Department conducts CEQA review pursuant to CEQA and Chapter 31 of the San Francisco Administrative Code, which provides guidelines for implementing the CEQA process. The Planning Department's "Evaluation of Environmental Effects" checklist includes analysis of the resource topics in the CEQA Guidelines Appendix G, as well as analysis of wind and shadow impacts.

CEQA Guidelines Section 15131 addresses economic and social effects of projects. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes caused in turn by the economic or social changes. For example, if the construction of a new freeway or rail line divides an existing community, the construction would be the physical change but the social effect on the community would be the basis for determining that the effect would be significant. The physical changes are the focus of the analysis. Economic or social information may be included in an EIR or may be presented in whatever form the agency desires. The San Francisco Planning Department's checklist does not include an analysis of environmental justice impacts.

2.2.2 California Government Code and the California Office of Planning and Research

The Governor's Office of Planning and Research (OPR) serves several important functions in the administration of CEQA. First, together with the Natural Resources Agency, OPR develops the CEQA Guidelines, which are administrative regulations interpreting the CEQA statute and published court decisions. Second, OPR runs the State Clearinghouse, which coordinates state-level review of CEQA documents. Third, in certain circumstances, OPR may designate a lead agency. Finally, OPR provides technical assistance to state and local government agencies, including the development of technical advisories on selected CEQA topics.

California Government Code Section 65040.12 states that the OPR shall be the coordinating agency in State government for environmental justice programs through consultation with the Interagency Working Group, State agencies, and other interested members of the public and private sectors. Code Section 65040.12(e) defines environmental justice as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." Section 65040.12(d) required OPR to promulgate guidelines for addressing environmental justice matters in city and county general plans, including by proposing methods for planning for the equitable distribution of new public facilities, industrial facilities, schools, and residential dwellings, as well as proposed methods for promoting more livable communities by expanding opportunities for transit-oriented development. The current (2003) General Plan Guidelines reflect this requirement (OPR, 2003). OPR is currently preparing a comprehensive update to the general plan guidelines.

2.2.3 California Urban Forestry Act

The California Urban Forestry Act of 1978, updated in 2008, codified in Public Resources Code Sections 4799.06 through 4799.12, promotes the use of urban forest resources for the purpose of increasing integrated projects with multiple benefits in urban communities and seeks to arrest the decline of urban forest resources. The act authorizes the director of the California Department of Forestry and Fire Protection to make grants to provide assistance of 25 to 90 percent of the costs for projects meeting guidelines established by the board upon recommendation from the director. The director may waive cost share requirements for projects that are in disadvantaged or severely disadvantaged communities. Section 4799.09 defines "disadvantaged community" as a "community with a median household income less than 80 percent of the statewide average." "Severely disadvantaged community" means a "community with a median household income less than 60 percent of the statewide average."

2.2.4 Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act

Proposition 84: The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006, made approximately $5.4 billion in bond funds available for safe drinking water, water quality and supply, flood control, natural resource protection, and park improvements. The act is codified in the Public Resources Code in Sections 75001 through

75130. Code Section 75005(g) defines "disadvantaged community" and "severely disadvantaged community" using the same definitions as the Urban Forestry Act. Priority projects and grants are to be made available to disadvantaged and severely disadvantaged communities.

2.2.5 Water Quality, Supply, and Infrastructure Improvement Act

Proposition 1: The Water Quality, Supply, and Infrastructure Improvement Act of 2014, authorizes $7.12 billion in general obligation bonds for state water supply infrastructure projects, appropriates money from the state General Fund to pay off bonds, and requires certain projects to provide matching funds from non-state sources in order to receive bond funds. Water supply infrastructure projects that may be eligible for bond funds include public water system improvements, surface and groundwater storage, drinking water protection, water recycling and advanced water treatment technology, water supply management and conveyance, wastewater treatment, drought relief, emergency water supplies, and ecosystem and watershed protection and restoration. Relying on similar definitions of "disadvantaged community" and "severely disadvantaged community" to those used for Proposition 84,[3] Proposition 1 gives priority to projects that serve these communities, as well as to projects that address public health hazards.

2.2.6 California Global Warming Solutions Act of 2006: Greenhouse Gas Reduction Fund

The California Global Warming Solutions Act of 2006 (Assembly Bill 32)[4] requires the California Air Resources Board (CARB) to adopt regulations to require reporting and verification of emissions of greenhouse gases, and to adopt a statewide greenhouse gas emissions limit to be achieved by 2020 that is equivalent to the statewide greenhouse gas emissions level in 1990. The act authorizes the State to include the use of market-based compliance mechanisms. All money, except for fines and penalties, collected by CARB from the auction or sale of allowances as part of the market-based compliance mechanism are to be deposited into a "Greenhouse Gas Reduction Fund" and to be available upon appropriation by the legislature.

Senate Bill (SB) 535 requires the California Environmental Protection Agency (CalEPA) to identify "disadvantaged communities" for investment opportunities. It requires the Department of Finance to allocate 25 percent of the available money from the Greenhouse Gas Reduction Fund to projects that provide benefits to disadvantaged communities, and to allocate a minimum of 10 percent of the available money to projects located within disadvantaged communities. Please see the discussion of the California Communities Environmental Health Screening Tool (CalEnviroScreen) in Chapter 4 for more information.

[3] Proposition 1 references the definition of "disadvantaged community" at Public Resources Code Section 79505.5, which is similar to that found in Section 4799.09, and the definition of "severely disadvantaged community" at Health and Safety Code Section 116760.20, which is the same as that found in Section 4799.09.

[4] Added to California Health and Safety Code Sections 39711, 39713, 39715, 39721, and 39723 in 2012.

2.2.7 State Revolving Fund CEQA-Plus Requirements

The California State Revolving Fund Loan Program is partially funded by USEPA and subject to federal environmental regulations, including NEPA requirements, Executive Order 12898 requirements for evaluating environmental justice effects, the Federal Endangered Species Act, the National Historic Preservation Act, and the General Conformity Rule for the Clean Air Act, among others. Federal agencies have their own policies regarding compliance with federal environmental laws. Projects applying for SRF funding must meet these requirements. Instead of preparing separate federal documentation under NEPA, the USEPA has chosen to use CEQA as the compliance base for California's State Revolving Fund Loan Program. The SWRCB refers to these analysis requirements collectively as "CEQA-Plus." Under CEQA-Plus, environmental justice effects must be analyzed.

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CHAPTER 3
Socioeconomic Setting

The socioeconomic setting provides a description of the existing demographic and economic conditions for both San Francisco and Bayview-Hunters Point. This information provides a socioeconomic context for the environmental justice indicators described in Chapter 4, and provides a basis for comparison of conditions and trends.

For San Francisco, past trends and forecasts of future conditions also are provided where available. Such trend information generally is prepared by various planning and economic agencies at the county and city level, and so is available for San Francisco as a whole, but not for the Bayview-Hunters Point neighborhood. This citywide information is discussed below to provide an overall sense of the types of socioeconomic changes observed in and projected for San Francisco.

For demographic and economic information, this analysis relies on both census and survey data. The Decennial Census (Census), compiled by the U.S. Census Bureau each decade (e.g., 2000, 2010), is a full *count* of the population (each household in the country must answer and return the questionnaire). The Census questionnaire asks respondents about the number of people staying at that home and their age, sex, origin (Hispanic, Latino, or Spanish), and race, as well as the ownership or rental status of the home. Thus, a full count of the population with this demographic data is collected once every 10 years.

In addition to the Census, since 2005, the U.S. Census Bureau conducts the American Community Survey (ACS) on an ongoing basis. The ACS samples 3 million addresses annually throughout the country, and thus provides *estimates* of current demographic, social, economic, and housing data each year, asking many more questions of respondents than does the Census. The U.S. Census Bureau releases data from the ACS in 1-year (e.g., 2013) and 5-year (e.g., 2009-2013) estimates. Because the number of households sampled (sample size) in any given geography each year is relatively small, the 1-year estimates are provided only for geographies (e.g., cities or counties) with populations of 65,000 or more. For smaller geographies, such as census tracts and block groups, only the 5-year estimates are released – this provides a larger and more reliable sample size for small populations, but the data is less current than 1-year estimates because approximately 20 percent of the data is collected in each year of the 5-year period. Therefore, data from the 5-year ACS estimates are represented as estimates (e.g., "the 2009-2013 population estimate for Bayview-Hunters Point"). Because the data specific to the Bayview-Hunters Point neighborhood must be collected at the census tract level (described in more detail in Section 3.2), only the Census counts or 5-year ACS estimates can be used to characterize this community.

In the sections below, several sources of population counts and estimates are provided for San Francisco as a whole, in part because more sources exist at the county and city level. Where a comparison between San Francisco and Bayview-Hunters Point is needed, comparable data for San Francisco is used (e.g., 2009-2013 population estimates for Bayview-Hunters Point are compared to 2009-2013 estimates for San Francisco).

3.1 San Francisco Citywide Estimates and Forecasts

3.1.1 Demographic Trends and Forecasts

The Association of Bay Area Governments (ABAG) regularly publishes analyses and projections of demographic, economic, and land use data to support planning efforts throughout the Bay Area.[5] The *Projections* series provides statistical data and projections on demographic, economic, and land use changes in recent and coming decades. Each of the Projections provides benchmark data for prior years on which projections for future years are based.

In 2008, the California legislature passed SB 375, the "California Sustainable Communities and Climate Protection Act of 2008," which requires that metropolitan areas in the State reduce per capita greenhouse gas emissions from cars and light trucks through a Sustainable Communities Strategy that promotes compact, mixed-use commercial and residential development (ABAG, 2013). In response to this mandate, ABAG, in cooperation with other regional agencies, developed a Sustainable Communities Strategy called Plan Bay Area. In parallel with this planning effort, ABAG's most recent *Projections* publication projected future demographic, economic, and land use trends for local jurisdictions throughout the Bay Area, based on the presumption that the jurisdictions adopt land use policies that are consistent with Plan Bay Area. Projections were made at the regional, county, and city levels, and are determined based on economic and demographic models, local land use plans, and discussions between ABAG and participating local governments. State and federal transportation funding for regional transportation projects is strongly influenced by the Metropolitan Transportation Commission, a participant in Plan Bay Area. ABAG's *Projections 2013* (ABAG, 2013) is used as the source of the demographic data and projections in **Table 2** for the years 2010 to 2040. For the benchmark year of 2010, demographic data are taken directly from the U.S. Census. Employment data for 2010 are derived from Caltrans, the Center for Continuing Study of the California Economy, and the 1989-2009 National Establishment Times-Series (NETS) Database. Labor force data are based on information from the U.S. Bureau of Labor Statistics and the U.S. Census Bureau's 2005-2009 American Community Survey (ABAG, 2014). 2010 data in **Table 2** reflect these sources, as cited in ABAG, 2013.

Because *Projections 2013* does not provide benchmark data prior to 2010, *Projections 2009*, published in 2009, is used as the source of demographics for 2000 and 2005 in Table 2. For years 2000 and 2005, ABAG's *Projections 2009* relies on data from the U.S. Census Bureau, U.S. Department of Commerce, U.S. Department of Labor, Bureau of Labor Statistics, and California Department of Finance. 2000 and 2005 data in Table 2 reflect these sources, as cited in ABAG, 2009.

[5] Includes the following nine counties: San Francisco, San Mateo, Santa Clara, Alameda, Contra Costa, Solano, Napa, Sonoma, and Marin.

TABLE 2
PAST TRENDS (2000 – 2010) AND PROJECTED DEMOGRAPHICS (2015 – 2040) IN SAN FRANCISCO

	Total Population	Households	Total Jobs	Total Labor Force
2000	776,733	329,700	642,500	448,669
2005	795,800	338,920	553,090	405,300
2010	805,235	345,811	568,720	461,300
2015	847,000 [a]	362,440 [a]	617,420 [b]	480,800 [b]
2020	890,400	379,600	671,230	501,600
2025	934,800	396,000	689,080	516,600
2030	981,800	413,370	707,670	541,400
2035	1,032,500	430,070	732,970	564,000
2040	1,085,700	447,350	759,500	585,200

NOTES:

[a] As of the publication of Projections 2013, 2015 demographics were projected. Currently, provisional population and housing estimates as of January 2015 are available from the California Department of Finance, which estimates that the total 2015 population in San Francisco was 845,602, and that there were 364,363 total occupied households (California Department of Finance, 2015). These provisional estimates are within 0.2 and 0.6 percentage points of the ABAG 2015 projections; a negligible difference. Therefore, for purposes of this report, the ABAG 2015 projections are used for consistency with future projections.

[b] Similar to note a, the 2015 job and labor force numbers provided are projections made in 2013. Estimates currently are available through 2014 from the California Employment Development Department; however, 2015 estimates have not yet been released. Additionally, data available from the California Employment Development Department do not account for self-employed workers, unpaid family workers, or private household employees. Therefore, the ABAG 2015 projections are used in this report for consistency with future projections.

SOURCE: ABAG, 2009, 2013

Population

In 2000, San Francisco's population was 776,733. As shown in Table 2, ABAG projects that the population of San Francisco will reach 847,000 in 2015 and rise to over 1 million (1,085,700) in 2040. Between 2000 and 2010, the population grew by approximately 28,500 people, or an average of approximately 0.36 percent per year. ABAG projected that another 41,800 people would become San Francisco residents between 2010 and 2015, an average annual growth rate of just over 1 percent. The projected average annual rate of population growth in San Francisco between 2015 and 2040 is just under 1 percent.

Households

The total number of San Francisco households[6] has been increasing since 2000 and is projected to continue to increase through 2040. In 2000, 329,700 households were present in San Francisco. From 2000 to 2010, the number of households grew at a slightly higher average annual rate than did the population (0.48 percent compared to 0.36 percent). From 2010 to 2040, ABAG projects that the number of households will grow by over 3,000 households per year, representing an annual average rate of 0.86 percent.

[6] The number of households was projected using historic patterns of household structure by age of head of household and ethnicity in conjunction with population projections (ABAG, 2013).

Based on the difference in average annual growth rates for these periods between population and households, it appears that average household size in San Francisco dropped slightly between 2000 and 2010 (from 2.36 to 2.33 people per household), but is projected to rise slightly (to 2.43 people per household) by 2040. While the reasons for and implications of these changes are not evident from the data, the projections indicate that by 2040, San Francisco residents may be living in households that are slightly larger, on average, than under present conditions.

Jobs

As of 2000, 642,500 jobs were located in San Francisco (ABAG, 2009). As shown in Table 2, during the first decade of the century, the number of jobs in San Francisco fell below the 2000 total, and is not projected to surpass that level until after 2015. Many of these jobs were lost altogether or moved to other parts of the region during the 2007 – 2009 recession (ABAG, 2013). ABAG projects that from 2010 on, the number of jobs in San Francisco will continue to grow, and that by 2040, 759,500 jobs will be located in San Francisco.

Labor Force

As shown in Table 2, in 2000, San Francisco's labor force included 448,669 workers. During the early 2000s, the labor force decreased to just over 405,000 by 2005. However, by 2010 it had more than recovered, and by 2015 the labor force is projected to grow beyond the 2010 total to 480,800 workers. The growth trend is expected to continue through 2040, by which time the projected San Francisco labor force will consist of 585,200 workers.

The total number of people in the labor force in San Francisco is lower than the total number of past and projected jobs throughout the period shown in Table 2. This is consistent with San Francisco's role as an urban jobs center for the region, with many people living in other cities traveling to San Francisco to work daily (ABAG, 2013). In 2000, there were approximately 10 jobs located in San Francisco for every seven workers residing in San Francisco. By 2015, this ratio is expected to be closer to 10 jobs for every eight workers. The 2040 ratio is expected to be similar to the 2015 ratio (10:8).

3.1.2 Economic Trends and Forecasts

Beginning in 2000, the California Department of Transportation (Caltrans) has published annual economic forecasts for the 58 California counties to support the planning and travel forecasting efforts of local transportation communities throughout the state (Caltrans, 2015). The models used to forecast general economic activity at the county level are designed to project long-term trends. The report is updated annually as the models are updated and new information is obtained (Caltrans, 2000). The 2015 to 2040 data in **Table 3** and **Figure 2** are based on the most recently updated model results for San Francisco (Caltrans, 2015). The Caltrans economic forecasts make various projections for each county, including migration, homes permitted, product sales, income, and job sector growth.

TABLE 3
CALTRANS ESTIMATES (2006 – 2010) AND PROJECTIONS (2015 – 2040) FOR SAN FRANCISCO: MIGRATION, HOME CONSTRUCTION PERMITS, SALES, AND INCOME

	Net Migration[a] (people)	New Homes Permitted	Taxable Sales (billions, 2014)[b]	Real Per Capita Income (2014)[c]
2006	832	2,992	$13.9	$81,236
2010	1,405	774	$13.4	$75,459
2015	3,660	2,914	$19.3	$97,390
2020	2,870	2,497	$24.4	$108,803
2025	2,172	1,726	$29.5	$115,918
2030	2,015	871	$35.5	$124,838
2035	2,064	391	$42.3	$135,752
2040	2,095	936	$50.8	$143,444

NOTES:
[a] Represents the estimated number of people who migrated into San Francisco minus those who migrated out.
[b] Represents consumer and business spending on real taxable goods and services, adjusted to 2014 dollars to account for inflation. Information on taxable sales in 2014-adjusted dollars is not available from Caltrans for years prior to 2006.
[c] Real per capita income is the average gross (pre-tax) income per person, adjusted to 2014 dollars to account for inflation. Information on real per capita income in 2014-adjusted dollars is not available from Caltrans for years prior to 2006.

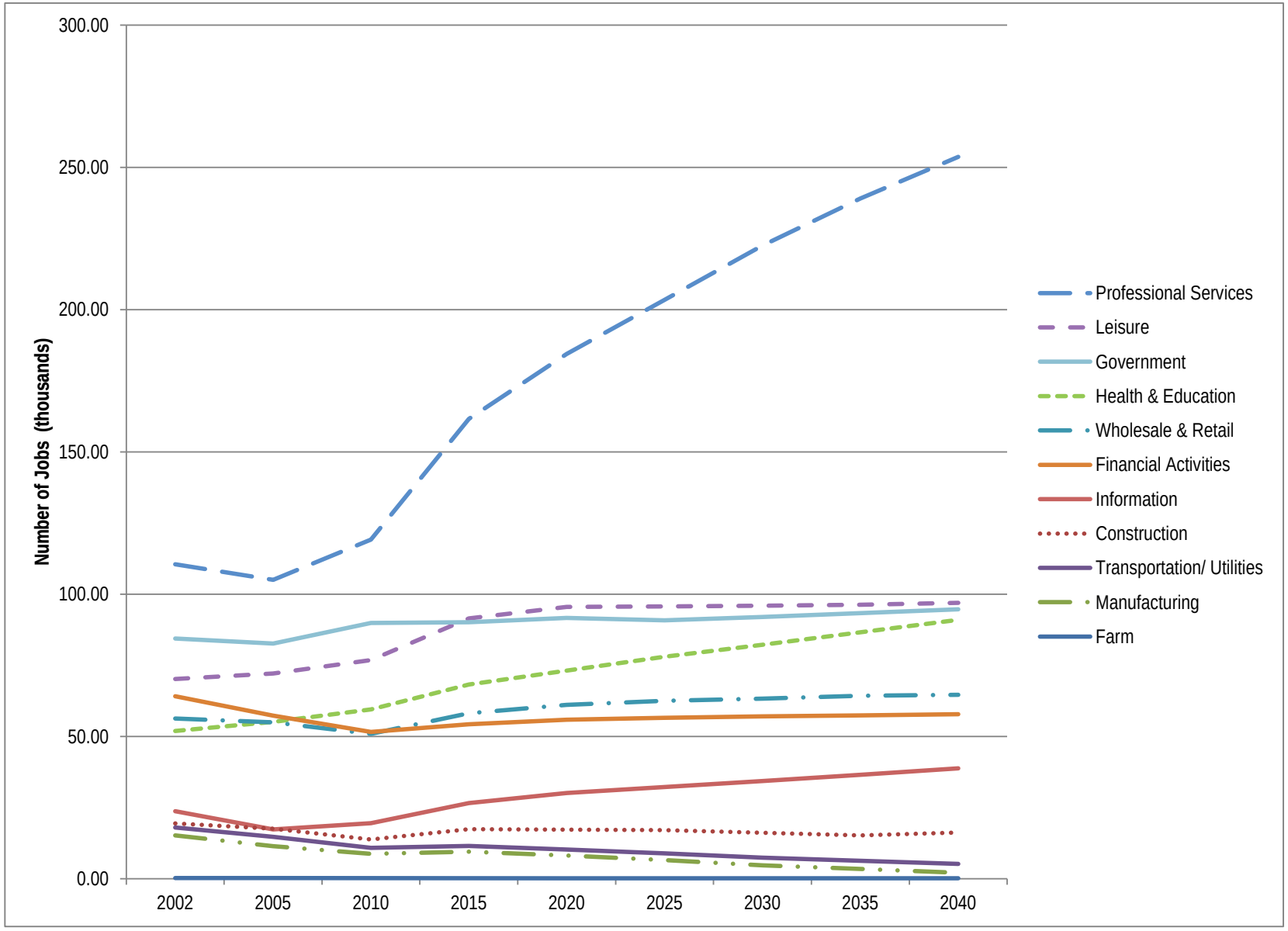
SOURCE: Caltrans, 2010, 2015

Migration

Population change occurs as a result of births, deaths, and migration. The measure of net migration, or the number of people who migrated to a place minus the number that migrated out, can be an economic indicator (e.g., indicating a supply or shortage of housing or job opportunities) and an economic driver (e.g., leading to a demand for housing or other services). In 2006, a net of 832 people migrated into San Francisco. This rate of net migration rose in 2007 and 2008 (to 5,325 and 4,124, respectively), but fell in 2009 for a net out-migration of 409 people. Net in-migration has occurred in each year since, with a peak of 5,557 net in-migrants in 2012. The rate of net migration is projected to slow from 2015 to 2025, leveling off at an annual average of just over 2,000 net in-migrants through 2040. Over this same period, the total population of San Francisco is projected to rise by greater than the amount of net in-migration each year. This indicates a positive rate of births minus deaths (also called the rate of natural increase) contributing to population growth. (Caltrans, 2015)

New Home Construction

The City and County of San Francisco is allowing new home construction to counteract the increasing demand for housing in San Francisco. In 2006 and 2007, the City issued permits for 2,992 and 2,848 new homes, respectively. By 2010, the number of new home construction permits had fallen to 774, but increased again to over 2,000 permits the following year. Caltrans projects that in 2015, the City will issue 2,914 new home permits, but that the annual number will steadily decrease to just over 1,000 permits by 2029. Between 2030 and 2040, Caltrans projects fewer than 1,000 new homes will be permitted each year San Francisco. This contrasts with projections for



SOURCE: Caltrans, 2015

Figure 2

Past and Projected Number of Jobs by Job Type in San Francisco

other Bay Area counties such as Alameda and San Mateo, where the long-term trend forecasts for the annual rate of new home permits remain similar to today's rates or increase through 2040. However, as Caltrans notes, it is not practical to forecast housing unit permits year by year with accuracy due to the many variables influencing the rate of permitting, including market forces, planning and zoning decisions, the real estate entitlement process, and others. (Caltrans, 2015) The long-term trend forecasts for San Francisco reflect the feasibility of permitting based on historical trends, even though the forecasts also show an apparent worsening shortage of housing supply compared to population in San Francisco by 2040, as Caltrans' report also explains:

> The longer term housing forecasts are not strictly based on the number of units needed to accommodate population growth in each county. An unprecedented level of housing build-out might be required to support long term economic growth including population growth. Therefore, the forecast of housing units for each county tends to be a combination of what is needed (population growth) and what is plausible given the history of permitted housing units over the last 15 to 20 years.
>
> These forecasts frequently do not provide for enough housing over the long term, indicating to planning agencies that additional units may be needed to meet expected economic and population growth. (Caltrans, 2015, p. xi)

Taxable Sales and Personal Income

Taxable sales include consumer and business spending on real taxable goods and services. Total taxable sales in San Francisco fell in 2009, the first full year of the economic recession, to approximately 85 percent of prior year sales, but by 2011 had recovered to the pre-recession rate of nearly $15 billion (adjusted to 2014 dollars). Taxable sales reached to over $18 billion in 2014 and are projected to increase annually through 2040, when inflation-adjusted sales are forecast at over $50 billion.

Similarly, real per capita income (also adjusted to 2014 dollars) fell from $80,000 in 2010 to just under $75,500 in 2009, but recovered by 2011. Estimates of real per capita income have increased sharply since that time, reaching over $91,000 in 2014 – an annual increase of nearly 5 percent since 2011. The projected 2015 real per capita income in San Francisco is $97,390, greater than a 6 percent increase over the prior year. Caltrans projects the real per capita income in San Francisco will continue to increase through 2040, though at a lower rate than the recent past. Between 2015 and 2020, real per capita income is projected to increase at a rate of 2.2 percent per year. (Caltrans, 2015)

Job Sector Growth

The Caltrans economic forecasts classify job sectors using the North American Industry Classification System (NAICS), the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy (Census, 2014). While some of the sectors are specific to one industry (manufacturing, for example), other sectors are aggregates of multiple industries, such as the Professional Services supersector (sometimes called Professional and Business Services) and the Information sector. Industry groups included in the Professional Services supersector include legal advice and representation, accounting, architectural and engineering services,

computer services, advertising, business management, office administration, landscaping, waste disposal, and veterinary services. The Information sector includes publishing, broadcasting and telecommunications, other information services (which includes operating web sites and publishing context exclusively online), and data processing and hosting services.

Between 2015 and 2040, the Professional Services job sector is both projected to remain dominant in terms of the share of jobs in the overall market as well as experience the most growth relative to other sectors. The Leisure sector (which includes hospitality, food service, arts, entertainment, and recreation) is expected to remain the second largest sector, yet experience a slight (1.1 percent) decrease in market dominance. Government, currently the third largest sector, is expected to lose several thousand jobs by 2040, a 22 percent decrease in market dominance from 2015. Consequently, the fourth-ranked Health and Education sector is projected to become the third largest by 2040, despite almost no change in market dominance. The Information sector, though never projected to account for greater than 5 percent of the job market in San Francisco, is expected to experience almost 50 percent growth by 2040 and a 13 percent rise in market dominance, in part owing to the slower growth or loss of jobs in other sectors.

The Farm, Construction, Manufacturing, Transportation/Utilities, and Government sectors are projected to lose jobs between 2015 and 2040, with Manufacturing experiencing the greatest decline (18 percent job loss) and Government experiencing the least (2 percent job loss). As discussed above, each of these sectors is projected to decline substantially in market dominance, in part reflecting the significant growth in other sectors.

One of the fastest-growing groups of employers in San Francisco is technology companies. These firms fall within a variety of industries, including online computing and information sharing platforms (e.g., Salesforce, with 5,000 San Francisco employees, and Twitter, with 2,000), software products (e.g., Adobe and Autodesk, each with about 1,000 jobs in San Francisco), entertainment (e.g., Lucasfilm and Zynga, with 1,500 and 1,200 jobs in San Francisco, respectively), transportation (e.g., Uber, with 700 San Francisco employees and many drivers whose employee status is uncertain pending the results of legal action), and travel and accommodations (such as Airbnb, with 500 employees). Thus, the technology "industry" in San Francisco is not captured within one of the sectors described above, but has accounted for much of San Francisco's post-recession growth, with some estimates at 30 percent or more of job growth since 2010. (San Francisco Business Times, 2015; SPUR, 2014a)

3.2 Bayview-Hunters Point Existing Conditions

Data from the American Community Survey (ACS) were reviewed to capture the most updated estimates of total population, total households, labor force, and unemployment rate in Bayview-Hunters Point. This report relies on the ACS 5-year estimates published in 2013, which represent data collected between January 2009 and December 2013; the estimates discussed below are described as the 2009–2013 estimates.

The San Francisco Planning Department identifies the Bayview-Hunters Point neighborhood as the area east of Highway 101 extending from the southern City boundary north to Cesar Chavez

Street. Figure 1 identifies the census tracts in the Bayview-Hunters Point neighborhood. Based on community outreach undertaken in preparation of this report, only data from Bayview-Hunters Point census tracts and zip codes are presented here. Community members indicated that U.S. Route 101, Cesar Chavez Street, and the Islais Creek Channel all function as informal neighborhood barriers.

Census Tract boundaries generally coincide with the Planning Department boundaries of Bayview-Hunters Point, although Census Tract 9809 extends northward to 25th Street, two blocks north of Cesar Chavez Street, and Census Tract 610 extends eastward to Bayshore Boulevard, west of Route 101. Zip code 94124 generally coincides with Planning Department boundaries of Bayview-Hunters Point, although the zip code extends farther north along the waterfront and excludes some of Candlestick Point. **Table 4** presents demographic data at the census tract level (therefore, a portion of the data provided for census tracts 9809 and 610 represent some people and households outside of the Bayview-Hunters Point boundaries identified on Figure 1).

TABLE 4
EXISTING POPULATION, HOUSEHOLDS, LABOR FORCE, AND UNEMPLOYMENT RATE ESTIMATES FOR SAN FRANCISCO, BAYVIEW-HUNTERS POINT (2009-2013)

Census Tract	Total Population	Total Households	Labor Force	Unemployment Rate
San Francisco	817,501	345,344	498,293	8.3%
Bayview-Hunters Point	37,363	10,932	19,255	15.8%
Tract 230.01	5,179	1,425	2,654	16.7%
Tract 230.03	3,914	1,117	2,250	12.9%
Tract 231.02	3,950	1,343	2,117	12.0%
Tract 231.03	3,959	1,246	1,190	35.5%
Tract 232	4,385	1,268	2,256	18.6%
Tract 233	3,484	838	1,986	9.7%
Tract 234	3,716	902	1,659	17.2%
Tract 610	2,135	1,421	2,411	10.2%
Tract 612	3,995	1,098	2,264	18.7%
Tract 9806	357	138	266	18.4%
Tract 9809[a]	247	136	202	4.0%

NOTE:
[a] The Southeast Plant is located in Tract 9809.

SOURCE: U.S. Census Bureau, 2014a

3.2.1 Population and Households

The 2013 5-year ACS estimated that the 2009-2013 Bayview-Hunters Point population represented approximately 4.6 percent of San Francisco's total population, as shown in **Table 4** with an estimated 37,363 residents.

The 2013 5-year ACS estimated 345,344 households in San Francisco in 2009-2013. Of these households, 10,932, or approximately 3 percent of all San Francisco households, were located in Bayview-Hunters Point. The census tract with the fewest people and households in the Bayview-Hunters Point neighborhood (tract 9809, with 247 people in 136 households) is the same tract that contains the Southeast Plant; non-residential uses occupy most of the land area within the boundaries of this census tract. Similarly, the land area within census tract 9806 primarily was occupied by the Hunters Point Naval Shipyard facility in 2009-2013, and so the 2013 5-year ACS estimated a small population (357 people in 138 households) within this tract.[7] Due to this small population size in these tracts, the sample size used to produce the ACS estimates is limited. This frequently leads to a larger relative margin of error for estimates within these tracts than for other tracts or for San Francisco as a whole, indicating greater uncertainty in the estimates provided.

3.2.2 Labor and Unemployment

As shown in Table 4, the 2013 5-year ACS estimate of the 2009-2013 labor force in San Francisco was 498,293 workers. Of these, 19,255 or approximately 3.9 percent resided in Bayview-Hunters Point. As described above in Section 3.3.1, census tracts 9809 and 9806 had the fewest workers due to their small populations. The 2009-2013 estimated unemployment rate in San Francisco was approximately 8.3 percent. By contrast, the unemployment rate in Bayview-Hunters Point was nearly double that at approximately 16 percent. Each individual census tract in Bayview-Hunters Point other than tract 9809 had an unemployment rate higher than San Francisco's average, and tract 231.03 had the highest unemployment rate of those evaluated, at 35.5 percent. Tract 9809 is the only tract that has a rate lower than the San Francisco average; however, due to the small sample size for the ACS, the margin of error for this estimate is relatively large compared to other tracts or to San Francisco as a whole (U.S. Census Bureau, 2014a).

[7] The 2009-2013 ACS estimates do not reflect the availability of new housing units in census tracts 9806 and 610 on the former Hunters Point Naval Shipyard and Candlestick Park facility sites, respectively. Approximately 350 new units are available or expected to become available by the end of 2015. Approximately 12,000 new units are under construction or planned over the next two decades as part of this development. (San Francisco Business Times, 2015)

CHAPTER 4
Environmental Justice Indicators

4.1 Introduction and Summary of Indicators

This section describes the studies and other sources used to determine what adverse socioeconomic, environmental, health, community, and other circumstances residents of Bayview-Hunters Point experience disproportionately compared to San Francisco as a whole or to other neighborhoods in San Francisco, and describes these indicators in detail. **Table 5** summarizes the findings of this section by indicating which of these are considered indicators of environmental justice concern for Bayview-Hunters Point.

4.2 Environmental Justice Indicators Based on Race/Ethnicity and Income

The following section provides information on the two primary indicators used in environmental justice analysis (racial/ethnic minority status and income), and concludes that both of these are indicators in the Bayview-Hunters Point neighborhood.

4.2.1 Minority Communities

CEQ guidance defines *minority* as "Individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic" (CEQ, 1997, p. 25). Per CEQ, a *minority population* should be identified where either the minority population of the affected area exceeds 50 percent or the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. In identifying minority communities, agencies are directed to consider either groups of individuals living in geographic proximity or a group that is geographically dispersed (e.g., Native American) or transient (e.g., migrant workers), where either type of group experiences common conditions of environmental exposure or effect. As indicated by CEQ,

> The selection of the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood, census tract, or other similar unit that is to be chosen so as to not artificially dilute or inflate the affected minority population. A minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds. (CEQ, 1997)

TABLE 5
SUMMARY OF ENVIRONMENTAL JUSTICE INDICATORS

Indicator Type	EJ Indicator	Notes Regarding Disproportionality
Ozone Concentrations		Citywide rates are all the same (and lowest statewide)
PM2.5 Concentrations	●	Percentage of people in an area with a PM2.5 concentration at or above 10 µg/m3 is 3.7 times the citywide percentage
DPM Concentrations		DPM concentrations below citywide average
Toxic Releases from Facilities		Rate of exposure to toxic releases is consistent with other tracts citywide
Cancer Risk from TACs	●	Percentage of people in an area with total cancer risk greater than 100 cases per 1 million people is 1.6 times the citywide percentage
Nuisance Odors	●	Nuisance odors are a known issue for this neighborhood
Traffic Density	●	Only an indicator for western census tracts near U.S. 101 and I-280
Truck Routes		Lower percentage of residents live near truck routes than citywide
Outdoor Noise Levels		Lower percentage of residents live in an area of high outdoor noise than citywide
Traffic-Related Injuries		Lower rates of injuries than citywide
Polluted Discharges / Impaired Water Bodies		Census tracts in proximity to Bay, Golden Gate, and Ocean all have high rates
Drinking Water Contamination		SFPUC water is some of the least contaminated in the state
Agricultural Pesticide Use		Data not available for or applicable to BV-HP
Presence of Cleanup / Brownfield Sites	●	While several neighborhoods have a higher concentration of sites, approximately one-third of all sites citywide are located in BV-HP
LUST Concentration		LUSTs are most associated with gas stations, evenly distributed throughout City
Hazardous Waste Generators / Facilities Proximity	●	Proximity score between 1.3 and 2.5 times the citywide average
Solid Waste Sites and Facilities Proximity	●	Highest concentration in BV-HP compared to all other neighborhoods
Groundwater Threats		Groundwater is not used as a potable supply in San Francisco
Zoning for Industrial Uses	●	More than half of all industrial-zoned land in City is in BV-HP
Affordability Gap: Homeownership		One of the lowest affordability gaps in the City
Affordability Gap: Rental	●	Among the highest affordability gaps in the City
Rent Burden		Citywide concern, with every neighborhood burdened
Percent of Housing Stock Affordable		BV-HP housing stock almost five times more affordable than citywide stock
Prevalence of At Risk Foreclosure	●	BV-HP foreclosure rate four times citywide average
Overcrowding		Less overcrowded than citywide, and several neighborhoods more overcrowded
Displacement	●	Percentage of BV-HP residents living in low-income tracts experiencing displacement is more than 35 percent greater than the city as a whole.
Housing Tenure		Higher homeownership rate in BV-HP than citywide
New Housing Construction		Not considered an indicator in and of itself
Housing Condition / Code Violations		Lower rate of Code violations than citywide
Residential Mobility		Similarly likely to move away as residents in City as a whole
Homelessness	●	Citywide homelessness concentrated in Districts 10 and 6
Residential Density	○	Most neighborhoods have a density at least double that of BV-HP
Motor Vehicle Access		Higher car ownership rate than citywide

TABLE 5 (Continued)
SUMMARY OF ENVIRONMENTAL JUSTICE INDICATORS

Indicator Type	EJ Indicator	Notes Regarding Disproportionality
Public Transit Ridership and Score	●	Less access to high-transit ridership streets than citywide
Bicycle Network	●	Limited bike lanes, especially given geographic size of neighborhood
Walkability	●	Most of San Francisco has low-to-moderate walkability, but walking is perceived as substantially less safe in BV-HP compared to other neighborhoods
Library Proximity		Similar proximity rate to citywide
Religious / Spiritual Density		Higher concentration of such facilities than citywide
Community Center Proximity		Similar concentration of such facilities citywide
Academic Performance of Schools	●	Some of the lowest test scores in the City
Recreational Area Score	●	Markedly lower score than citywide, although partially offset by other facilities
Open Space and Trees	●	Poor proximity and access to open space, among the lowest concentration of trees in the City
Child Care Availability		Performs less well than citywide, but not disproportionately so
Average Child Care Burden	●	Cost burden higher; higher percentage of children not receiving subsidies
Healthy Food Retail Proximity	●	Much lower proximity score than citywide
Financial Services Proximity	●	Much lower proximity score than citywide
Concentration of Alcohol Vendors		Lower concentration than citywide
Poverty: % Below Two Times Federal Poverty Level	●	Also indicated in standard and enhanced community screening
Unemployment	●	Double the citywide rate
Earned Income Tax Credit	●	Percentage of EITC filers in BV-HP is more than double citywide
Population of Children	●	Percentage of households with children more than double citywide
Population of Elderly		Lower percentage of elderly residents than citywide
Pre-Natal Care Rate	●	Worst pre-natal care rate in the City
Low Birth Weight	●	BV-HP census tracts among the highest rate of low-birth weight babies statewide
Asthma Hospitalization Rate	●	Rate is 3 times the citywide average
Preventable Hospitalizations / Emergency Room Visits	●	Rate is almost double the citywide average
Voter Turnout	●	Markedly lower than citywide participation rate
Educational Attainment	●	Rate of non-high school graduates almost double citywide rate
Linguistic Isolation	○	Only one BV-HP census tract ranks at or about 75th percentile citywide, but overall limited English proficiency population is greater than citywide
Violent Crime Rate	●	Double the citywide rate
Property Crime Rate		Close to the citywide rate
Community Resiliency to Climate Change	●	Ranked least resilient citywide, with five other neighborhoods

Symbol Key: ● Means this is an indicator of environmental justice concern ○ Means this may be an indicator

NOTE: Bayview-Hunters Point is abbreviated BV-HP in indicator tables throughout this section.

Table 6 shows the racial and ethnic profile of Bayview-Hunters Point compared to the profiles of San Francisco and California as a whole. Data is based on the ACS 2009–2013 5-year estimates. **Table 7** and **Figure 3** show the racial and ethnic profile for the census tracts composing Bayview-Hunters Point.

TABLE 6
STUDY AREA RACIAL AND ETHNIC CHARACTERISTICS (2009-2013)

	Bayview-Hunters Point	San Francisco	California
Total Population	37,363	817,501	37,659,181
Hispanic or Latino (All Races)	24.2%	15.2%	37.9%
White alone, not Hispanic or Latino	7.5%	41.7%	39.7%
Black or African American alone, not Hispanic or Latino	33.1%	5.6%	5.7%
Race, not including Hispanic or Latino Origin:			
White alone	19.5%	50.3%	62.3%
Black or African American alone	33.6%	5.9%	6.0%
American Indian and Alaska Native alone	0.9%	0.4%	0.8%
Asian alone	29.8%	33.3%	13.3%
Native Hawaiian and Other Pacific Islander alone	2.3%	0.4%	0.4%
Some other race alone	10.2%	5.4%	12.9%
Two or more races	3.8%	4.2%	4.3%
Total Minority (Other than non-Hispanic/Latino White)	92.5%	58.3%	60.3%

NOTES:

Minority population percentage for the purposes of this study was determined to be the total population (100%) minus the population identified as White alone, not Hispanic/Latino.

Numbers may not sum to 100% due to rounding.

SOURCE: U.S. Census Bureau, 2014a (2009-2013 ACS 5 year estimates).

As indicated in Tables 6 and 7, the minority populations of the Bayview-Hunters Point neighborhood, San Francisco, and the State of California are all above 50 percent. The minority population percentage of Bayview-Hunters Point varies by tract, but the minority population percentage of Bayview-Hunters Point as a whole is more than 30 percentage points higher than for San Francisco and the state, and therefore is considered "meaningfully greater" than that of San Francisco and the state. For this reason, a minority community is considered to be present in the Bayview-Hunters Point neighborhood for environmental justice purposes.

TABLE 7
BAYVIEW-HUNTERS POINT CENSUS TRACTS
RACIAL AND ETHNIC CHARACTERISTICS (2009-2013)

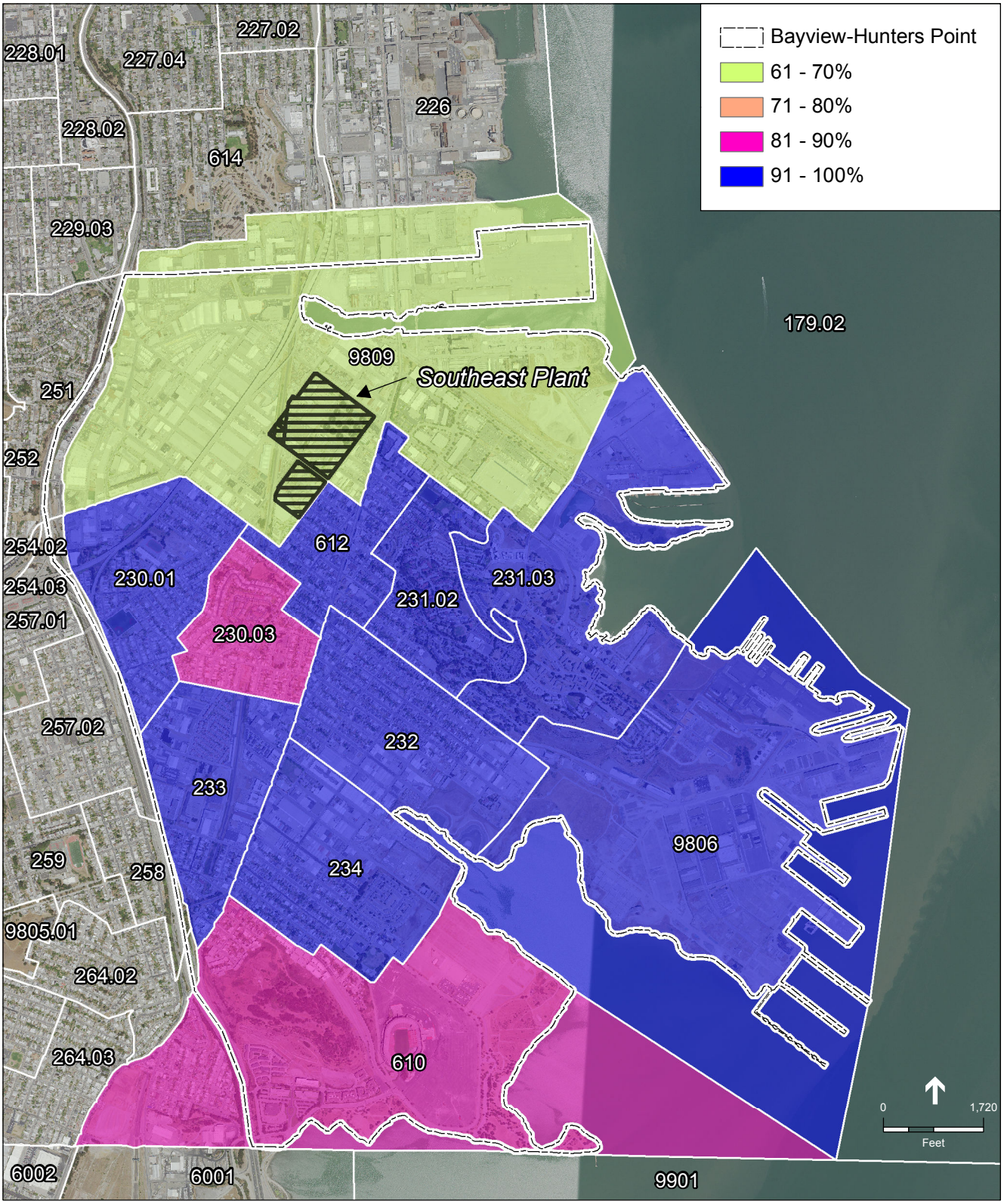
Census Tract	**230.01**	**230.03**	**231.02**	**231.03**	**232**	**233**	**234**	**610**	**612**	**9806**	**9809**
Total Population	5,179	3,914	3,950	3,959	4,385	3,484	3,716	4,177	3,995	357	247
Hispanic or Latino (All Races)	11.1%	16.2%	18.0%	11.1%	29.3%	22.4%	61.2%	15.5%	39.9%	20.2%	12.1%
White alone, not Hispanic or Latino	6.0%	13.7%	4.3%	4.3%	8.8%	5.1%	4.5%	14.8%	4.4%	3.9%	34.4%
Black or African American alone, not Hispanic or Latino	21.7%	32.2%	65.7%	61.6%	44.7%	13.0%	16.0%	15.2%	26.6%	57.7%	17.0%
Race not including Hispanic or Latino Origin:											
White alone	15.0%	22.1%	15.9%	7.1%	30.5%	15.0%	26.2%	23.3%	18.2%	23.0%	43.7%
Black or African American alone	21.7%	33.3%	66.1%	62.9%	44.9%	13.2%	16.0%	15.6%	27.3%	57.7%	17.0%
American Indian and Alaska Native alone	0.3%	0.6%	0.0%	0.0%	3.9%	0.0%	1.4%	0.5%	1.2%	0.0%	0.0%
Asian alone	59.5%	35.3%	9.1%	1.7%	14.3%	58.2%	13.5%	44.7%	26.4%	18.2%	34.4%
Native Hawaiian and Other Pacific Islander alone	0.0%	0.0%	2.0%	13.7%	0.4%	0.0%	1.5%	4.0%	0.0%	0.0%	2.0%
Some other race alone	1.7%	3.6%	5.6%	6.0%	3.4%	11.9%	38.5%	3.4%	24.2%	1.1%	0.0%
Two or more races	1.8%	5.2%	1.2%	8.7%	2.4%	1.6%	2.9%	8.5%	2.7%	0.0%	2.8%
Total Minority (Other than non-Hispanic/Latino White)	94.0%	86.3%	95.7%	95.7%	91.2%	94.9%	95.5%	85.2%	95.6%	96.1%	65.6%

NOTES:

Minority population percentage for the purposes of this study was determined to be the total population (100%) minus the population identified as White alone, not Hispanic/Latino.

Numbers may not sum to 100% due to rounding.

SOURCE: U.S. Census Bureau, 2014a (2009-2013 ACS 5 year estimates).



SOURCE: U.S. Census Bureau, 2013

Environmental Justice Analysis for Bayview-Hunters Point . 120468.06

Figure 3
Percent Minority in Bayview-Hunters Point Neighborhood, by Census Tract

4.2.2 Low-Income Communities

There are several definitions of "low-income" used by different agencies, including the CEQ, U.S. Census Bureau, U.S. Department of Health and Human Services, U.S. Department of Housing & Urban Development (HUD), USEPA, and the U.S. Department of Agriculture (USDA), as well as by private research groups.

CEQ guidance states that *low-income populations* should be identified with annual statistical poverty thresholds from the U.S. Census Bureau's Current Population Reports, Series P-60 on Income and Poverty (CEQ, 1997). The federal poverty thresholds were initially published by the Social Security Administration (SSA) in the 1960s and were designated the official federal thresholds by the U.S. Office of Management and Budget (OMB) in 1969. Federal poverty thresholds vary by family size and composition to determine who is in poverty. The weighted average poverty threshold for a family of four was $23,834 in 2013 (U.S. Census Bureau, 2013b). Similar to the minority analysis above, low-income communities may be identified by geographic proximity or may be geographically dispersed or transient, where either type of group experiences common conditions of environmental exposure or effect. The 2009–2013 ACS 5-year estimates are used for this analysis.

HUD defines low-income through a comparison of annual household income for households of various sizes with the area median income. HUD defines income guidelines for extremely low-income households (those with 30 percent or less of the area median income), very low-income households (those with 50 percent or less of the area median income), and low-income households (those with 80 percent or less of the area median income).

As shown in **Table 8**, approximately 19 percent of families and 21 percent of individuals live below the federal poverty thresholds in Bayview-Hunters Point. Both measures are meaningfully greater than the citywide and statewide rates. **Table 9** and **Figure 4** show the median household income and poverty statistics for individual census tracts within Bayview-Hunters Point. Although some census tracts are considered "not low income" by HUD definition, overall, a low-income community is considered to be present in Bayview-Hunters Point for environmental justice purposes.

At the time the federal poverty thresholds were established by the SSA, they were based on a USDA finding that families of three or more persons spent about one-third of their after-tax income on food. The SSA therefore established poverty thresholds by multiplying the cost of the USDA's "economy food plan" – the least costly of four nutritionally adequate food plans designed by the USDA. This lowest-cost plan was designed for temporary or emergency use. (Citro and Michael, 1995) While the U.S. Census Bureau adjusts the federal poverty thresholds annually based on the Consumer Price Index, this basic structure underlying the development of the thresholds has not changed. However, spending and consumption patterns and needs have changed substantially since the 1960s. For example, food expenses no longer account for one-third of after-tax income; today, other expenses such as child and health care and transportation have increased relative to food costs, and are therefore not accounted for in the process of

TABLE 8
STUDY AREA POVERTY STATUS AND INCOME STATISTICS (2009-2013)

	Bayview-Hunters Point	San Francisco	California
Households	10,932	345,344	12,542,460
Median Household Income	$58,033	$75,604	$61,094
Median Household Income in Comparison to County[1]	Low Income	--	--
Total Families	7,928	156,742	8,603,822
Families below poverty threshold	19.3%	8.2%	12.0%
Total Individuals (total population)	37,363	817,501	37,659,181
Individuals below poverty threshold	21.2%	13.5%	15.9%

NOTE:

[1] The Income Comparison was determined by comparing the median household income for each tract to the median income household income for San Francisco ($75,604). Per HUD guidelines the following definitions were used: Low-Income – 51% to 80% of area median income; Very Low-Income – 31% to 50% of area median income; Extremely Low-Income – 30% or less of area median income.

SOURCE: U.S. Census Bureau, 2014a (2009-2013 American Community Survey, 5 year estimates)

TABLE 9
BAYVIEW-HUNTERS POINT POVERTY STATUS
AND INCOME ESTIMATES BY CENSUS TRACT (2009-2013)

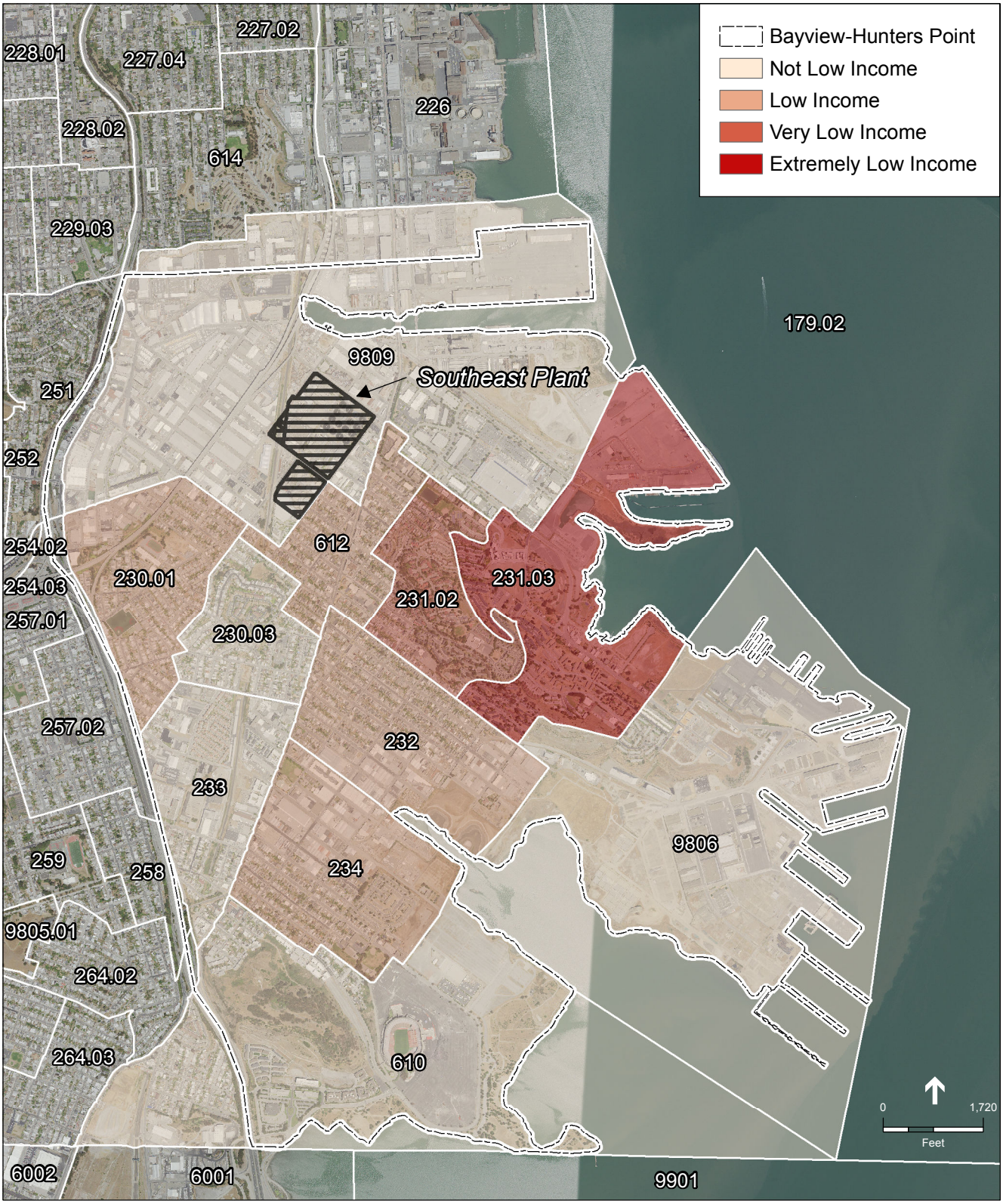
Census Tract	Median Household Income	Households	Median Household Income in Comparison to San Francisco[1]	Total Families	Families Below Poverty Thresholds	Total Individuals	Individuals Below Poverty Thresholds
Tract 230.01	$51,659	1,425	Low Income	1,083	19.9%	5,179	24.2%
Tract 230.03	$79,890	1,117	Not Low Income	869	13.0%	3,914	11.5%
Tract 231.02	$34,617	1,343	Very Low Income	919	31.9%	3,950	31.7%
Tract 231.03	$18,846	1,246	Extremely Low Income	912	44.5%	3,959	47.5%
Tract 232	$43,906	1,268	Low Income	927	20.6%	4,385	23.4%
Tract 233	$75,857	838	Not Low Income	701	7.7%	3,484	10.8%
Tract 234	$54,786	902	Low Income	690	21.9%	3,716	23.8%
Tract 610	$101,925	1,421	Not Low Income	975	0.0%	4,177	2.6%
Tract 612	$50,924	1,098	Low Income	722	12.0%	3,995	14.4%
Tract 9806	$77,500	138	Not Low Income	51	19.6%	357	16.0%
Tract 9809[2]	$158,015	136	Not Low Income	79	15.2%	247	21.5%

NOTES:

[1] See note 1 in Table 8.

[2] Rates of poverty in Tracts 9806 and 9809 appear incongruous with the relatively high median household incomes. The margins of error for income and households/individuals below poverty thresholds are high as a result of the small sample sizes available in these relatively small tracts, which limit the certainty of ACS estimates (e.g., for Tract 9809 the margin of error for median income is +/- $68,100). Other tracts provide more reliable estimates because their larger populations allow a larger sample size during the 5-year ACS schedule.

SOURCE: U.S. Census Bureau, 2014a (2009-2013 American Community Survey, 5 year estimates)



SOURCE: U.S. Census Bureau, 2013

Figure 4

Median Household Income Relative to San Francisco County in Bayview-Hunters Point Neighborhood, by Census Tract

multiplying food costs by three. Further, the federal poverty thresholds do not take into account regional differences in cost of living, which is particularly relevant in areas where the cost of living, including housing, is far above the national average. As explained in **Appendix A**, San Francisco repeatedly ranks as one of the most expensive housing markets in the country.

Additionally, USEPA guidance states that NEPA analysts should also consider state and regional low-income and poverty definitions, as appropriate (USEPA, 1998). Therefore, several other measures of poverty were considered, including the U.S. Census Bureau's Supplemental Poverty Measure (SPM), the Insight Center for Community Economic Development's California Family Economic Self-Sufficiency Standard, and the Public Policy Institute of California's California Poverty Measure. A detailed description of these measures is provided in Appendix E. At this time, none provides data at the neighborhood level that can be used to determine if a low-income community exists in Bayview-Hunters Point relative to the rest of San Francisco or the state. However, as described above, this analysis assumes that a low-income community does exist based on currently available measures of poverty.

Although the SPM has not been calculated at the county or census tract level and therefore cannot be used to compare the poverty rate using the official federal poverty thresholds with the SPM rate in Bayview-Hunters Point or San Francisco at this time, the U.S. Census Bureau is researching methods to gather data on the SPM in the ACS; therefore, the SPM may be an available measure of poverty in future publications of the ACS (U.S. Census Bureau, 2015a).

4.3 Studies Used to Identify Other Environmental Justice Indicators

As indicated in Chapter 1, this report expands the environmental justice protocol beyond what is typically done per CEQ and USEPA guidance (i.e., determining minority and/or low-income status) to better document the existing conditions of the Bayview-Hunters Point community including health status, economic resources, and social and cultural resources. For example, additional indictors reviewed include educational attainment, crime levels, infant birth weights, asthma rates, child care access, and others. With this expanded approach, SFPUC can identify environmental justice indicators applicable to the minority and low-income communities of concern identified above.

The three primary sources utilized for this report are CalEnviroScreen, the Healthy Homes Project assessment, and the San Francisco Indicator Project. However, several other analyses and reports were used. This section describes these existing environmental, neighborhood, and demographic reports. Where applicable, these reports are used in the indicator analysis that follows in Section 4.4.

4.3.1 Nationwide Analyses

EJView

USEPA's EJView, formerly known as the Environmental Justice Geographic Assessment Tool, is a mapping tool that allows users to create maps and generate detailed reports based on the geographic areas and data sets they choose. EJView includes data from multiple factors that may affect public and environmental health within a community or region, including demographic, health, environmental, and facility-level data. The age of the data ranges from the mid-1990s to 2010. Depending on the indicator, data is available at a region-wide, countywide, or census block group level (USEPA, 2015a).

EJScreen

EJScreen is an environmental justice screening and mapping tool that provides USEPA with a nationally consistent dataset and methodology for calculating "EJ indices," which can be used for highlighting places that may be candidates for further review, analysis, or outreach as the agency develops programs, policies, and other activities. The tool provides both summary and detailed information at the census block group level or a user-defined area for both demographic and environmental indicators. It includes 12 environmental and six demographic indicators. EJScreen is not yet publicly available, so it is described here for informational purposes only (USEPA, 2015b).

Brookings Institute: Earned Income Tax Credit

The Brookings Institute maintains a web site devoted to information, commentary, and research regarding the Earned Income Tax Credit (EITC), a refundable tax credit for low and moderate income working individuals and couples. The site provides a database of tax return filers for each tax year, indicating what percentage of filers received the EITC by zip code (Brookings Institute, 2015).

4.3.2 Statewide Analyses

California Communities Environmental Health Screening Tool, Version 2.0

CalEnviroScreen, prepared by CalEPA's Office of Environmental Health and Hazard (OEHHA), is a science-based tool primarily designated to carry out the CalEPA's environmental justice mission in a manner that ensures fair treatment of all Californians, including minority and low-income. It aids the agency in the administration of its Environmental Justice Small Grant Program, and guides other grant programs and environmental education and community programs across the State (CalEPA, 2014a).

CalEPA released the first version of the tool for public review and comment in July 2010, with the purpose of identifying communities that face multiple pollution burdens. The tool identifies portions of the State that have higher pollution burdens and vulnerabilities than other areas, and therefore are in greatest need of assistance. Versions 1.0 and 1.1 (August and September, 2013,

respectively) analyzed communities at the zip code level. CalEnviroScreen 2.0, released October 2014, further refined the tool based on solicited comments and suggestions. As shown in **Figure 5**, the tool considers (1) pollution burden indicators and (2) population characteristic indicators to provide a *relative* measure of cumulative impact on each census tract compared to other census tracts in the State. Termed the "CalEnviroScreen Score," it is available at the census tract level on OEHHA's website (CalEPA, 2015).

CalEnviroScreen and Senate Bill 535

CalEnviroScreen 2.0 will inform CalEPA's identification of disadvantaged communities pursuant to SB 535 (described in Chapter 2). SB 535 requires CalEPA to identify such communities based on geographic, socioeconomic, public health, and environmental hazard criteria. OEHHA, with public input, considered several approaches that CalEPA could take to identify "disadvantaged" communities using CalEnviroSceen (CalEPA, 2014b). Based on those discussions, CalEPA determined that the census tracts were disadvantaged if they had CalEnviroScreen Scores at or above the statewide 75th percentile using the methodology in CalEnviroScreen for ranking communities burdened by environmental and socioeconomic issues (CalEPA, 2014c).

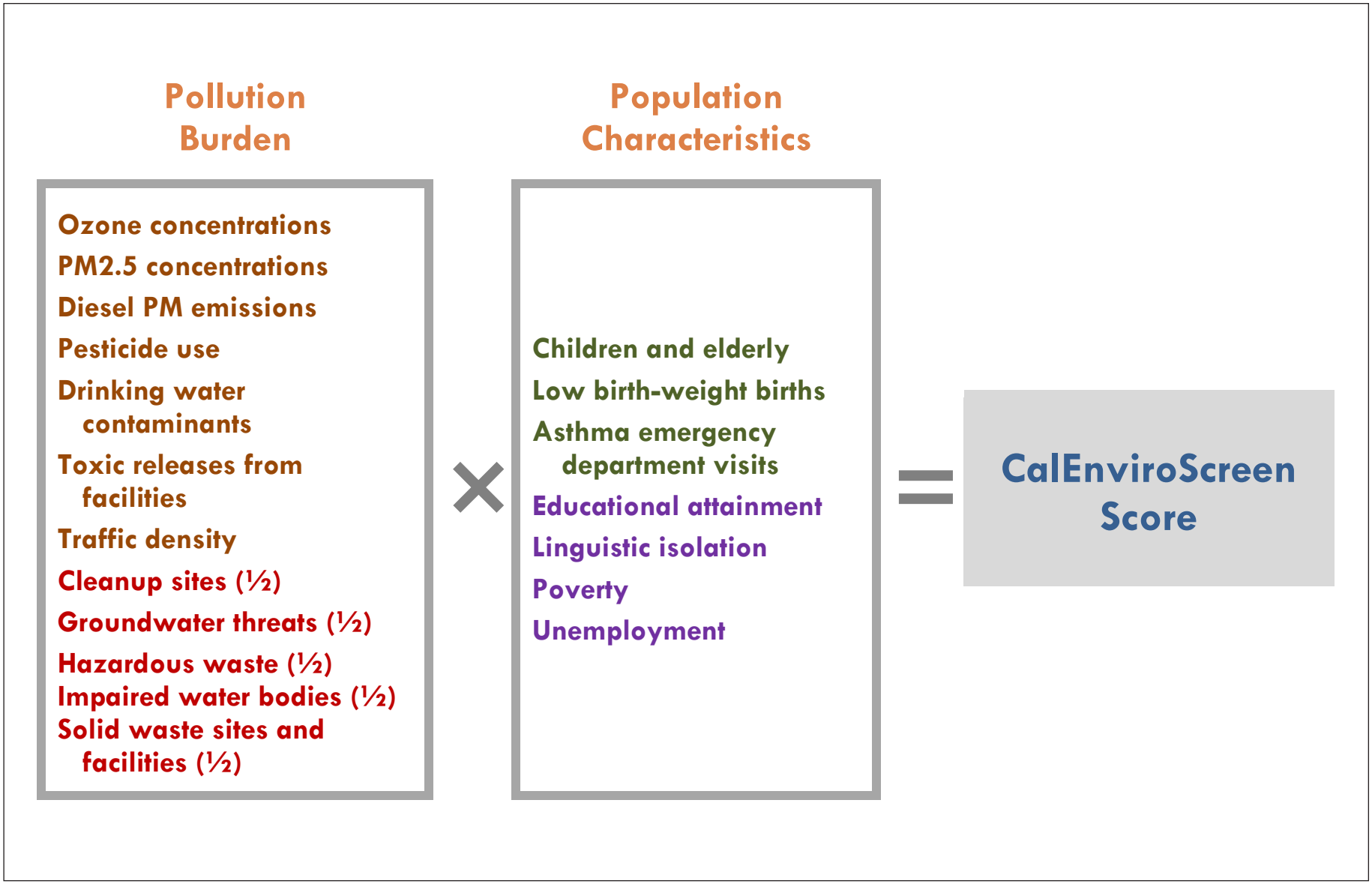
Of note, using CalEnviroScreen's final methodology to consider the combined effect of all indicators analyzed, few census tracts in San Francisco have CalEnviroScreen scores at or above the 75th percentile statewide. Therefore, few census tracts qualify as disadvantaged statewide—one tract each in the South of Market, Tenderloin, and Bayview-Hunters Point (Census Tract 231.03) neighborhoods. However, the available data provided by CalEnviroScreen also allows for relative comparison across a smaller geographic area, such as the City and County of San Francisco. Among the City's 195 census tracts, seven Bayview-Hunters Point tracts score at or above the citywide 75th percentile for CalEnviroScreen Scores, including tracts 230.01, 231.02, 231.03, 232, 233, 234, and 612. These tracts represent most of the Bayview-Hunters Point neighborhood.

CalEnviroScreen also allows for comparison of individual indicators, both statewide and citywide, to determine relative individual impacts. Section 4.3 of this report describes these relative impacts.

4.3.3 Regional Analyses

Golden Gate University / Bay Area Environmental Health Collaborative

The Bay Area Environmental Health Collaborative (BAEHC) comprises six environmental health coalitions—with more than 30 member organizations—working for the adoption of measures to reduce air pollution in heavily impacted communities throughout the San Francisco Bay Area. BAEHC's membership includes community-based organizations, environmental health and justice advocacy groups, and public health experts (BAEHC, 2015a). The BAEHC, sometimes in partnership with the Golden Gate University School of Law, has prepared several reports and studies relating to environmental justice, including those described below.



SOURCE: CalEPA, 2014

Figure 5
CalEnviroScreen Categories of Indicators

Still Toxic After All These Years

This 2007 report was prepared for the BAEHC by the University of California, Santa Cruz, Center for Justice, Tolerance, & Community. The report's purpose is to document existing environmental disparities in the Bay Area related to disproportionate exposure. It provides maps showing the proximity of toxic releases, as well as cancer risk from air toxics emissions, relative to neighborhood demographics—including race, ethnicity, income, and linguistic isolation—for the nine-county Bay Area. The report concludes that, even when controlling for income, land use, and other variables to explain differential exposure to toxics, race has an independent effect on estimated pollution burden (Center for Justice, 2007).

Cumulative Air Pollution Impact Maps

BAEHC prepared maps that indicate the cumulative number of environmental stressors in different communities across the Bay Area. The maps add individual layers for race, industrial polluters, freeway location, diesel emission concentrations, and asthma hospitalization rates. Regional maps for the entire Bay Area are available, as are maps for specific locations, including West Contra Costa County, the I-880 north corridor, and Southeast San Francisco (BAEHC, 2015b).

Bay Area Health Inequalities Initiative

The Bay Area Regional Health Inequities Initiative (BARHII) is a collaborative of public health directors, officers, senior managers, and staff from 11 San Francisco Bay Area health departments and the California Department of Public Health (Public Health Institute, 2015). BARHII developed a conceptual framework to illustrate the connection between social inequalities and health, and focus attention on measures that have not characteristically been within the scope of public health department actions. The initiative's *Health Inequalities in the Bay Area* report asserts that social, economic, and educational policies are all health policies. The report documents the local disparities in income, race/ethnicity, and neighborhood context (BARHII, undated-a). BARHII is also developing a resource guide for health professionals to use data from social determinants to address health inequalities (BARHII, undated-b). The organization's most recent report, *The Minimum Wage and Health: A Bay Area Analysis*, documents that minimum wage workers are more likely to have poorer health outcomes. The report does not provide data at the county or census tract level (BARHII, 2014).

Bay Area Air Quality Management District Community Air Risk Evaluation Program

In 2004, the Bay Area Air Quality Management District (BAAQMD) initiated the Community Air Risk Evaluation (CARE) program to identify areas with high concentrations of air pollution and populations most vulnerable to air pollution's health impacts. Maps of communities impacted by air pollution, generated through the CARE program, are being integrated into BAAQMD programs. The maps, along with information about pollutants and their sources that lead to the impacts, help prioritize actions designed to foster healthy communities

BAAQMD created maps comprising a regional emissions inventory for toxic air contaminants (TAC) from major sources of emissions in the Bay Area, including nearly 200 toxic gases or particles to predict concentrations of key toxic compounds and cancer risk associated with them. In addition to cancer risk from TAC, the maps account for increased mortality and illnesses from fine particulate matter (PM2.5) and ozone above background levels. Population vulnerability was accounted for in estimating health impacts from air pollution by using a community's existing baseline rates of mortality and illnesses (determined from health records) to determine increases in mortality and illness from air pollution. The eastern half of San Francisco is identified as an Impacted Community under CARE. The Bayview-Hunters Point neighborhood, as well as most of the City of Oakland, is identified as having high pollution vulnerability (BAAQMD, 2014).

4.3.4 Citywide Analyses

San Francisco Department of Public Health

San Francisco Indicator Project

Collaboration and partnerships across City agencies have generated policy development intended to improve the urban environment; address emerging health issues; protect citizens from traffic safety hazards, air pollution, and displacement; and improve opportunities for all residents to work and live in healthy, resource rich neighborhoods. Data has been a key tool in this work. Since 2007, these policy advancements have been supported by the data of the San Francisco Indicator Project (known in prior iterations as the Sustainable Communities Index [SCI] and the Healthy Development Measurement Tool [HDMT]). The Indicator Project is an online data repository that examines how San Francisco neighborhoods perform across eight dimensions of a vision for a healthy, equitable community. The Indicator Project was initially created through the Eastern Neighborhoods Community Health Impact Assessment (ENCHIA) process, a multi-stakeholder assessment project to ensure that land use planning occurring in the Mission, South of Market, and Potrero Hill/Showplace Square neighborhoods took into account, protected, and improved community health (SFDPH, 2015a). The eight community well-being dimensions in the Indicator Project include: environment, transportation, community cohesion, public realm (e.g., clinics, parks, cultural facilities, healthy food retail), education, housing, economy, and health systems. Each dimension contains multiple objectives, and each objective is supported by one or more indicators (SFDPH, 2015b). The Indicator Project provides a neighborhood profile for Bayview-Hunters Point that summarizes the indicator data for the neighborhood compared to the citywide data. The information provided in this neighborhood profile is discussed in detail where applicable in Section 4.4. For example, as described in Section 4.4.1, the Bayview-Hunters Point neighborhood has a greater concentration of contaminated sites per square mile than San Francisco as a whole (SFDPH, 2015b).

San Francisco Climate Health Website

In November 2014, SFDPH published the Climate and Health Profile. The report identifies the scope of climate impacts and associated potential health outcomes, as well as highlights populations and locations especially vulnerable to health impacts. After analysis of environmental,

demographic, and socioeconomic infrastructure and individual pre-existing indicators, the report concludes that there are certain neighborhoods in San Francisco that will be disproportionately affected by climate change (e.g., because the neighborhood is in a high heat vulnerability area, or because access to vital services is limited) which include: Chinatown & Downtown, Bayview-Hunters Point, South of Market, Excelsior, Crocker Amazon, Visitacion Valley, and Treasure Island (SFDPH, 2014b).

In April 2015, SFDPH announced the release of a new online tool presenting the information contained in the report. The tool presents neighborhood summaries and provides each with a scaled Resiliency Score (with 1 being the least resilient and 5 being the most resilient). The tool also provides a series of Indicator Maps, which uses maps to geographically compare the relative resiliency and vulnerability of San Francisco planning neighborhoods, each based on a single indicator (SFDPH, 2015c). As discussed in more detail in Section 4.4.4, the Bayview-Hunters Point neighborhood received a Resiliency Score of 1 (least resilient).

San Francisco Community Health Assessment & Profile

In 2011 and 2012, SFDPH, in coordination with nonprofit hospital and academic partners, and in collaboration with community residents and stakeholders, engaged in a 14-month community health assessment for San Francisco. The purpose of the project was to facilitate alignment of San Francisco's priorities, resources, and actions to improve health and well-being, ensure that health equity is addressed throughout program planning and service delivery, and promote community connections that support health and well-being. The assessment included comparison of demographic, social, and health indicators across neighborhoods within San Francisco, as well as comparisons to indicators statewide and nationally. The findings were published in the San Francisco Community Health Assessment & Profile (SFDPH, 2012a). SFDPH partially relied on data compiled from the Community Health Status Assessment (discussed further under "Health Care Services Master Plan," below). This work continues under the Community Health Improvement Plan (CHIP) for San Francisco.

Health Care Services Master Plan

The SFDPH Health Care Services Master Plan (HCSMP) was published in October 2013. The HCSMP is informed by the Community Health Status Assessment (Harder + Company, 2012) also prepared for the Community Health Assessment & Profile, above. The Community Health Status Assessment provides data for more than 150 indicators over the following 10 categories: demographic characteristics; socioeconomic characteristics; health resource availability; quality of life; behavioral risk factors; environmental health indicators; social and mental health; maternal and child health; death, illness, and injury; and communicable disease. The key findings of the assessment indicate that certain neighborhoods and subpopulations experience significant health disparities and inequalities (SFDPH, 2013a). For example, the Tenderloin, South of Market, and Bayview-Hunters Point neighborhoods far exceed the citywide rate and goal for preventable emergency room visits (Harder + Company, 2012). These findings are discussed in more detail in Section 4.4.3.

Community Risk Reduction Program and Air Pollutant Exposure Zone Mapping

BAAQMD, in collaboration with SFDPH and San Francisco Planning Department (Planning), prepared the Community Risk Reduction Program (CRRP) using air pollution dispersion modeling to identify and map regions of the City where current residents are exposed to higher levels of air pollution and where future residents, in new developments projects, may also be exposed. Air pollutants considered in the dispersion modeling analysis were direct emissions of particulate matter (PM) from many major source categories and direct emissions of TACs with documented cancer toxicities. The emissions estimates and modeling analyses were developed for three years: a base year (2010), a project development year (2014), and a future year (2025). On-road sources, stationary sources, Caltrain passenger diesel locomotives (assumed electrified by 2025), ships and harbor craft, the Transit Center bus depot, and major construction projects were included in the inventory (BAAQMD, 2012). Areas with poor air quality, termed the "Air Pollutant Exposure Zones," were identified based on health-protective criteria that consider estimated cancer risk, exposures to fine particulate matter, proximity to freeways, and locations with particularly vulnerable populations. The APEZ is identified mostly in downtown San Francisco and along major transportation routes including I-80, I-280, US-101, and the Embarcadero. The APEZ area within the Bayview-Hunters Point Neighborhood is also mostly located along these same major transportation routes, and includes the parcel on which the Southeast Plant is located, which is one block from I-280.(SFDPH, 2014c).

San Francisco Controller's Office: Assisting Homeowners with Troubled Mortgages

In October 2014, the San Francisco Board of Supervisors resolved that the Controller shall study the possible approaches to assisting homeowners with troubled mortgages, recommend possible foreclosure prevention measures, and establish a system that would mitigate the effects of another mortgage default crisis. The analysis located City zip codes where the prevalence of foreclosures was greatest, identified existing mortgage assistance programs that may be used to prevent foreclosure, and provided recommendation to create a new mortgage assistance program to restructure loans, as well as an emergency assistance program to target homeowners who have an unexpected hardship and have defaulted or are at risk of default. The report also proposed three ideas warranting further explanation, including exploration of a potential partnership with Community Development Financial Institutions (CDFIs), provision of enhanced legal assistance for homeowners against lenders violating mortgage servicing rules, and provision of enhanced pre-purchase housing counseling services for neighborhoods with high rates of high-cost loans and private-label-security loans (SF Controller, 2015).

San Francisco Unified School District: Census Tract Integration Preference Program

Under the Census Tract Integration Preference (CTIP) program, the San Francisco Unified School District (SFUSD) identified areas of the City where students had the lowest average test scores by calculating average test scores over a 7-year period for K-12 students, ranking all of San Francisco's census tracts, and then dividing the ranked tracts into quintiles representing geographic areas of

lower academic performance. The CTIP operates as a reference/tiebreaker in the choice student assignment process. It is designed to reduce the trend of racial isolation in education. The first round of census tract evaluation was in effect from 2010 to 2013, and zones have since been revised; however, the Bayview-Hunters Point census tracts remain within the lowest-scoring quintile after this revision (CTIP1) (SFUSD, 2013). These findings are discussed in more detail in Section 4.4.2.

San Francisco Planning Department Annual Reports

2014 Housing Inventory

The Planning Department undertakes an annual survey of housing production trends in the City, reporting on changes in housing stock, including construction, demolition, and alteration. This survey provides a basis for evaluating housing production goals and policies of the *Housing Element of the San Francisco General Plan*. The inventory reports the annual net gain in housing units citywide by general Zoning Districts and by Planning Districts, including District 10 (which includes Bayview-Hunters Point) (Planning, 2015a).

2013 Commerce & Industry Inventory

The Planning Department presents findings and data on economic activities in San Francisco over a period of 10 years. The short-term goal of the inventory is to make local land use-related economic data available to community groups, businesses, and private and public agencies. The long-term goal is to establish a consistent time series of economic land use-related data and compile background information for the *Commerce and Industry Element of the San Francisco General Plan* (Planning, 2014a).

San Francisco Neighborhoods Socioeconomic Profiles

In May 2011, the Planning Department published socioeconomic profiles of each neighborhood in the City, based on data from the 2006–2010 ACS 5-year estimates, including demographics, housing, income, employment, and journey to work. Much of the same ACS data is similarly reported for the 2005–2009 ACS in other sources, such as the Healthy Homes Project assessment (below) and the Indicator Project (above) (Planning, 2012).

4.3.5 Bayview-Hunters Point Analyses

San Francisco Healthy Homes Project Community Health Status Assessment

In 2012, the San Francisco Department of the Environment (SFDOE) and SFDPH published the San Francisco Healthy Homes Project Community Health Status Assessment (Healthy Homes Project assessment) to focus specifically on the Bayview-Hunters Point neighborhood and the public housing facilities within it. The assessment supports the Healthy Homes Project's efforts to apply strategic thinking to prioritize public health issues and identify resources to address them. The report documents indicators of demographics, environmental hazards, housing costs, transportation proximity, social cohesion and public safety, public infrastructure and access to goods and services, and health outcomes at the neighborhood level. Using this information, three

health status priorities were identified (premature mortality from violence, premature mortality from drug overdose, and avoidable chronic disease morbidity) and environmental and social factors that could impact these priorities were suggested. The report concludes with a summary of efforts being undertaken in Bayview-Hunters Point to address these issues, including SFDPH's Violence Prevention Network, methadone distribution efforts, air quality monitoring and improvement programs, and projects to enhance park and open space access (SFDOE and SFDPH 2012).

Diesel Pollution Reduction Project

The San Francisco Department of the Environment, in partnership with Greenaction for Health and Environmental Justice (Greenaction), a nonprofit organization focused on environmental justice issues within San Francisco, undertook the Diesel Pollution Reduction Project to quantify the diesel emissions sources within Bayview-Hunters Point, determine the health impacts on local residents, and recommend actions to reduce these negative health impacts. The neighborhood-level data provided is for the year 2007 and is divided into four categories: truck and bus emissions, railroad locomotive emissions, construction emissions, and diesel generator emissions (ICF, 2009).

Bayview-Hunters Point Industrial Area Targeted Brownfields Assessment

The USEPA's Targeted Brownfields Assessment (TBA) program is designed to help states, tribes, and municipalities minimize the uncertainties of contamination often associated with brownfields. TBAs supplement and work with other efforts under USEPA's Brownfields Program to promote the cleanup and redevelopment of brownfields. At the request of Arc Ecology, a San Francisco-based non-profit that provides technical services to environmental and economic justice communities, USEPA Region 9 in coordination with the United States Army Corps of Engineers conducted a TBA for the Bayview-Hunters Point Industrial Area (i.e., a study area primarily focusing on the site of the Hunters Point Naval Shipyard which is bounded by Oakdale Avenue to the north, Gilman Street to the south, Third Street to the west, and the San Francisco Bay / South Basin to the east) and neighboring properties and published its findings in 2012. The purpose of the TBA was to identify existing or potential environmental liabilities associated with the historical uses of and current operations on properties within the study area, and current conditions on the surrounding properties (Weston, 2012).

A Toxic Inventory of Bayview-Hunters Point

The Toxic Inventory was the result of a year-long collaboration between the Huntersview Tenants Association and Greenaction for Health & Environmental Justice that was funded by the San Francisco Foundation. The objective of the project was to mobilize, train, and empower community mothers in the fight for environmental health and justice in Bayview-Hunters Point, who then formed a grassroots community group called "The Bayview-Hunters Point Mothers Environmental Health & Justice Committee." The 2004 report contains the results of internet research and visits and phone calls to regulatory agencies. Information on pollution sources and hazardous waste sites was gathered using websites of the USEPA's Toxic Release Inventory and Envirofacts, BAAQMD, the California Department of Toxic Substances Control (DTSC), and the

Environmental Defense Fund's "Scorecard." Project partners made personal visits to the most important sites and to the USEPA Superfund Records Center in San Francisco to research if there had been any recent changes in the status of the sites. The report summarizes findings of the committee on the pollution burden of Bayview-Hunters Point and calls on government agencies to take remedial steps such as considering cumulative pollution sources when permitting industrial activities and following environmental justice principles in decision-making (Bayview-Hunters Point Mothers, et al, 2004)

Brownfields Assessment Project

The San Francisco Department of the Environment, in partnership with the Blue Greenway Project and Black Coalition on AIDS / Rafiki Wellness, is currently undertaking a Brownfields Assessment Project to select several brownfield sites in the southeast sector of San Francisco to be evaluated for potential reuse and development, and potential conversion to green open space. Study areas include Bayview-Hunters Point, Dogpatch, and portions of the Potrero Hill neighborhood. The project includes preparation of an inventory of potentially contaminated brownfield sites; prioritization of sites in order to select the top 10 for in-depth assessment; water and ground sampling; and site selection and reports written for site clean-up or end-use planning (Rafiki Wellness, 2014).

4.3.6 Other Project-/Plan-Specific Studies

The studies below were reviewed for applicable information that would enable comparisons of indicators between Bayview-Hunters Point and the entire City for environmental justice concerns.

Candlestick Point-Hunters Point Shipyard Phase II Environmental Impact Report (EIR)

The Planning Department prepared an Environmental Impact Report (EIR) analyzing the redevelopment of the waterfront area from south of India Basin to Candlestick Grove with a mixed use community of residential, retail, office, research and development, civic and community uses, and parks and recreational open space. The 2009 EIR found that the redevelopment project would result in significant and unavoidable impacts related to construction traffic, operational traffic, freeway diverge queues, transit travel times, bicycle travel, emissions of criteria air pollutants, construction groundborne vibration, construction noise, operational traffic noise, and the significance of historic resources (SF Planning, 2014b).

Executive Park Amended Subarea Plan and the Yerby Company and Universal Paragon Corporation (UPC) Development Projects Subsequent EIR

Since 1976, the 71-acre Executive Park Subarea Plan Area has been the subject of numerous development plans, environmental analyses, and City actions. The plan consists of amendments to the General Plan, Executive Park Subarea Plan of the Bayview-Hunters Point Area Plan, Planning Code, and zoning map, adopted in 2011. The amended Subarea Plan establishes an Executive Park Residential Special Use District within the Yerby and UPC development sites,

changes the zoning within this area from a C-2 (Community Business) District to an RC-3 (Residential-Commercial Combined, Medium Density) District, and changes the maximum allowable heights throughout this area to a range from 65 feet to 240 feet, among other controls. It also includes two specific mixed-use, multi-building development projects that would include demolishing existing office buildings within the Executive Park site. The EIR found that the Plan and/or projects would result in significant and unavoidable impacts related to traffic, shuttle service, noise, regional air quality, construction equipment exhaust, and sensitive receptors for pollutant concentrations (SF Planning, 2010). To date, there is no current development proposal for these projects (SF Planning, 2013).

Healthy HOPE SF

In the spring of 2009, SFDPH, the San Francisco Mayor's Office of Housing (MOH) and HOPE SF project developers for Potrero Terrace and Annex, Sunnydale, Westside Courts initiated a collaboration using SFDPH's SCI (then called the HDMT) as a framework to incorporate public health goals and needs in the HOPE SF process. (See discussion of SCI and HDMT under "San Francisco Indicator Project," above.) Designed to complement other ongoing assessment and resident engagement activities, this SFDPH Baseline Conditions Assessment (Healthy HOPE SF assessment) primarily involved more spatially refined analysis of geographic data from the SCI. The goal of this assessment was to provide information on the existing conditions of potential HOPE SF sites and to help identify priority needs in the master site planning and resident planning processes. By providing information about both the health-related assets and hazards of the sites, the reports was intended to allow decision-makers to make informed choices about the types of services and infrastructure that are useful at each site, more effectively using limited resources & targeting design mitigations. Indicators analyzed included demographics, public realm and education, transportation, environment, community, and housing (SFDPH, 2013b).

Eastern Neighborhoods

The Eastern Neighborhoods Program comprises the neighborhoods of Mission, Showplace Square, Potrero Hill, and the Central Waterfront. The plan areas do not include the Bayview-Hunters Point neighborhood. But as areas of mixed residential, commercial, and industrial / Production, Distribution and Repair (PDR) uses, they provide citywide context by which to consider issues relevant to southeast San Francisco (Planning, 2015b). Based on several years of community input and technical analysis, the program calls for transitioning about half of the existing industrial areas in these four neighborhoods to mixed use zones that encourage new housing. The other remaining half would be reserved for PDR districts, where a wide variety of functions—such as Muni vehicle yards, caterers, and performance spaces—are permitted. Draft plans were released in December 2007, and the Planning Commission finalized the plans in 2008. The plans generally contain sections addressing land use, housing, built form, transportation, streets and open space, economic development, community facilities, and historic resources. Several studies, including the ENCHIA, and the environmental impact report—were prepared in conjunction with the Plan.

Mirant Settlement Progress Report: Potrero Hill Community Health

The Mirant (formerly PG&E) Potrero Power Plant was located in the Dogpatch section of the Potrero neighborhood north of Bayview-Hunters Point. Unit 3, the primary power generator, consisted of an eight-story natural gas-powered boiler that produced superheated high pressure steam using San Francisco Bay water, which was directed back into the Bay. In addition to Unit 3, three diesel-powered peaking generators could be brought online to meet extra electricity demands. The plant was permanently shut down in January 2011. The San Francisco Board of Supervisors passed Ordinance No. 217-11 appropriating $1 million in settlement funds to SFDPH for neighborhood improvement and mitigation in the neighborhoods most impacted by the power plant, initiated in the 2011–2012 budget. The first report, released in April 2014, tracks the progress made in implementing funded projects in the Potrero Hill and Bayview-Hunters Point neighborhoods involving furnace filtration retrofits, asthma management and chronic obstructive pulmonary disease (COPD) education, asthma case management at San Francisco General Hospital, and other projects. The report references neighborhood indicator information available from the Indicator Project (SFDPH, 2014a).

4.4 Other Environmental Justice Indicators

This section provides a discussion of other environmental justice indicators and if these are considered environmental justice indicators for the Bayview-Hunters Point neighborhood. Table 5 provides a summary of these findings.

Based on the data available in the studies described in Section 4.3 of this document, this section presents a detailed discussion of each potential environmental justice indicator for Bayview-Hunters Point and comparisons to other geographies (statewide and citywide). Indicators are categorized under Pollution Burden, Neighborhood Characteristics, Population Characteristics, and Community and Social Engagement, and then further subcategorized based on the resource affected (e.g., diesel particulate emissions are categorized under Pollution Burden, and subcategorized within Air Quality). In cases where older sources or multiple sources of information are available, the most recent available data is presented, as well as older data as applicable.

Each discussion includes a preliminary screening of whether the indicator qualifies as an indicator of environmental justice concern. Although an indicator may suggest that Bayview-Hunters Point is adversely affected by the associated environmental effects, that indicator must be considered within the citywide reference community. In other words, an indicator may present an environmental problem, but the impacts of that problem are evenly spread (i.e., other surrounding communities are equally [or more substantially] affected) and needs to be addressed from that perspective, not with an emphasis on environmental justice.

To make this determination, the discussions below rely primarily upon USEPA guidance of whether the indicator presents effects that would be "disproportionately high and adverse." This means an adverse effect or impact that "(1) is predominately borne by any segment of the population, including a minority population and/or a low-income population; or (2) will be suffered by a minority population and/or low-income population and is appreciably more severe

or greater in magnitude than the adverse effect or impact that will be suffered by a non-minority population and/or non-low-income population" (USEPA, 2004).

It is acknowledged that "appreciably more" is a subjective term, depending on the interpretation of the characteristics, prevalence, and range of each indicator both within Bayview-Hunters Point and within other neighborhoods of the City. In cases where the data don't clearly show than an indicator is "appreciably more" in Bayview-Hunters Point than citywide, further discussion is provided to indicate whether Bayview-Hunters Point is "distinct from the larger reference community" (the City) with respect to that indicator.

Each subsection begins with a graphical table presenting each indicator discussed, as well as SFPUC's preliminary screening determination of whether each is an "indicator of concern" for environmental justice purposes. Indicators of concern present the possibility of appreciably more severe environmental effects.

4.4.1 Pollution Burden

Air Quality and Odors

Indicator Type	EJ Indicator	Notes Regarding Disproportionality
Ozone Concentrations		Citywide rates are all the same (and lowest statewide)
PM2.5 Concentrations	●	Percentage of people in an area with a PM2.5 concentration at or above 10 µg/m3 is 3.7 times the citywide percentage
DPM Concentrations		DPM concentrations below citywide average
Toxic Releases from Facilities		Rate of exposure to toxic releases is consistent with other tracts citywide
Cancer Risk from TACs	●	Percentage of people in an area with total cancer risk greater than 100 cases per 1 million people is 1.6 times the citywide percentage
Nuisance odors	●	Nuisance odors are a known issue for this neighborhood

Ozone Concentrations

Ground-level ozone pollution causes numerous adverse health effects, including respiratory irritation and lung disease. The health impacts of ozone and other criteria air pollutants have been considered in the development of health-based standards. Of the six criteria air pollutants (particulate matter, nitrogen dioxide, carbon monoxide, sulfur dioxide, ozone, and lead), ozone and particle pollution pose the most widespread and significant health threats. CARB maintains a wide network of air monitoring stations that provides information that may be used to better understand exposures to ozone. In the past 10 years, the Bay Area experienced an average of 11.5 days when the California 8-hour ozone concentration (0.070 parts per million) was exceeded (BAAQMD, 2015a).

CalEnviroScreen uses an indicator of daily maximum 8-hour ozone concentration over the California 8-hour standard, averaged over three years (2009 to 2011). The primary locations of high ozone concentration are in the Central Valley and Greater Los Angeles Area. Every census tract in Bayview-Hunters Point, as well as throughout San Francisco, is in the lowest percentile for statewide ozone concentration. Because every census tract citywide is in the lowest percentile compared to the state, Bayview-Hunters Point does not experience disproportionate adverse

ozone concentrations, and ozone is not an indicator of environmental justice concern for the neighborhood (CalEPA, 2014a; 2015).

Particulate Matter (PM2.5)

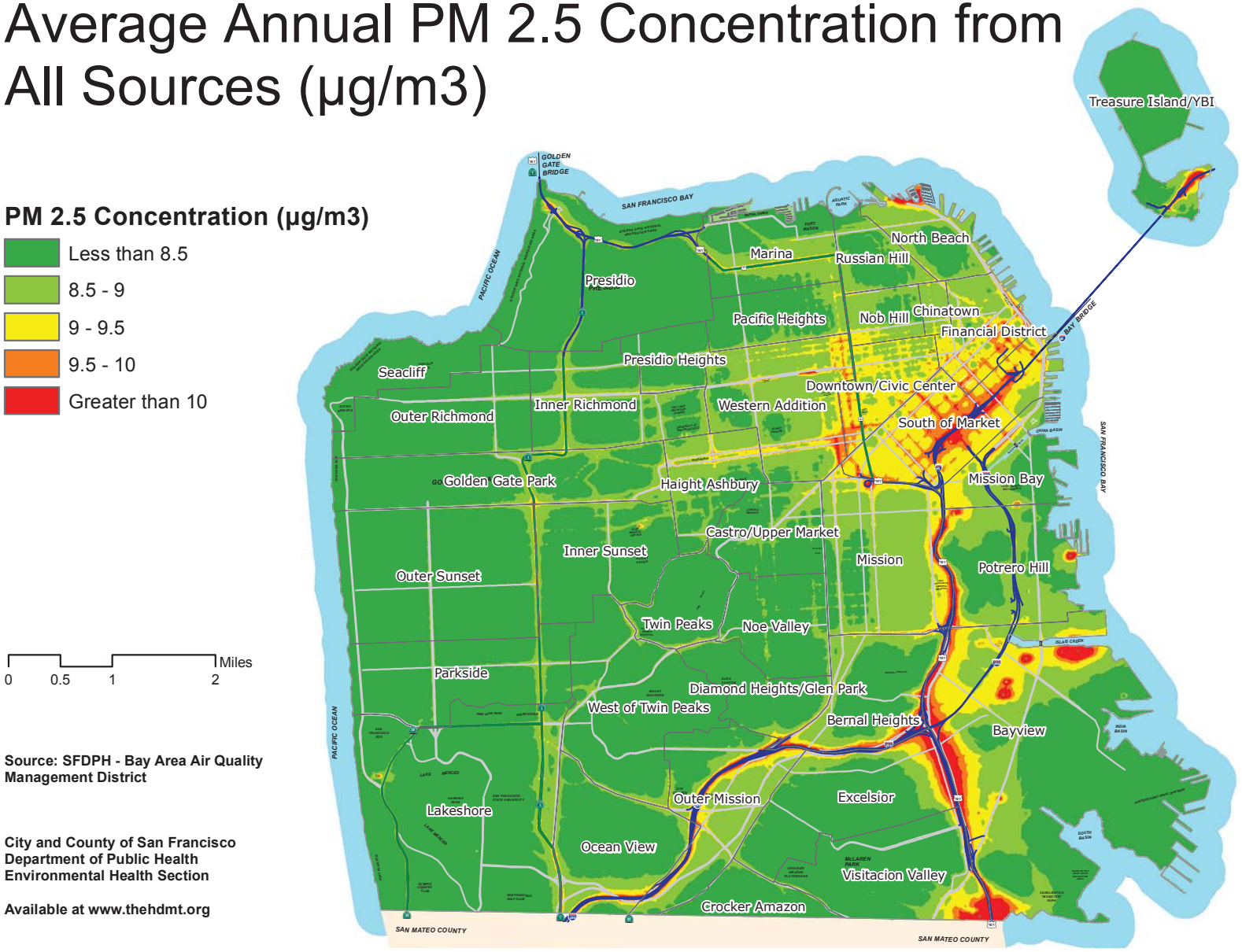
Particulate Matter, also known as soot or PM, consists of microscopically small solid particles or liquid droplets that can either be emitted directly into the air, or formed from secondary reactions involving gaseous pollutants that combine in the atmosphere. PM is usually measured in two size ranges: PM10 and PM2.5. PM10 refers to particles with diameters that are less than or equal to 10 microns in size (a micron, or micrometer, is one-millionth of a meter). PM2.5, also called "fine particulates," consists of particles with diameters that are less than or equal to 2.5 microns in size. PM2.5 is a more serious health concern than PM10, since smaller particles can travel more deeply into our lungs and cause more harmful effects (BAAQMD, 2015b).

Fine particle pollution has been shown to cause numerous adverse health effects, including heart and lung disease. The health impacts of PM2.5 and other criteria air pollutants have been considered in the development of health-based standards. CalEnviroScreen uses an indicator of the average of quarterly means of PM2.5 concentration over three years (2009 to 2011). The primary locations of high PM2.5 concentration are in the San Joaquin Valley and Greater Los Angeles Area. Every census tract in San Francisco, including every tract with in Bayview-Hunters Point, is among the least-polluted 20 percent of census tracts throughout the state for PM2.5 concentrations. Compared to San Francisco as a whole, all Bayview-Hunters Point tracts are in the top 25 percent of tracts with highest PM2.5 concentrations; however, the average concentration in Bayview-Hunters Point is 7.54 micrograms per square meter ($\mu g/m^3$), while the average for all San Francisco census tracts is 7.38 $\mu g/m^3$, a difference of about two percent (CalEPA, 2015). These values are well below the 12 $\mu g/m^3$ state standard for PM2.5.

However, according to the Indicator Project, in 2010, 4.4 percent of Bayview-Hunters Point population lived in an area with a PM2.5 concentration at or above 10 $\mu g/m^3$, compared to 1.2 percent of citywide population living in such an area (SFDPH, 2015b). As shown in **Figure 6**, most of the Bayview-Hunters Point neighborhood has a PM2.5 concentration below 8.5 $\mu g/m^3$, but concentrated areas of PM2.5 emissions exist in the northern and western portions of the neighborhood, concentrated around U.S. 101, the Islais Creek Channel (the location of a concrete batch plant), and the industrial areas including and surrounding the Southeast Plant. To determine whether the Bayview-Hunters Point rate is disproportionate compared to the citywide rate, SFPUC reviewed the rate for other neighborhoods. Of the 37 neighborhoods delineated by the San Francisco Planning Department, eight neighborhoods had rates higher than the citywide rate. Three neighborhoods stood out as having rates substantially higher than the citywide rate: the Financial District (7.1 percent), Mission Bay (15.8 percent), and South of Market (6.1 percent). These areas also are visible on Figure 6, where a higher concentration of PM2.5 is depicted surrounding I-80.

Twenty-four neighborhoods, representing 447,000 residents, had no population living in an area with 10 $\mu g/m^3$ or higher PM 2.5 concentrations. Given that more than half of all San Francisco City residents live in neighborhoods where no locations have concentrations of PM2.5 higher than 10 $\mu g/m^3$, the 4.4 percent of Bayview-Hunters Point residents living in an area with

Average Annual PM 2.5 Concentration from All Sources (µg/m3)



SOURCE: SFDPH, 2015b

Figure 6
Fine Particulate Matter (PM2.5) Concentrations 2010

concentrations 10 μg/m^3 or higher is considered a disproportionately greater percentage than the surrounding community (SFDPH, 2015b). Therefore, PM2.5 concentration is an indicator of environmental justice concern for the neighborhood.

Diesel Particulate Matter

Diesel particulate matter (DPM) is generated by both on-road and off-road sources, including trucks, buses, cars, ships, and locomotive engines. DPM is concentrated near ports, rail yards, and freeways. Exposure to DPM has been shown to have numerous adverse health effects including irritation to the eyes, throat and nose, cardiovascular and pulmonary disease, and lung cancer (BAAQMD, 2015b).

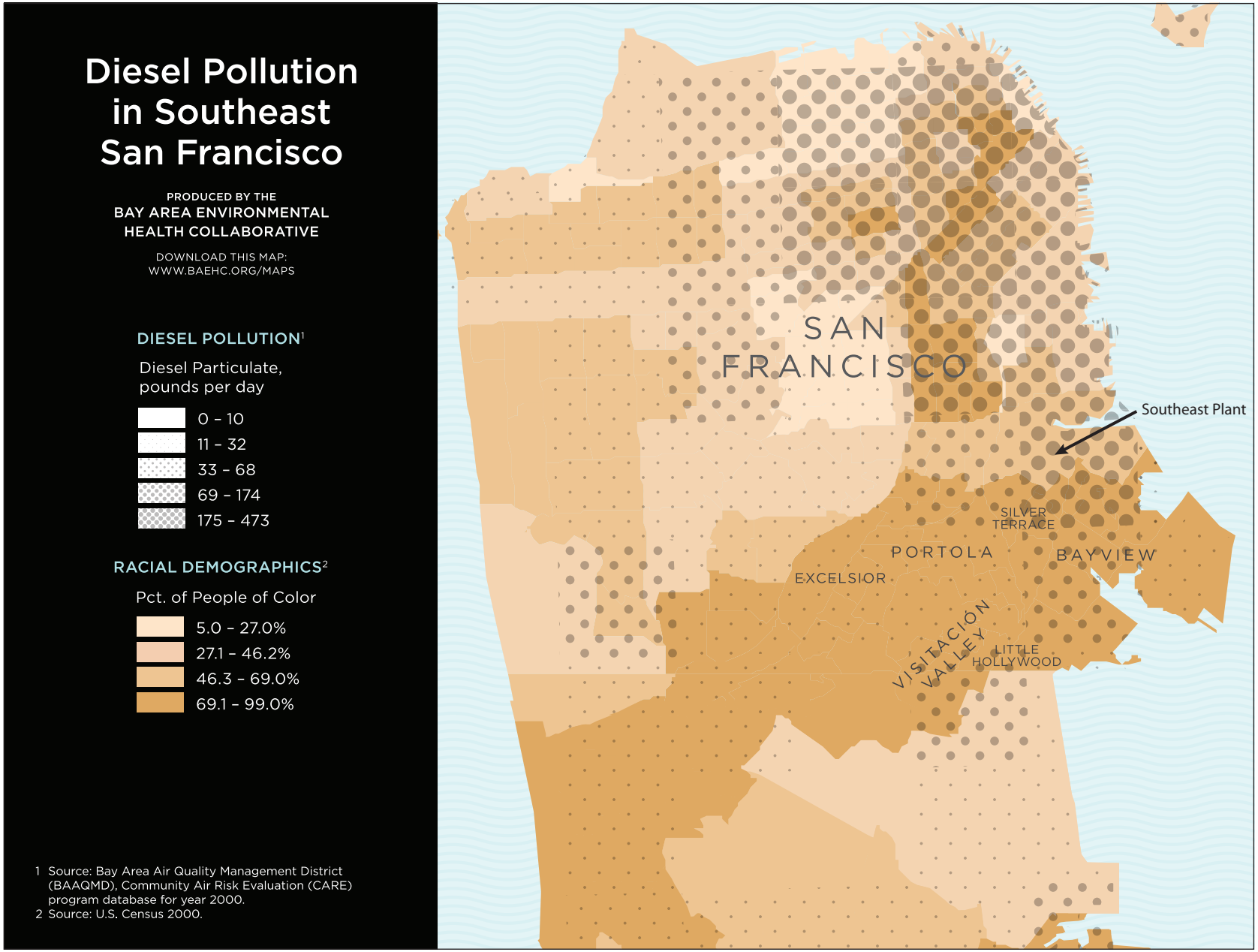
According to the Diesel Pollution Reduction Project, in 2007 DPM emissions in Bayview-Hunters Point were from the following sources: trucks and buses (23 percent), railroad locomotives (3 percent), construction (70 percent), and generators (4 percent). The highest excess cancer risk from that analysis was found in an area approximately bounded by 3rd Street, Oakdale Avenue, I-280, and Evans Avenue, perhaps driven by an aggregation of sources in that area, including the rail line, several diesel backup generators, and a major intersection (ICF, 2009).

CalEnviroScreen uses an indicator of DPM measuring spatial distribution of emissions for a 2010 summer day in July. The primary locations of high DPM concentration are urban areas, including the Bay Area, Greater Los Angeles, San Diego, and cities in the Central Valley. Every census tract in Bayview-Hunters Point except Census Tract 610 is within the most-polluted 20 percent of census tracts statewide for DPM concentrations. When DPM concentrations are compared across census tracts citywide, however, Bayview-Hunters Point tracts experience DPM concentrations below the citywide average (CalEPA, 2014a; 2015).

These citywide high concentrations of DPM are further shown in the 2000 Cumulative Air Pollution Impact Maps prepared by the BAEHC. As shown in **Figure 7**, although the Bayview-Hunters Point neighborhood does experience higher concentrations of DPM than neighborhoods on the west side of the City, the neighborhoods in the northeast of the City experience the overall highest concentrations of diesel pollution in northeast San Francisco (BAEHC, 2015). Therefore, DPM concentrations are not disproportionately higher in Bayview-Hunters Point than in the City as a whole, and DPM is not an indicator of environmental justice concern for the neighborhood.

Toxic Releases from Facilities

Several studies have examined the potential for health effects from living near facilities with permitted toxic releases. The CalEnviroScreen "Toxic Releases from Facilities" indicator relies upon the 2006 USEPA Risk Screening Environmental Indicators Toxic Release Inventory. USEPA gives each chemical release and potential exposure pathway a toxic weight. According to CalEnviroScreen, statewide the highest toxicity-weighted concentrations of chemical releases are near industrial facilities, including those in Greater Los Angeles, San Jose, Stockton, Sacramento, Pittsburgh, and Fresno. Census tracts in San Francisco rank between the 27th and 45th percentile for exposure to toxic releases from facilities, and census tracts in the Bayview-Hunters Point neighborhood rank between the 34th and 37th percentile. Citywide, approximately 40 percent of



SOURCE: BAEHC, 2000

Figure 7
Diesel Particulate Matter (DPM) Concentrations

census tracts are exposed to a higher level of toxic releases than the Bayview-Hunters Point neighborhood, approximately 35 percent of census tracts are exposed to a similar level of toxic releases as the Bayview-Hunters Point neighborhood, and approximately 25 percent of census tracts are exposed to a lower level of toxic releases than the Bayview-Hunters Point neighborhood (CalEPA, 2014a; 2015).

These findings are consistent with other studies. For example, the 2000 Cumulative Air Pollution Impact Maps prepared by the BAEHC indicate that although there are a few large industrial polluters and several small industrial polluters in the Bayview-Hunters Point neighborhood, substantially more large polluters are located to the north in the Mission, Potrero (Dogpatch), and South of Market neighborhoods (BAEHC, 2015). The Healthy Homes Project assessment determined that in 2007 approximately 1 percent of Bayview-Hunters Point households live in proximity (within 300 feet) of a stationary source of pollution, compared to 4 percent citywide (SFDOE and SFDPH, 2012). Similarly, the Healthy HOPE SF assessment concluded that the closure of the power generating stations in Hunters Point in 2006 and Potrero Hill in 2011 reduced the total number of Bayview-Hunters Point households living in proximity of a stationary source of pollution (SFDPH, 2013b).

Therefore, the Bayview-Hunters Point neighborhood is not considered to be disproportionately exposed to toxic releases from facilities.

Cancer Risk from Toxic Air Contaminants

Some analyses consider the combined health effects of toxic air contaminants (including DPM) to formulate an indicator of overall health or cancer risk due to air pollution. As defined in the State Health and Safety Code Section 39655, TACs are air pollutants that may cause or contribute to an increase in mortality, serious illness, or otherwise pose a threat to human health. There are 21 TACs identified by CARB, and emissions of these TACs are typically regulated through operating or permitting requirements and via controls on individual sources (CARB, 2015).

BAAQMD's CARE program found that DPM contributes more than 85 percent of total carcinogenic potential of emissions in the Bay Area. As modeled by BAAQMD, in 2005 West Oakland and the northeastern neighborhoods of San Francisco experienced the highest potential cancer risk. By the 2015 modeled year, region-wide risk is reduced, although West Oakland and northeast San Francisco still have the highest cancer risk. Based on these analyses, BAAQMD identified the entire eastern half of San Francisco as an "impacted community" (BAAQMD, 2014).

San Francisco's CRRP models incremental potential cancer risk for 2010. According to the program models, several locations in the Bayview-Hunters Point neighborhood—primarily along freeways and in proximity to industrial facilities—have an incremental risk greater than 100 cases per 1 million persons exposed. These high levels are also prevalent in neighborhoods in northeast San Francisco (BAAQMD, 2012). The City's Air Pollutant Exposure Zone (APEZ) maps reflect a similar level of exposure – in the 94124 zip code, the threshold for being within an APEZ is 90 cases per million (SFDPH, 2014c). According to the Indicator Project, 5.5 percent of Bayview-

Hunters Point residents live in an area with total cancer risk greater than 100 cases per 1 million people, compared to 3.3 percent of residents citywide (SFDPH, 2015b).

To determine whether Bayview-Hunters Point cancer risk rate is "disproportionately greater" than the citywide rate, SFPUC reviewed the rate for other neighborhoods. Of the 37 neighborhoods delineated by the San Francisco Planning Department, seven neighborhoods have rates higher than the citywide rate. Three neighborhoods stood out as having rates substantially higher than the citywide rate of 3.3 percent: the Financial District (16.5 percent), Mission Bay (28 percent), and South of Market (27.8 percent). However, 22 neighborhoods, representing 402,000 residents, had no residents living in an area with cancer risk greater than 100 cases per 1 million people. Given that approximately half of all City residents live in such areas, the 5.5 percent of Bayview-Hunters Point residents living in such an area is considered a disproportionately greater percentage than the surrounding community (SFDPH, 2015b). Therefore, cancer risk from TACs is considered an indicator of environmental justice concern for the neighborhood.

Nuisance Odors

Although there is currently no standard method of tracking or measuring the frequency, intensity, or nature of nuisance odors in San Francisco, with the publication of its 1998 Southeast Plant Odor Control Master Plan, the SFPUC acknowledged nuisance odors to be an issue around the Southeast Plant, located in Bayview-Hunters Point. Because this neighborhood is home to the Southeast Plant, which processes 80 percent of the City's wastewater, and most other neighborhoods in San Francisco do not have such facilities located within or near them, nuisance odors are assumed to be an indicator of environmental justice concern for Bayview-Hunters Point for the purposes of this report.

As part of its evaluation of the proposed Southeast Plant Biosolids Digester Facilities Project currently underway, SFPUC is undertaking an odor evaluation to provide a baseline for analysis of the project and its objective of no detectable odors from the biosolids facilities beyond the facility fence line. The odor characterization study will provide an up-to-date evaluation of odor emissions from the Southeast Plant using trained evaluators and dispersion modeling. Although this odor characterization study will focus on the Southeast Plant and will not provide comparative citywide data, as discussed above, it is clear that the presence of the Southeast Plant in Bayview-Hunters Point is a source of nuisance odors that is not present in other neighborhoods. The discussion of nuisance odors will be further informed by the results of the odor characterization study and evaluation of the proposed Biosolids Digester Facilities Project.

Traffic

Indicator Type	EJ Indicator	Notes Regarding Disproportionality
Traffic Density	●	Only an indicator for western census tracts near U.S. 101 and I-280
Truck Routes		Lower percentage of residents live near truck routes than citywide
Outdoor Noise Levels		Lower percentage of residents live in an area of high outdoor noise than citywide
Traffic-Related Injuries		Lower rates of injuries than citywide

Traffic Density

As stated above, proximity to roadways results in exposure to air pollution and associated adverse health outcomes. According to CalEPA, major roadways have been associated with a variety of other effects on communities, including noise, vibration, injuries, and local land use changes (such as increased numbers of gas stations and other auto-oriented services). CalEnviroScreen calculated traffic density using 2004 traffic volumes by segment and total road length. Statewide, higher traffic densities are correlated with locations of high population density, including the San Francisco Bay Area, Greater Los Angeles, San Diego, and cities in the Central Valley. Several census tracts in San Francisco, including the four census tracts within Bayview-Hunters Point in proximity of U.S. 101 and I-280 (tracts 230.01, 233, 610, and 9809), rank as having some of the highest traffic densities statewide (CalEPA, 2014a; 2015).

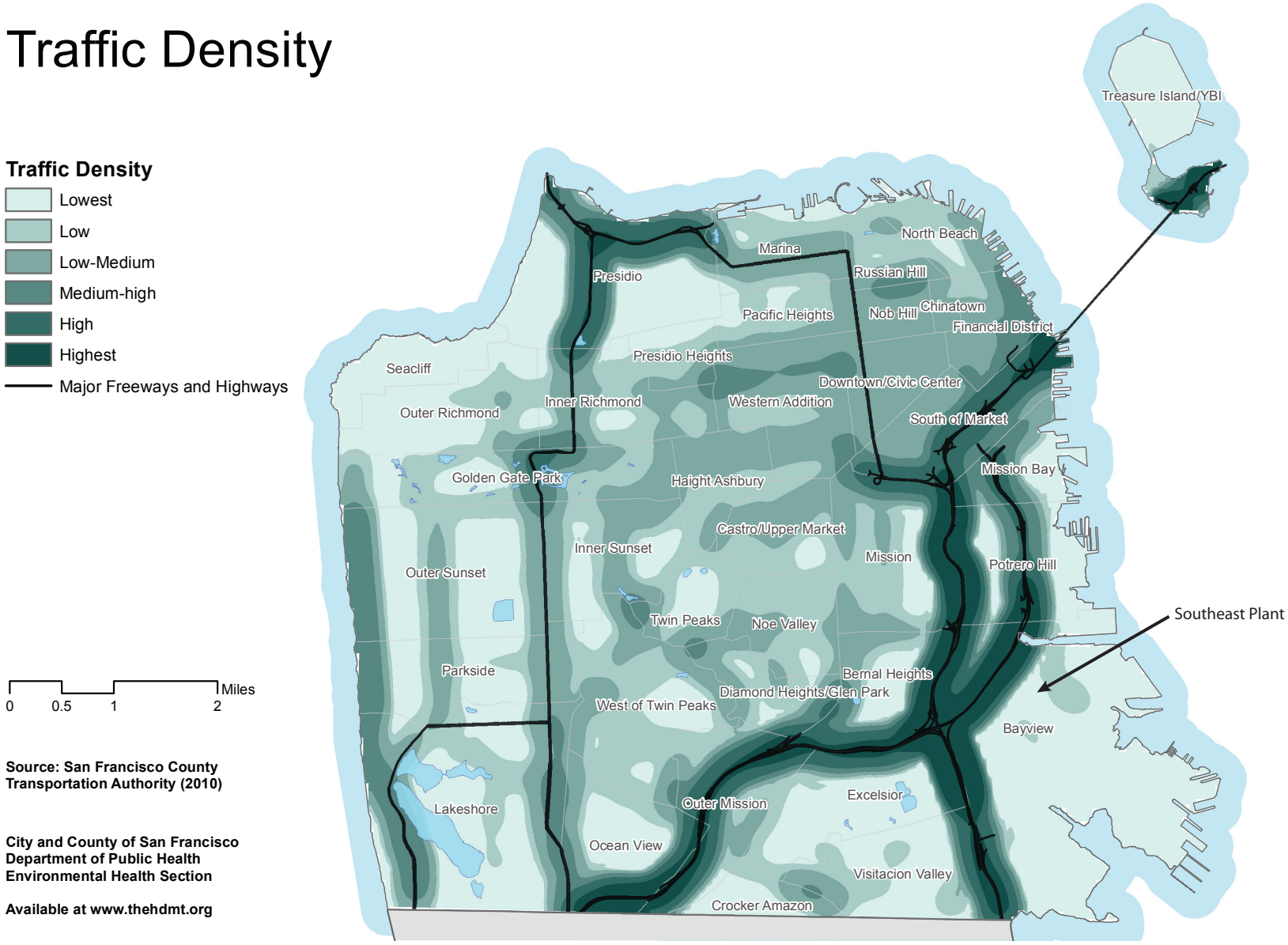
When analyzed as a whole, the Bayview-Hunters Point neighborhood experiences average traffic densities as compared to the remainder of the City using the CalEnviroScreen methodology. The high traffic in the four westernmost tracts is offset by the very low traffic densities in the seven eastern tracts (CalEPA, 2014a; 2015). This is borne out in the Indicator Project methodology, as well. As shown in **Figure 8**, the highest 2010 citywide traffic densities are along the highways in the western portion of Bayview-Hunters Point, and the citywide lowest traffic densities are in most of the remaining neighborhood (SFDPH, 2015b).

However, the traffic densities in western portion of the neighborhood exceed the traffic densities of more than 85 percent of the remaining tracts in the City (CalEPA, 2015). Moreover, traffic on Route 101 and I-280, both of which traverse the neighborhood, is anticipated to continue to increase. According to the San Francisco County Transportation Authority (SFCTA), more than 100,000 new person-trips to and from San Francisco's downtown, southeast, and the South Bay are projected through 2040 (SFCTA, 2014). Therefore, traffic densities in these tracts are (and will be) disproportionately greater than densities in the rest of the City, and they are considered an indicator of environmental justice concern for Bayview-Hunters Point.

Truck Routes

The proximity to truck routes is an indicator similar to traffic density, in that it is used as proxy to measure exposure to mobile-source noise and air pollution. As indicated above, traffic exhaust is associated with negative cardiovascular and respiratory health outcomes. Truck routes comprise freight traffic routes, major arterials, and key secondary arterials. According to the Indicator Project and the Healthy Homes Project assessment, in 2009 about 38 percent of Bayview-Hunters Point

Traffic Density



SOURCE: SFDPH, 2015b

Figure 8
Traffic Density

residents lived within 150 meters of designated truck routes. This is compared to approximately 44 to 48 percent of households citywide. The neighborhoods with the highest percentage of households living in proximity to truck routes are Downtown/Civic Center (99 percent), South of Market (97 percent), Mission Bay (91 percent), the Financial District (89 percent), Mission (66 percent), Western Addition (65 percent), and the Marina (63 percent). Bayview-Hunters Point ranks 23rd out of all 37 neighborhoods for this indicator (SFDOE and SFDPH, 2012; SFDPH, 2015b). Therefore, proximity to truck routes is not considered an indicator of environmental justice concern for Bayview-Hunters Point.

Outdoor Noise Levels

According to the Healthy Homes Project assessment, moderate levels of traffic noise are associated with higher risk for hypertension and heart disease, and may contribute to sleep disturbance. Chronic roadway noise can also affect cognitive performance in children. The project determined that Bayview-Hunters Point has a "high proportion" of streets with 24-hour noise levels between 66 and 75 decibels (dB) in 2006 (SFDOE and SFDPH, 2012). In addition, the Healthy HOPE SF assessment determined that the Potrero Terrace/Annex, Alice Griffiths, Hunters View, and Westside Court developments have a higher 24-hour noise exposure level compared to the citywide average (SFDPH, 2013b).

The Indicator Project measures the percent of population of each neighborhood living within an area with average daytime and nighttime noise levels (day-night average sound level or Ldn) greater than 60 dB in 2010. Citywide, 70 percent of all residents live in such an environment. In Bayview-Hunters Point, 67 percent of residents live in such an area. The neighborhoods with the highest percentage of the population living in these areas are Downtown/Civic Center, Western Addition, the Financial District Haight Ashbury, South of Market, Mission Bay, and Nob Hill. In all of these neighborhoods, more than 90 percent of the population is exposed to outdoor noise levels exceeding Ldn 60 dB. Bayview-Hunters Point ranks 22nd out of all 37 neighborhoods for this indicator (SFDPH, 2015b). Therefore, outdoor noise levels are not considered an indicator of environmental justice concern for Bayview-Hunters Point.

Traffic-Related Injuries

The Indicator Project provides data on the number of severe and fatal traffic injuries (all modes) per 100 road miles, annually from 2006 to 2010. San Francisco averaged 21 total severe or fatal injuries annually per 100 miles of roadway during that time, and Bayview-Hunters Point averaged 16 injuries annually per 100 miles of roadway. The neighborhoods with the highest number of total injuries annually per 100 miles of roadway were Downtown/Civic Center, Chinatown, Western Addition, South of Market, the Financial District, and Nob Hill. Bayview-Hunters Point ranked 20th out of all 37 neighborhoods for this indicator. Pedestrian, cyclist, and driver injury rates followed a similar pattern, in that the highest rates were generally concentrated in neighborhoods in northeast San Francisco (SFDPH, 2015b).

The Healthy Homes Project assessment made congruent findings. Between 2004 and 2008, there were 101 pedestrian injuries and deaths per 100,000 residents citywide, and 74 pedestrian injuries

and deaths per 100,000 residents in Bayview-Hunters Point (SFDOE and SFDPH, 2012). Similarly, the Healthy HOPE SF assessment noted that pedestrian injury rates are low in Bayview-Hunters Point overall compared to the citywide average (SFDPH, 2013b).

Therefore, traffic-related injuries are not an issue of environmental justice concern for the neighborhood.

Hazardous Materials Generators, Sites, and Contamination

Indicator Type	EJ Indicator	Notes Regarding Disproportionality
Polluted Discharges / Impaired Water Bodies		Census tracts in proximity to Bay, Golden Gate, and Ocean all have high rates
Drinking Water Contamination		SFPUC water is some of the least contaminated in the state
Agricultural Pesticide Use		Data not available for or applicable to BV-HP
Presence of Cleanup / Brownfield Sites	●	While several neighborhoods have a higher concentration of sites, approximately one-third of all sites citywide are located in BV-HP
LUST Concentration		LUSTs are most associated with gas stations, evenly distributed throughout City
Hazardous Waste Generators / Facilities Proximity	●	Proximity score between 1.3 and 2.5 times the citywide average
Solid Waste Sites and Facilities Proximity	●	Highest concentration in BV-HP compared to all other neighborhoods
Groundwater Threats		Groundwater is not used as a potable supply in San Francisco
Zoning for Industrial Uses	●	More than half of all industrial-zoned land in City is in BV-HP

Polluted Discharges / Impaired Water Bodies

According to CalEPA, contamination of streams, rivers, and lakes by pollutants can compromise the use of the water body for beneficial use. When this occurs, such bodies are considered "impaired" according to Section 303(d) of the Clean Water Act (CalEPA, 2014a). The entire San Francisco Bay, the Central Basin (east of Mission Bay), and Islais Creek are considered impaired water bodies. The San Francisco Bay Central Basin is listed as impaired based on concentrations of mercury, chlordane (a pesticide banned in the United States since 1988), and polychlorinated biphenyls (PCBs, a class of cancer-causing chemicals banned in the United States since 1979). Islais Creek is listed as an impaired water body for ammonia, chlordane, dieldrin (an insecticide widely used from the 1950s through the 1970s), and several other pollutants. With the exception of mercury, which has several known sources such as atmospheric deposition from coal-fired power plant exhaust, gold mining, and industrial and domestic uses, the sources of these pollutants in the Bay and Islais Creek are listed as "unknown" (SWRCB, 2012).

The following facilities currently have permits to discharge into Islais Creek: SFPUC Southeast Plant and the Tidewater Sand and Gravel (Hanson Aggregates) facility. The Potrero Power Plant had a permitted discharge into the Bay until its closure (Bayview-Hunters Point Mothers, 2004; SWRCB, 2016). The Hanson Aggregates facility is permitted to discharge from one location near the mouth of Islais Creek and is subject to effluent limitations for a number of pollutants including PCBs (San Francisco Bay Regional Water Quality Control Board, 2015). In dry weather the one permitted discharge point on the bayside is from the Southeast Plant through a deep

water outfall with a diffuser at Pier 80 just north of the Islais Creek channel. This discharge is subject to permit limits for contaminants including mercury and PCBs. In wet weather, the bayside treatment plants discharge points are the deepwater outfall at Pier 80, a shallow water outfall in Islais Creek, as well as two locations to the north (Piers 33 and 35) where four deep water outfalls from the North Point wet weather facility are located.

If the capacities of the Southeast Plant, the North Point Facility, and the storage of the transport/storage boxes are exceeded, wastewater in the storage/transport structures is discharged through Combined Sewer Discharge (CSD) structures after first receiving the equivalent of primary wet weather treatment including baffling and settling. The CSD discharges are not disinfected, so they may contain bacteria levels which are higher than the State standards for recreational use. The bacteria levels in the receiving water bodies usually return to below State standards within a few days. Of the 29 CSD points on the bayside, 11 are located in the Bayview-Hunters Point neighborhood. From 1998 to 2015, CSD events occurred approximately three times per year at locations in the North Shore Basin, approximately ten times per year in the Central Basin, and approximately once per year in the Southeast Basin. The discharges from all these facilities are regulated by NPDES permits issued from the Regional Board and are written to ensure that water quality is protected.

CalEnviroScreen provides an indicator of impaired water bodies within an area, using information compiled by the SWRCB. The 11 Bayview-Hunters Point census tracts rank within the highest 20 percent of census tracts statewide for this indicator, as do half the census tracts in the City. This includes census tracts in proximity to the Bay, the Golden Gate, and the Pacific Ocean. Therefore, although Bayview-Hunters Point is in proximity to an impaired water body, this proximity is not a disproportionate effect compared to other parts of the City, and is not considered an issue of environmental justice for the neighborhood (CalEPA, 2014a; 2015).

Drinking Water Contamination

Elevated levels of drinking water contaminants are associated with birth defects, miscarriages, and normal human development. Some specific contaminants, such as arsenic, are known human carcinogens. California water systems have a high rate of compliance with drinking water standards. According to the State's Department of Health, in 2011 systems serving between 1.4 and 2.7 percent of the population were in violation of such standards. CalEnviroScreen measures a combination of contaminant data to account for relative concentrations of different contaminants over a compliance cycle (2005 – 2013). Higher rates of contamination are dispersed statewide. San Francisco, like other urban areas (including Los Angeles, San Diego, and Sacramento) has some of the least contaminated water in the state. Almost every census tract in the City, including in the Bayview-Hunters Point neighborhood, is at approximately the 7th percentile statewide for drinking water contamination (CalEPA, 2014a; 2015).

The SFPUC Water Quality Division regularly tests water samples from reservoirs and designated sampling points throughout the water system to ensure that water delivery meets or exceeds federal and State drinking water standards. In 2013, more than 102,650 such tests were conducted. USEPA's third Unregulated Contaminant Monitoring Rule (UCMR#3), published in

2012, lists a total of 28 chemical contaminants and two viruses for monitoring by some public water systems over the compliance cycle. SFPUC's result indicated that only five of the 28 contaminants were present, each detected at low levels, most of which are naturally occurring in the watershed (SFPUC, 2013).

Bayview-Hunters Point does not experience disproportionate concentrations of drinking water contaminants as compared to the rest of the City, and drinking water contamination is not an indicator of environmental justice concern for the neighborhood.

Agricultural Pesticide Use

Communities near agricultural fields may be at risk from pesticide use. High use of pesticides has been correlated with exposure and with acute pesticide-related illness, and there is evidence of association with chronic disease outcomes. Pesticide use, especially use of volatile chemicals that can easily become airborne, can serve as an indicator of potential exposure. Statewide pesticide information is available from the California Department of Pesticide Regulation, which maintains an air monitoring network in agricultural areas. Non-agricultural pesticide use data is only available at the county scale. Therefore, CalEnviroScreen does not include analyses of pesticide use at a geographic scale that would provide information about Bayview-Hunters Point compared to San Francisco as a whole. Because of the near absence of agricultural uses in San Francisco, agricultural pesticide use is not an indicator of environmental justice concern for the neighborhood (CalEPA, 2014a; 2015).

Cleanup Sites / Brownfield Sites

"Brownfield" sites are defined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant" (42 U.S.C. §9601). Beginning in the mid-1990s, the USEPA provided small amounts of seed money to local governments to launch brownfield "pilot" projects, and developed guidance and tools to help states, communities, and other stakeholders in the cleanup and redevelopment of brownfield sites (USEPA, 2015c). Cleanup sites present a potential for people to come into contact with hazardous substances. Hazardous substances can move off-site and impact surrounding communities through volatilization, groundwater plume migration, or windblown dust. Also, some of these sites are underutilized due to cleanup costs or concerns about liability, which reduces active use of the land.

Compilation of Sites

The 2007 Targeted Brownfields Assessment documented every recognized environmental condition (REC) in Bayview-Hunters Point. RECs are defined as "…the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws." The study concluded that

hundreds of sites within 0.25 mile of Bayview-Hunters Point have had regulatory involvement, including sites in compliance with laws, cleanup sites, and sites containing leaking underground storage tanks (LUST) (discussed further in the next section) (Weston, 2012).

The 2004 Toxic Inventory of Bayview-Hunters Point includes a list of seven sites that were characterized by the USEPA for potential inclusion on the National Priorities List, USEPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under Superfund. Among these, only the Hunters Point Naval Shipyard was eventually included in the National Priorities List and designated as a Federal Superfund site. Cleanup has been completed on portions of the site that have been transferred to San Francisco, and is ongoing on most of the site (USEPA, 2015d). For the other six sites, cleanup was determined to be completed, or the USEPA determined that no further action was needed. (Bayview-Hunters Point Mothers, 2004)

A search of the DTSC EnviroStor database shows that in addition to the Hunters Point Naval Shipyard Superfund site, the only active cleanup site in Bayview-Hunters Point is the Potrero Power Plant (listed as "voluntary cleanup") (DTSC, 2015).

Comparison to Citywide Data

Using DTSC data, CalEnviroScreen provides an indicator of the sum of weighted sites within and nearby each census tract, with sites weighted by their relative proximity to the census tract. Using this indicator, seven of the 11 Bayview-Hunters Point census tracts rank in the top 20 percent statewide for their proximity to cleanup sites (tracts 231.02, 231.03, 232, 234, 610, 9806, 9809). These same seven tracts rank in the top 15 percent citywide for their proximity to Cleanup sites (CalEPA, 2014a; 2015).

The Indicator Project provides a similar indicator, measuring the distribution of active brownfield sites per square mile in 2011. The Indicator Project states that a key characteristic of brownfields is that they are targeted for redevelopment. Bayview-Hunters Point has 3.9 such sites per square mile, while citywide there are 2.1 such sites per square mile. Citywide, the neighborhoods with the scores indicating higher concentrations of active brownfield sites are Treasure Island (15.8), South of Market (12.3), Potrero Hill (11.7), Chinatown (7.5), Financial District (7.2), North Beach (6.4), Marina (6.2), and Russian Hill (4.2) (SFDPH, 2015b). These higher scores reflect the City's past and present industrial uses, which are concentrated in the northeastern and eastern neighborhoods. The higher concentration of cleanup sites in such a large swath of the City indicates that although the presence of these sites may be of concern for Bayview-Hunters Point, their relative concentration by number per square mile within Bayview-Hunters Point is low.

The Healthy Homes Project assessment uses a different indicator for assessing the presence of brownfields. Instead of measuring the distribution of brownfield sites per square mile, it quantifies total brownfield sites in Bayview-Hunters Point using DTSC data. In 2007, there were 30 brownfield sites citywide; nine of these sites were in Bayview-Hunters Point (SFDOE and SFDPH, 2012). This indicator considers Bayview-Hunters Point's relative larger size (4.89 square miles) as compared to the other neighborhoods with higher concentrations of brownfield sites: Treasure Island (0.89 square miles), South of Market (1.38 square miles), Potrero Hill (1.37 square miles), Chinatown

(0.13 square miles), Financial District (0.69 square miles), North Beach (0.62 square miles), Marina (0.97 square miles), and Russian Hill (0.48 square miles).

Given that approximately one-third of all brownfield sites citywide are located in Bayview-Hunters Point, the total number of brownfield sites is an indicator of environmental justice concern for Bayview-Hunters Point. Further, based on information available from the DTSC EnviroStor database, the active cleanup sites within the Bayview-Hunters Point occupy approximately 1.4 square miles of the neighborhood's 4.89 square miles, approximately 29 percent of the land area within the neighborhood. Treasure Island has a comparable ratio of land area within active cleanup sites, but Potrero Hill has one active cleanup site covering less than 1 percent of the land area in the neighborhood, and other neighborhoods with relatively high concentrations of sites by number per square mile were found also to have low rations of land area with active sites. Therefore, using this metric, the concentration within Bayview-Hunters Point is disproportionately large, contributing to the determination that the presence of brownfield sites is an indicator of environmental justice concern.

Leaking Underground Storage Tanks

According to CalEPA, a LUST is a tank and any pipes connected to it that is used for the storage of hazardous substances and that is substantially or totally beneath the surface of the ground. Although it technically falls under the category of a brownfield, it requires its own regulations due to the potential threat to drinking water (CalEPA, 2014a). As of August 2004, the SWRCB listed 187 LUSTs with at least one unauthorized release of fuel in the 94124 zip code of Bayview-Hunters Point (Weston, 2012).

The Indicator Project notes that LUSTs are generally evenly distributed throughout the City, given that most of them are related to gas station use. The Indicator Project measures the distribution of LUST sites per square mile in 2011. Bayview-Hunters Point has 3.1 such sites per square mile, while citywide there are 2.6 such sites per square mile (SFDPH, 2015b). Because the concentration of LUST sites is not disproportionately greater than the citywide average, and given the relative distribution of such sites citywide, the concentration and presence of LUST sites is not an indicator of environmental justice concern for Bayview-Hunters Point.

Hazardous Waste Generators and Facilities

According to CalEnviroScreen, hazardous waste by definition is potentially dangerous or harmful to human health or the environment. USEPA and DTSC both have standards for determining when waste materials must be managed as hazardous waste. Studies have indicated that health effects, including diabetes and cardiovascular disease, are associated with living in proximity to hazardous waste sites. Using DTSC's EnviroStor Hazardous Waste Facilities Database and Hazardous Waste Tracking System, CalEnviroScreen measures the weighted sum of permitted hazardous waste facilities and hazardous waste generators within each census tract during years 2010 and 2012 (CalEPA, 2014a).

The four Bayview-Hunters Point northeastern-most census tracts (tracts 231.02, 231.03, 612, and 9809) rank among the top 15 percent of tracts statewide for the presence of hazardous waste

generators and facilities. These same four tracts rank among the top 25 percent of tracts citywide. The CalEnviroScreen score for these census tracts ranges from 1.05 to 2.01, which is 1.3 to 2.5 times the citywide average of 0.78. The remaining seven census tracts in Bayview-Hunters Point have a score lower than the citywide average. According to CalEnviroScreen, the tracts with the highest scores citywide are located in the Financial District, South of Market, Mission Bay, Potrero Hill, and other tracts in the northeastern portion of the City (CalEPA, 2015). Because the score indicating the presence of hazardous waste generators in Bayview-Hunters Point can be more than double the citywide average, the presence of hazardous waste generators and facilities is an indicator of concern for environmental justice in Bayview-Hunters Point.

Solid Waste Sites and Facilities

Solid waste sites and other types of facilities (such as composting, transfer, treatment, and recycling facilities) can have multiple impacts on a community, including air pollution, ground and water contamination, odors, vermin, and increased truck traffic. Although all active solid waste sites are regulated, CalRecycle has recorded a number of old closed disposal sites and landfills that are monitored less frequently. CalRecycle maintains data on facilities that operate within the state, as well as sites that are abandoned, no longer in operation, or illegal. According to the Toxic Inventory of Bayview-Hunters Point, in 2004 there were two permitted solid waste transfer facilities; two waste tire facilities; and five closed, illegal, and abandoned disposal sites in the neighborhood (Bayview-Hunters Point Mothers, 2004).

According to CalEnviroScreen, four census tracts in the Bayview-Hunters Point neighborhood (tracts 610, 9809, 233, and 234) rank among the top 25 percent of tracts statewide for proximity to such facilities (with the proximity weighted depending on facility characteristics). Citywide, these four census tracts rank higher than all others for proximity to such facilities. Each of the 11 census tracts in the Bayview-Hunters Point neighborhood rank in the top 10 percent of tracts citywide for proximity to these facilities. No other neighborhood, with the exception of the Little Hollywood portion of Visitacion Valley, is in such close proximity to waste facilities (CalEPA, 2015). Therefore, proximity to solid waste facilities is an issue of concern for environmental justice for Bayview-Hunters Point.

Groundwater Threats

CalEnviroScreen includes a specific indicator for groundwater threats. This indicator relies upon information from the Geotracker Database maintained by the SWRCB and includes data related to storage and disposal of hazardous materials on land and in underground storage tanks (including LUSTs) at various types of commercial, industrial, and military sites. The indicator takes into account information about the type of site, its status, and its proximity to populated census blocks. The four southeastern-most Bayview-Hunters Point census tracts (tracts 231.03, 232, 610, and 9806) rank among the top 10 percent of tracts statewide for the presence of groundwater threats. These same four census tracts rank among the top six tracts citywide for the presence of groundwater threats (tracts 226 and 607, along the eastern waterfront in the Potrero / Dogpatch neighborhood, are the two others). The groundwater threat indicator scores for these tracts are between 4.6 and 35.8 times as high as the citywide average (CalEPA, 2014a; 2015).

Therefore, groundwater threats are disproportionately greater in Bayview-Hunters Point than they are citywide. Groundwater is not used as a recognized or approved potable water source in Bayview-Hunters Point. Potable water is provided by SFPUC from the Hetch Hetchy system. Therefore, groundwater threats are not an indicator of environmental justice concern in the southwestern portion of Bayview-Hunters Point. However, conversations with community members have indicated that there are groundwater wells present in Bayview-Hunters Point for which no documentation is known to exist; therefore, the amounts and uses of groundwater drawn from such wells is unknown. SFPUC intends to research this further with its Water Enterprise as part of its agency-wide implementation of the Environmental Justice Policy.

Zoning for Industrial Uses

The permitted land uses in a neighborhood can indicate the relative concentration of such uses and their associated environmental effects. The 2004 Toxic Inventory of Bayview-Hunters Point found that more than half of the land in San Francisco that is zoned for industrial use is located in the Bayview-Hunters Point neighborhood (Bayview-Hunters Point Mothers, 2004). According to the Healthy Homes Project assessment, in 2011, 38 percent of property in the Bayview-Hunters Point neighborhood was zoned for industrial use, compared to 7 percent of property in San Francisco as a whole. A review of the most current zoning map confirms these findings (SF Planning Department, 2015c). Although such zoning may allow for proximity to working class jobs, it also increases the potential for residential and sensitive uses to be located in close proximity to industrial pollution sources (SFDOE and SFDPH, 2012). Indeed, according to the Targeted Brownfields Assessment, industrial / manufacturing activities and residential properties are contiguously located, and residents of Bayview-Hunters Point are subject to the possibility of exposure to environmental contaminants (Weston, 2012). Given that a disproportionately greater percentage of property in Bayview-Hunters Point is zoned for industrial uses than is zoned for such uses citywide, this is an issue of concern for environmental justice in Bayview-Hunters Point.

4.4.2 Neighborhood Characteristics

Appendix A of this document presents a detailed analysis of cost trends in San Francisco and Bayview-Hunters Point home value appreciation, sales price, and price per square foot. As indicated, San Francisco housing prices are increasing faster than prices at both the state and national levels. In general, housing sales price trends in Bayview-Hunters Point have closely mirrored citywide trends, though median sales prices have been substantially below the citywide averages. Average housing prices in Bayview-Hunters Point peaked over $600,000 in 2006–2007, at the height of the subprime lending scandal, when the median sales price in the City topped $800,000. Although home prices increased 75 percent in Bayview-Hunters Point between 2010–2011 and 2014, prices are still approximately 12 percent below the pre-peak crash in 2006–2008.

The indicators presented below are intended to discern whether the cost trends represent issues of environmental justice concern.

Housing

Indicator Type	EJ Indicator	Notes Regarding Disproportionality
Affordability Gap: Homeownership		One of the lowest affordability gaps in the City
Affordability Gap: Rental	●	Among the highest affordability gaps in the City
Rent Burden		Citywide concern, with every neighborhood burdened
Percent of Housing Stock Affordable		BV-HP housing stock almost five times more affordable than citywide stock
Prevalence of At Risk Foreclosure	●	BV-HP foreclosure rate four times citywide average
Overcrowding		Less overcrowded than citywide, and several neighborhoods more overcrowded
Displacement	●	Percentage of Bayview-Hunters Point residents living in low-income tracts experiencing displacement is more than 35 percent greater than the city as a whole.
Housing Tenure		Higher homeownership rate in BV-HP than citywide
New Housing Construction		Not considered an indicator in and of itself
Housing Condition / Code Violations		Lower rate of Code violations than citywide
Residential Mobility		Similarly likely to move away as residents in City as a whole
Homelessness	●	Citywide homelessness concentrated in Districts 10 and 6

Affordability Gap: Homeownership

The Indicator Project presents an analysis of housing purchasing capacity for the year 2012. That year, the median sale price for a new two-bedroom home in Bayview-Hunters Point was $287,250. The Indicator Project assumed that with a 10 percent down payment, monthly payments for this median home would be $1,700, and that the median annual income needed to make these monthly payments was $68,000. For Bayview-Hunters Point, the median income in 2012 was $48,517. Therefore, the Indicator Project found a homeownership affordability gap of approximately $20,000. Citywide in 2012, the median sale price for a two-bedroom home was $845,000, and median annual income needed to make the estimated $5,000 monthly payments was $200,000. The citywide median income in 2012 was $72,947, resulting in a homeownership affordability gap of approximately $127,000 (SFDPH, 2015b).

Measured as a percentage of neighborhood median income, the homeownership affordability gap is greatest in the following neighborhoods: Financial District/South Beach (1,215 percent), Chinatown (1,106 percent), Downtown/Civic Center (440 percent), South of Market (253 percent), Nob Hill (222 percent), Western Addition (221 percent), and North Beach (215 percent). Bayview-Hunters Point has one of the lowest affordability gaps among San Francisco neighborhoods, at 41 percent of neighborhood median income (SFDPH, 2015b). Therefore, the homeownership affordability gap is not considered an issue of environmental justice concern for Bayview-Hunters Point.

Affordability Gap: Rental

The Indicator Project undertook a similar analysis of apartment rental ability for the year 2012. For the last 6 months of 2012, the median fair market rent for a two-bedroom rental unit in Bayview-Hunters Point was $2,650 per month. The median annual income needed to afford that

payment (assuming that rent is 30 percent of the household budget) was estimated to be $98,608. As stated above, the median income of the neighborhood was $48,517, resulting in a rental affordability gap of about $50,000 per year. Citywide in 2012, the median fair market rent for a two-bedroom unit was $3,300 per month, and median annual income needed to make that payment was $119,240. As stated above the citywide median income in 2012 was $72,947, resulting a rental affordability gap of about $46,300 (SFDPH, 2015b).

Measured as a ratio of neighborhood median income, the rental affordability gap in late 2012 was greatest in the following neighborhoods: Chinatown (553 percent), Financial District/South Beach (473 percent), South of Market (135 percent), Western Addition (132 percent), Nob Hill (110 percent), and Bayview-Hunters Point (103 percent) (SFDPH, 2015b). The citywide ratio of rental affordability gap to median income is 63 percent. Of the neighborhoods for which the Indicator Project provides this data, 10 had affordability gap to median income ratios worse than the citywide average (including Bayview-Hunters Point), and 20 had ratios better than the citywide average. Given that the rental affordability gap to median income ratio in Bayview-Hunters Point represents one of the 10 least affordable neighborhoods in the City, and has an affordability gap to median income ratio approximately twice the citywide average, this is considered an issue of environmental justice concern for the neighborhood.

Because the San Francisco rental housing market has been subject to substantial demand and resulting price increases in recent years, it was anticipated that data on neighborhood affordability gap rates may have changed substantially since the 2012 information presented by the Indicator Project. The U.S. Census Bureau does not report the median rent by number of bedrooms in the ACS. According to the rental website Zumper, San Francisco rents reached a peak in October 2015 and through February 2016 have remained high, though somewhat below this peak. As of March 19, 2016, the median rent for a 2-bedroom apartment in San Francisco was $4,865, an increase of 47 percent since 2012. Zumper does not provide recent neighborhood-specific median rent data for 2-bedroom units, but indicates that for 1-bedroom units, the median price in Bayview Hunters Point was $2,400 as of summer 2016, compared to a citywide median of $3,590. (Zumper, 2016a,b) Additionally, Zumper reports that in 2014, rents increased by 5 to 10 percent in Bayview-Hunters Point compared to a 13.5 percent increase citywide, and by 0 to 5 percent in 2015 compared to a 4.5 percent increase citywide (Zumper, 2014, 2015), showing that rents did not increase by as much as the citywide average over this period.

Data from the 2010-2014 ACS shows that the estimated median household income in Bayview-Hunters Point was $49,594, an increase of just 2 percent since the 2012 data reported by the Indicator Project. This suggests that with rent increases of at least 5 to 10 percent in Bayview-Hunters Point in 2014, in addition to the other years since 2012, the affordability gap for rental housing in this neighborhood has grown since the Indicator Project reported on this indicator.

Rent Burden

According to the National Low Income Housing Coalition (NLIHC), spending more than half of one's income for housing and utility costs is considered a severe housing cost burden (NLIHC, 2012). Households spending a high percentage of their income on rent have a smaller percentage of

income to spend on other necessities. Using data from the 2005-2009 ACS, the Indicator Project, the Healthy Homes Project assessment, and the Community Health Assessment & Profile provide estimates of the percentage of renting households paying 50 percent or more of their income in rent by neighborhood. Approximately 30 percent of Bayview-Hunters Point renting households paid more than half of their income in rent. This was the second-highest rate in the City, immediately behind Visitacion Valley (31 percent) and immediately ahead of the Excelsior and Ocean View (29 percent), Lakeshore (28 percent), Downtown/Civic Center (27 percent), and the Financial District (26 percent). In every neighborhood for which information was reported, at least 12 percent of renting households were paying more than 50 percent of their income in rent, and citywide approximately 20 percent of all renting households paid more than 50 percent of their income in rent (SFDOE and SFDPH, 2012; SFDPH, 2012a, 2015b). The Indicator Project notes that for the neighborhoods for which no data were reported, the small sample sizes and large margins of error reported by the ACS suggest very small populations overall, relatively few renters living there (i.e., high home ownership), and/or few people with unaffordably high rents. Therefore, these neighborhoods likely experienced low rent burden overall.

Due to the increases in rent prices described above, data from the 2010-2014 ACS were reviewed to determine whether changes in rent burden have occurred since being reported by the Indicator Project. The estimated percentage of households paying 50 percent or more of their income in rent in Bayview-Hunters Point (defined by the 94124 Zip Code) over that time period was 26 percent, 4 percentage points lower than the 2005-2009 estimate. As of the 2010-2014 estimates, Bayview-Hunters Point ranked seventh highest by percentage of households paying 50 percent or more of their income in rent, with the Lakeshore (36 percent), Treasure Island (33 percent), Ocean View/Outer Mission (31 percent), Downtown/Civic Center (30 percent), and Parkside (30 percent) ZIP codes overtaking both Bayview-Hunters Point and Visitacion Valley as the areas experiencing the greatest percentages of severe rent burden. The citywide average grew to 22 percent during this time (U.S. Census Bureau, 2015b).

Given that several neighborhoods are affected by severe rent burden and that the percentage of renters experiencing high rent burden in Bayview-Hunters Point appears to be falling as well as being outstripped by other neighborhoods, and the nature of high rent burden as a citywide concern, rent burden is not considered an issue of environmental justice concern for Bayview-Hunters Point.

It is noted that a large share of income of lower-income households is spent on other fixed costs (such as food). Please see the discussion of income-related indicators below for more information.

Percent of Housing Stock Affordable

The Indicator Project measures the proportion of housing stock in each neighborhood that is "affordable," which is defined as "below market rate." This affordability is achieved through public housing properties, City-assisted units, inclusionary units, and community land trust. In Bayview-Hunters Point, 28 percent of the housing stock is considered affordable, versus 6 percent citywide (SFDPH, 2015b). Therefore, this is not an issue of concern for environmental justice in Bayview-Hunters Point.

Prevalence of At Risk Foreclosures

Between 2008 and 2012, San Francisco had 3,827 foreclosures, (0.56 percent foreclosure rate), which was a 533 percent increase over the previous 5-year period. In 2014, San Francisco had a foreclosure rate of 0.15 percent, which was substantially less than the 1.04 percent foreclosure rate nationwide. In 2011, Bayview-Hunters Point had a foreclosure rate of 2.06 percent, which was substantially higher than the 0.56 percent foreclosure rate citywide. In 2014, Bayview-Hunters Point had a foreclosure rate of 0.62 percent, which is approximately four times the citywide foreclosure rate of 0.15 percent. (Controller, 2015)

The Controller's Office determined that the rate of foreclosures is related to the unemployment rate (discussed below), home values, and prevalence of high-cost and private-label securities (i.e., those mortgages issued by private institutions that are not guaranteed by the U.S. Government or one of the government-sponsored enterprises such as Fannie Mae or Freddie Mac).

- As indicated in Table 4, the unemployment rate in Bayview-Hunters Point is approximately twice the citywide rate.
- As indicated in Appendix A, home values in Bayview-Hunters Point have not reached their pre-crisis peak. Nearly half of all underwater or near-underwater homes are located in zip codes 94122 Ingleside-Excelsior/Crocker-Amazon, 94124 (Bayview-Hunters Point), and 941234 (Visitacion Valley).[8]
- High-cost and private-label securities perform worse than conventional loans. At the height of origination of these types of loans, they were most prevalent among the Black population in southern and southeastern neighborhoods of San Francisco. From 2005 to 2006, 31 percent of loans in Bayview-Hunters Point were high-cost and private-label-security loans. Other neighborhoods with higher rates of these loans were Visitacion Valley (27 percent), Ingleside-Excelsior/Crocker-Amazon (24 percent), and Lakeshore (19 percent). No other neighborhood had a rate higher than 13 percent (Controller, 2015).

Given that Bayview-Hunters Point has a disproportionately greater foreclosure rate than the City overall, the prevalence of at-risk foreclosure is an indicator of environmental justice concern for Bayview-Hunters Point.

Overcrowding

As defined by HUD, "overcrowding" is more than 1.01 people per habitable room. Overcrowding is associated with direct and indirect impacts on health, including spread of disease, increased mortality rates, poor child development and school performance, and overall stress. According to the Healthy Homes Project assessment, in 2000, 24 percent of Bayview-Hunters Point households were overcrowded, compared to 14 percent citywide (SFDOE and SFDPH, 2012). However, according to more recent (2005–2009) data from the Indicator Project, in Bayview-Hunters Point, approximately 9 percent of households may be overcrowded, as compared to approximately

[8] "Underwater home" refers to a home that has negative equity, which means that the borrower has a higher debt balance on the home purchase than the current market value of the home. The loan-to-value ratio is greater than 100 percent. "Near underwater home" is one on which the borrower has a loan-to-value ratio between 91 and 100 percent.

5 percent of households citywide. The most overcrowded neighborhood in the City is Chinatown (approximately 25 percent of households may be overcrowded).[9]

Several City neighborhoods are within +/- 3 percentage points of Bayview-Hunters Point, including the Financial District and North Beach (both approximately 5 percent), Excelsior and Nob Hill (both approximately 7 percent), South of Market and Outer Mission (both approximately 8 percent), and Ocean View and Downtown/Civic Center (both approximately 11 percent). Because a large percentage of the City has an overcrowding rate similar to that of Bayview-Hunters Point, overcrowding is not considered an indicator of environmental justice for the neighborhood.

It is noted that specifically in the public housing sites in Bayview-Hunters Point, overcrowding is reported to be more common than in the neighborhood or City as a whole (SFDPH, 2013b).

Displacement

According to the Indicator Project, displacement occurs when citizens are pushed to move outside of an area due to housing market forces, such as a sharp increase in prices in areas where household incomes remain flat. Displaced households experience loss of social relationships, as well as stress associated with moving. One measure of displacement is the rate of no-fault evictions, which are allowed by law to accommodate owner/relative move-in, condominium conversion sales, demolition of the unit or its permanent removal from housing use, substantial rehabilitation, and Ellis Act evictions (when all units in a building are cleared of tenants to allow a landlord to "go out of business"). From 2005 to 2010, Bayview-Hunters Point had a rate of 6.3 no-fault evictions per 1,000 renters, and citywide there were 11.2 no-fault evictions per 1,000 renters (SFDPH, 2015b). The Bayview-Hunters Point rate was just over half that of the citywide rate, indicating a lower rate of no-fault evictions due to changes in the use of rental units than citywide.

The Urban Displacement Project, a research initiative led by U.C. Berkeley researchers in collaboration with UCLA, community organizations, regional planning agencies, and the California Air Resources Board, "aims to understand the nature of gentrification and displacement in the Bay Area" (Urban Displacement Project, 2015a). The project classifies census tracts as described in **Table 10**.

The classification of low-income tracts used by the Urban Displacement Project differs somewhat from the discussion of low-income communities provided in Section 4.2 of this report, and as a result, the Urban Displacement Project did consider Census Tract 230.02 low income. All other census tracts in Bayview-Hunters Point had the same low-income or not low-income classification as presented in Table 9. Among the 11 census tracts in Bayview-Hunters Point, five (230.01, 231.02, 232, 233, and 610) were found to be at risk of gentrification and/or of displacement, one (234) was found to be undergoing displacement, and two (230.03 and 612) were found to have advanced

[9] The Indicator Project reports only statistics for "not overcrowded" due to the uncertainty associated with the small sample sizes available at the census tract level for this indicator. However, this report assumes all houses other than those described as "not overcrowded" may experience overcrowding.

TABLE 10
URBAN DISPLACEMENT PROJECT DISPLACEMENT/GENTRIFICATION TYPOLOGIES

Lower Income Tracts (> 39% of households are considered Low Income)	**Moderate to High Income Tracts (< 39% of households are considered Low Income)**
Not losing low income households or very early stages • Does not fall within any of the below categories	Not losing low income households or very early stages • Does not fall within any of the below categories
At risk of gentrification or displacement • Strong market • In Transit-Oriented Development (TOD) • Historic housing stock • Losing market rate affordable units • Employment center	At risk of displacement • Strong market • In TOD • Historic housing stock • Losing market rate affordable units • Employment center
Undergoing displacement[2] • Already losing low income households, naturally affordable units, and in-migration of low income residents has declined • Stable or growing in size	Undergoing displacement[2] • Already losing low income households • Decline in either naturally affordable units or in-migration of low income residents • Stable or growing in size
Advanced Gentrification • Gentrified[3] between 1990 and 2000 or between 2000 and 2013 based on: – Neighborhood vulnerability – Demographic change – Real estate investment	Advanced Exclusion • Very low proportion of low income households • Very low in-migration of low income households

NOTES:
1 Tracts with 0 population in 2010 were excluded from the analysis (8 tracts). In addition, tracts where over 50% of the population in 2010 was in college were excluded from the analysis (11 tracts).
2 On average Bay Area census tracts gained 59 low income households during the period 2000-2013. For tracts that were either stable or grew in population, the gain in low income households was even greater (average = 79). Therefore, we assume that a tract that lost low income households during this period underwent some process of displacement when combined with other indicators such as a loss of market rate affordable units or a decline of the in-migration of low income population into that tract beyond the regional median.
3 See Appendix to Urban Displacement Project, 2015b, for the variables used in the gentrification index.

SOURCE: Urban Displacement Project, 2015b, Table 1.

gentrification. The remaining three tracts are considered to be not losing low-income households or at very early stages of displacement. Overall, nearly 88 percent of Bayview-Hunters Point residents live within census tracts at risk of or undergoing some level of gentrification or displacement. This is similar to, yet slightly lower than the citywide percentage of 89.5 percent. (Urban Displacement Project, 2015c)

However, when looking only at those census tracts actually experiencing displacement (i.e., not including those considered "at risk" only), 31.1 percent of Bayview-Hunters Point residents live in such areas, compared to a citywide 23.8 percent. Additionally, these 31.1 percent of residents all are within census tracts considered low income, whereas citywide, only 22.6 percent of residents live within tracts experiencing displacement that also are considered low income. (Urban Displacement Project, 2015c) Because the percentage of Bayview-Hunters Point residents living in such areas is more than 35 percent greater than the city as a whole, displacement from low-income neighborhoods is an indicator of environmental justice concern for the neighborhood.

Housing Tenure

According to the Indicator Project, home ownership provides increased tax benefits, collateral for financial emergencies, and opportunities for wealth creation. Home ownership provides a setting for expression of identity and control, which catalyzes a personal investment in home maintenance, neighborhood improvement, and community cohesion. Both the Indicator Project and the Healthy Homes Project assessment found that Bayview-Hunters Point has a homeownership rate of 49 percent, which is higher than the citywide rate of 36 percent. The neighborhoods with the lowest homeownership rates are Nob Hill (14 percent), the Financial District (15 percent), Western Addition (20 percent), Mission (22 percent), North Beach (23 percent), and Marina (24 percent) (SFDOE and SFDPH, 2012; SFDPH, 2015b). Homeownership is not an indicator of environmental justice concern for Bayview-Hunters Point.

New Housing Construction

According to the Planning Department's 2014 Housing Inventory, Bayview-Hunters Point had 90 net new units completed in 2014, ranking among the top 10 neighborhoods citywide, though the top three neighborhoods accounted for over 70 percent of all net new units. The South of Market neighborhood (1,302 net units), Mission Bay (802 net units) and Financial District/South Beach (384 net units) had the highest net new units in 2014. (Planning, 2015a) Additionally, approximately 160 new residential units at the Hunters Point Naval Shipyard site were completed in 2015 (SPUR, 2014b). New housing construction, in and of itself, is not an indicator of environmental justice concern, but must be considered with the other indicators.

Housing Condition / Code Violations

According to the Indicator Project, unsafe and older housing may affect health. For example, homes with inadequate ventilation may have mold or dust mites, leading to respiratory effects. Older homes may be contaminated with lead-based paint or have exposed heating sources (SFDPH, 2015b). According to the Healthy Homes Project assessment, in 2008 there were 7.7 building code violations per 1,000 residents, which was lower than the citywide rate of 9.2 violations per 1,000 residents (SFDOE and SFDPH, 2012). The Indicator Project mapped the code violations citywide (2009 – 2011) and found that Bayview-Hunters Point had an average of 2.5 violations per 1,000 population, compared to a citywide average of 5.4 violations per 1,000 population (SFDPH, 2015b). Housing code violations are not an indicator of environmental justice concern for Bayview-Hunters Point.

It is noted that the Healthy HOPE SF assessment concluded that public housing sites in Bayview-Hunters Point are in substandard physical condition (SFDPH, 2013b).

Residential Mobility

Residential mobility can be broadly defined as frequent change of residence, either in the same town or city, or between cities, states, or communities. Changes in employment or family composition may make the current housing unit or location unsatisfactory. Deterioration in the current housing unit or the surrounding area may also increase a desire to move. High residential

turnover can decrease the social capital of a neighborhood (Coulton, 2012). From 2005 to 2009, approximately 87 percent of Bayview-Hunters Point residents, and 83 percent of residents citywide, lived in the same unit they had lived in 12 months prior. Residents of San Francisco and District 10, which includes Bayview-Hunters Point, are equally likely to move away from San Francisco in three years' time (SFDOE and SFDPH, 2012; SFDPH, 2015b). Therefore, residential mobility is not an environmental justice concern for Bayview-Hunters Point.

Homelessness

When housing costs are higher than income, individuals may be forced to accept lower-cost but substandard housing, live in overcrowded conditions, move to where housing costs are lower, or become homeless. The 2010 San Francisco Homeless Count indicates that District 10, which encompasses Bayview-Hunters Point and Potrero Hill, had 37 percent of the City's unsheltered homeless population (SFDOE and SFDPH, 2012). This percentage dropped to 32.9 percent in 2011, which was the second-highest in the City (behind 40 percent in District 6, which includes the Tenderloin and South of Market Areas) (SFDPH, 2012a). By 2013, 30 percent of the homeless lived in District 10, which was the second-highest in the City (behind 47 percent in District 6). No other district has more than 9 percent of the total homeless population in the City, and most have less than 4 percent (Applied Survey Research, 2013). Therefore, homelessness is an issue of environmental justice concern for the Bayview-Hunters Point neighborhood.

Neighborhood Accessibility

Indicator	EJ Indicator	Notes Regarding Disproportionality
Residential Density	○	Most neighborhoods have a density at least double that of BV-HP
Motor Vehicle Access		Higher car ownership rate than citywide
Public Transit Ridership and Score	●	Less access to high-transit ridership streets than citywide
Bicycle Network	●	Limited bike lanes, especially given geographic size of neighborhood
Walkability	●	Most of San Francisco has low-to-moderate walkability, including BV-HP, but walking is perceived as substantially less safe in BV-HP compared to other neighborhoods

Residential Density

The Indicator Project identifies residential density as a "secondary" indicator under the objective "Preserve and construct housing in proportion to demand with regards to size, affordability, and tenure." It measures residential density according to the number of housing units per census tract, noting that higher densities can allow for more housing units to be built on a given piece of land, potentially lower the cost of construction and the cost of housing (SFDPH, 2015b). Available sources do not readily indicate how residential density may affect these costs in Bayview-Hunters Point, and as described above under Housing, substantial new residential construction is planned, which is likely to increase the average density of the neighborhood, but this increased density will be concentrated in one location that previously supported no housing.

Density and transportation needs have a direct relationship, in that lower density areas often have limited public transit options and may have to travel farther for commercial and community services. Therefore, this indicator can be useful in measuring accessibility, including the use of different transportation options (described under this Neighborhood Accessibility section) and the availability of services and resources (described in the following section). Bayview-Hunters Point has an average residential density of 3.46 units per acre, compared to the citywide average of 12.49 units per acre (about 3.5 times the density of Bayview-Hunters Point). The relatively low residential density of Bayview-Hunters Point can be partially explained by the amount of land zoned for industrial uses (see above). When controlling for industrial-zoned land, Bayview-Hunters Point has a residential density of 5.6 units per acre, while the citywide average is 13.4 units per acre (about 2.4 times the density of Bayview-Hunters Point).

Citywide, neighborhoods in former military areas (the Presidio, Treasure Island), and neighborhoods with large open spaces (Seacliff, Lakeshore) have lower residential densities than Bayview-Hunters Point. All other neighborhoods in the City have a residential density ranging from 6.82 units per acre (West of Twin Peaks) to 63.94 units per acre (Downtown/Civic Center). Most neighborhoods have a residential density at least double that of Bayview-Hunters Point. While on its own, low residential density is not directly related to an environmental justice concern, it has an effect on the accessibility and availability of services and resources. The Indicator Project notes that "residential density as low as six or seven houses per acre can still support the existence of local services, retail and transit that help promote mixed land use and decrease reliance on driving" (SFDPH, 2015b). With a residential density of fewer than six units per acre, even when controlling for industrial uses, Bayview-Hunters Point falls below this level. Therefore, residential density is considered as one factor in the accessibility and availability of services and resources in this neighborhood.

Motor Vehicle Access

Car ownership can indicate an ability to access commercial and community services. It is dependent on many factors, such as income, distance regularly traveled, accessibility of transit and other modes of travel, weather conditions, traffic patterns, and neighborhood density. The Indicator Project and Healthy Homes Project assessment both use data from the 2005–2009 ACS 5-year estimates to map motor vehicle access by neighborhood. The data show that 21 percent of Bayview-Hunters Point households don't have access to a car, as compared to 29 percent of households citywide (SFDOE and SFDPH, 2012; SFDPH, 2015b). Therefore, access to a motor vehicle is not an indicator of environmental justice for the neighborhood.

Public Transit Ridership and Score

Public transit systems provide affordable access to work, education, food, health services, and social activities. Public transit can provide physical activity, reduce pollution and greenhouse gas emissions, and reduced traffic fatalities. According to the Indicator Project, as of 2010, only 2 percent of Bayview-Hunters Point's residential population lived near high transit ridership streets (streets with more than 12,000 boardings and alightings per day) (SFDPH, 2015b). The area of high transit ridership in Bayview-Hunters Point is centered around the 3rd Street light rail line

(primarily the Kirkwood/La Salle, Oakdale/Palou, and Revere stops), which has been in operation since 2006 and connects to BART, Muni, and Caltrain (SFDPH, 2012b).

The Indicator Project's "Public Transit Score" measures the number of transit routes within 1 mile, weighted by frequency and distance. Bayview-Hunters Point has a score of 14 out of 100, compared to a score of 25 citywide. The Bayview-Hunters Point score is within the second quintile of all neighborhoods (i.e., if all neighborhoods are divided into five equally sized groups, approximately 20 percent of neighborhoods have scores lower than the group that includes Bayview-Hunters Point, and 60 percent have scores that are higher). The other neighborhoods with scores as low or lower than Bayview-Hunters Point are either former military installations or neighborhoods occupied by large amounts of open space: Treasure Island (1), Lakeshore (8), Presidio (9), and Seacliff (14) (SFDPH, 2015b). Therefore, the public transit score is an indicator of environmental justice concern for the neighborhood.

Bicycle Network

Cycling can provide physical activity, reduce pollution and greenhouse gas emissions, and provide a low-cost means of transportation providing access to commercial and community services. According to the Indicator Project, as of 2011 Bayview-Hunters Point had a total of 3.4 miles of bike lanes and bike paths, for a ratio of 0.04 mile per road mile, compared to 0.10 mile of bike facilities per road mile citywide. This rate is among the lowest in the City.

Other neighborhoods with low rates include Nob Hill (0.0), Pacific Heights (0.0), Crocker Amazon (0.02), Parkside (0.02), Excelsior (0.03), Chinatown (0.04), Noe Valley (0.04), and Ocean View (0.04). Each of these neighborhoods has between about 5 and 40 miles of roadway, while Bayview-Hunters Point has approximately 90 miles of roadway—by far the most of any neighborhood in the City (the Outer Sunset is second with 56.1 miles) (SFDPH, 2015b). Given that Bayview-Hunters Point has substantially more road miles than any other neighborhood in the City, but one of the lowest rates of bike facilities per mile of any neighborhood in the City, this is an issue of environmental justice concern for the neighborhood.

The 2009 San Francisco Bicycle Plan recommends several near-term, long-term and minor improvements to the bicycle route network in Bayview-Hunters Point to connect to the existing bicycle route network as part of the proposed Bayview Transportation Improvements Project (BTIP) (SFMTA, 2009). Several of these recommendations have been incorporated into the BTIP currently under consideration, which includes bicycle route upgrades along Cesar Chavez, Cargo, Jennings, Innes, Harney, Jamestown, Walker, and several other streets within the neighborhood (SFDPW, 2011).

Walkability

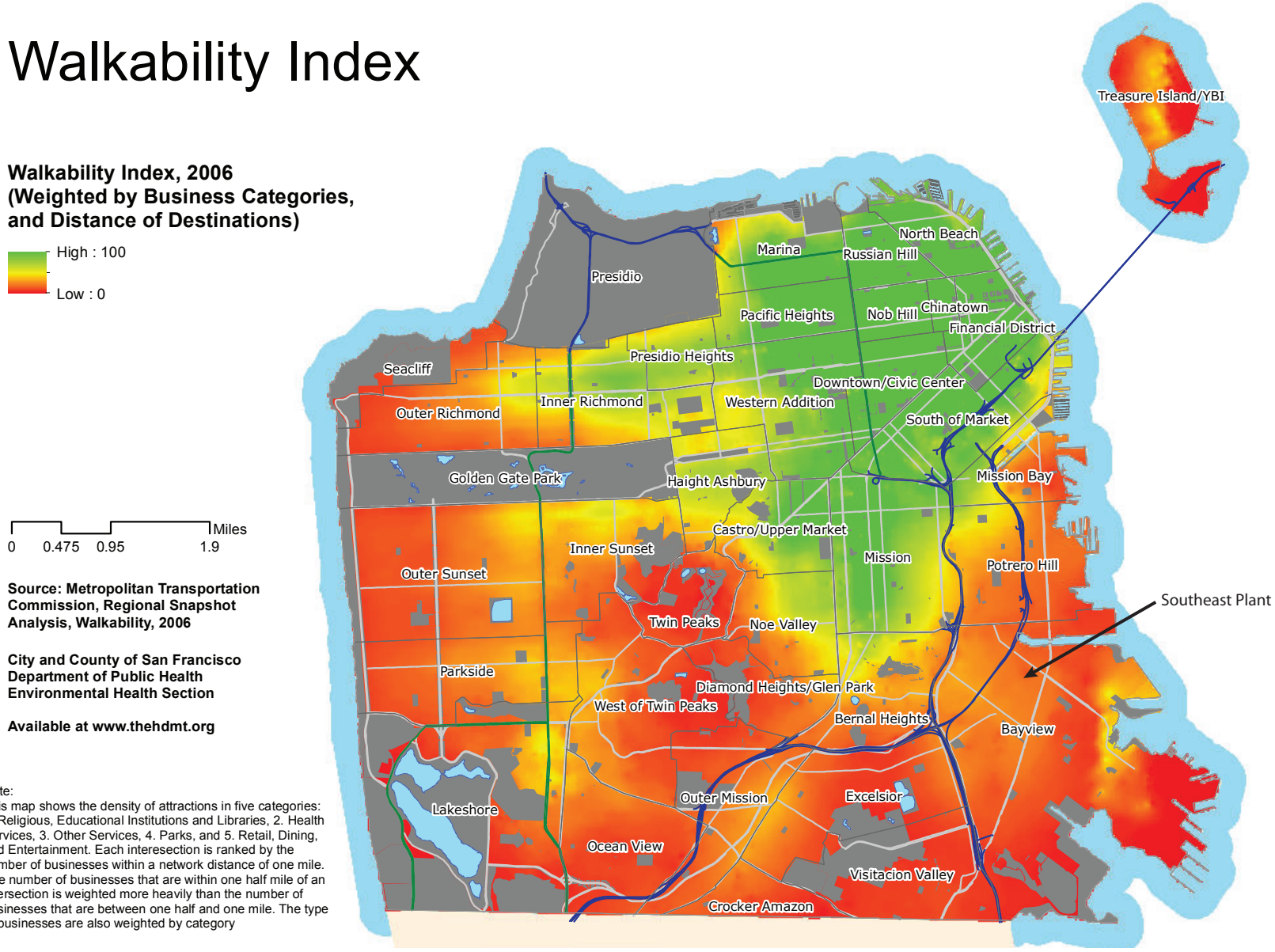
Like cycling, walking provides exercise and avoids emissions from vehicles, and requires little infrastructure. The Indicator Project is currently working on a new indicator methodology for the accessibility of public and retail services (SFDPH, 2015b). However, older data from the Metropolitan Transportation Commission's (MTC) Regional Snapshot Analysis was used to

calculate a "Walkability Index" for the entire City with respect to the number and variety of essential destinations within walking distance, as shown in **Figure 9**. The Snapshot Analysis report explains the importance of walkability as one mode among many for reaching services and resources: "people with more travel options have greater opportunity to optimize their choices than people with fewer options" (MTC, 2010). As shown, most San Francisco neighborhoods have moderate-to-low walkability, with the exception of neighborhoods in the northeast quadrant of the City (SFDPH, 2015b). Based on this map, Bayview-Hunters Point does not appear to have disproportionately less walkability than most of the City.

However, in the 2011 City Survey conducted by the San Francisco Controller's Office, residents of Bayview-Hunters Point were least likely to answer "very safe or safe" to the survey questions "How safe do you feel walking alone in your neighborhood during the day?" and "How safe do you feel walking alone in your neighborhood at night?" Just 54 percent of Bayview-Hunters Point respondents answered "very safe or safe" for daytime, compared to a citywide average of 84 percent, while only 13 percent of Bayview-Hunters Point respondents answered this way for nighttime, compared to a citywide average of 51 percent. For daytime and nighttime, respectively, 26 percent and 65 percent of Bayview-Hunters Point respondents answered "very unsafe or unsafe" – the highest percentages of any zip code in the City; the third possible response was "neither safe nor unsafe" (SFDPH, 2015b).

Another measure of neighborhood walkability comes from the San Francisco Safe Routes to School (SRTS) Partnership, whose vision is "for San Francisco to be a healthy community where students and families safely walk, bike, take transit, and carpool to and from school" (SRTS, 2010). SRTS operates at 35 elementary schools, 3 middle schools, and 2 high schools in San Francisco, and provides education about pedestrian and bicycle safety, distributes school-specific walk and bike maps, conducts walking audits of schools to examine traffic safety needs, and collects and analyzes information about how children get to and from school, including through parent surveys. Based on recent parent surveys that are available for 23 of the elementary schools served by SRTS, Bret Harte Elementary (Bayview) and George Washington Carver Elementary (Hunters Point) are within the top half of schools by percentage of walking trips to school (30 percent and 39 percent, respectively). For comparison, of all the schools surveyed, the walking trips ranged from 5 to 50 percent of all trips to school. The surveys also asked parents about the greatest barriers to walking to school. For Bret Harte, too little information was available to report on barriers. However, for George Washington Carver, 80 percent of parent respondents indicated that crime was a barrier to walking – the highest percentage recorded for the "crime" barrier among all elementary schools surveyed. George Washington Carver also had the second highest rate of parents responding that the speed of traffic along routes to school was a barrier to walking. For other perceived barriers, including safety of intersections, distance from home to school, and the amount of traffic along routes, George Washington Carver ranked better than most of the schools surveyed. Both Bayview-Hunters Point schools were ranked in the bottom third of surveyed schools for the number of pedestrian-involved collisions that occurred within 0.25 mile of the school from 2008 to 2012 – indicating that at two thirds of the schools, more pedestrian-involved collisions had occurred during that period. (SRTS, 2016)

Walkability Index



SOURCE: SFDPH, 2015b

Figure 9
Walkability Index

The SRTS data do not indicate clearly why some students are walking to school while others are not – for some students, walking to school may be by choice, for others, walking may be a necessity based on parents' work schedules or due to limited access to other transportation options. A comparison of responses from schools with available data showed a weak but positive correlation between the percentage of students walking to school and the percentage of parents reporting that crime is a barrier to walking – suggesting that in areas with higher actual or perceived crime rates, some walking trips may be due to a lack of access to potentially safer transportation alternatives. Another data comparison suggested that the percentage of walking trips was positively correlated with the percentage of students receiving free or reduced-price lunches, indicating that walking tends to be more common at schools serving low-income neighborhoods. However, it is noted that the sample sizes for these surveys typically were small, resulting in potentially unreliable data, and that no causal relationships among the survey responses was reported on by SRTS.

Although the walkability map from MTC and the walking data from SRTS suggest that Bayview-Hunters Point may not have disproportionately low walkability compared to most of the rest of the City, the safety responses for daytime and nighttime walking trips from the Indicator Project differ substantially from all other zip codes in San Francisco. These responses are consistent with the 80 percent of SRTS survey responses for George Washington Carver indicating that crime is a barrier to walking to school. Therefore, as it relates to safety and/or perceptions of safety, walkability is considered an indicator of environmental justice concern for Bayview-Hunters Point.

Available Services and Resources

Indicator Type	EJ Indicator	Notes Regarding Disproportionality
Library Proximity		Similar proximity rate to citywide
Religious / Spiritual Density		Higher concentration of such facilities than citywide
Community Center Proximity		Similar concentration of such facilities citywide
Academic Performance of Schools	●	Some of the lowest test scores in the City
Recreational Area Score	●	Markedly lower score than citywide, although partially offset by other facilities
Open Space and Trees	●	Poor proximity and access to open space, among the lowest concentration of trees in the City
Child Care Availability		Performs less well than citywide, but not disproportionately so
Average Child Care Burden	●	Cost burden higher; higher percentage of children not receiving subsidies
Healthy Food Retail Proximity	●	Much lower proximity score than citywide
Financial Services Proximity	●	Much lower proximity score than citywide
Concentration of Alcohol Vendors		Lower concentration than citywide

Library Proximity

The Indicator Project measures the percentage of neighborhood populations within 0.5 mile and 1 mile of a public library. The presence of libraries is a component necessary for improved literacy and access to health information. Approximately 57 percent of Bayview-Hunters Point

residents live within 0.5 mile of a library, and approximately 96 percent live within 1 mile of a library. Citywide, the figures are similar: approximately 58 percent and 97 percent of the population, respectively, live within 0.5 mile and 1 mile of a library (SFDPH, 2015b). Therefore, proximity to a library is not an indicator of environmental justice concern for the neighborhood.

Religious/Spiritual Density

The Indicator Project measures the density of religious and spiritual centers per 10,000 population. Such centers can foster the development of social networks and integration that are a benefit to public health. There are approximately 17 religious or spiritual centers per 10,000 population in Bayview-Hunters Point, compared to approximately 8.3 centers per population citywide (SFDPH, 2015b). Therefore, proximity to a religious or spiritual center is not an indicator of environmental justice concern for the neighborhood.

Community Center Proximity

The Indicator Project and Healthy Homes Project assessment both measure the proportion of neighborhood populations within half a mile of a community center. Such centers can foster the development of social networks and integration that are a benefit to public health. Approximately 86 percent of Bayview-Hunters Point residents live within 0.5 mile of such a place, compared to 85 percent of residents citywide (SFDOE and SFDPH, 2012; and SFDPH, 2015b). Therefore, proximity to a community center is not an indicator of environmental justice concern for the neighborhood.

Academic Performance of Schools

SFUSD's CTIP program identifies census tracts with the lowest test scores, by K-12 student, based on student home address. Most of the Bayview-Hunters Point census tracts—as well as tracts in the Mission, Tenderloin, and Western Addition neighborhoods—fall within the bottom 20 percent of census tracts citywide for academic performance (SFUSD, 2013).

The California Department of Education defines an Academic Performance Index (API) score of 800 out of 1,000 as a State target. In 2010, 50 percent of all SFUSD schools met this target, including 29 percent of Bayview-Hunters Point schools (SFUSD, 2006). Other neighborhoods with lower rates include the Mission, (11 percent), Western Addition (13 percent), Visitacion Valley (14 percent), Diamond Heights/Glen Park (33 percent) and Noe Valley (33 percent) (SFDPH, 2015b).

These lower APIs, as well as other factors, are considered by parents when requesting schools at kindergarten enrollment. According to the SFUSD 2014–2015 enrollment report, only 12 of the 348 kindergarten students living in Bayview-Hunters Point selected the school closest to their home as the first choice (approximately 3 percent of families). Schools in the neighborhood are actually under-enrolled because so few families living in the neighborhood request schools in the neighborhood (SFUSD, 2015).

Because SFUSD identifies most of Bayview-Hunters Point as having some of the lowest test scores in the City, and because 21 percent fewer Bayview-Hunters Point schools met the API target than the citywide average, academic performance is an indicator of environmental justice concern for the neighborhood.

Parent-Teacher Association fundraising is also lower for schools in Bayview-Hunters Point than in other neighborhoods. For example for FY 2013 – 2014, the Parent-Teacher Association (PTA) for Grattan Elementary School in Cole Valley raised $429,000 (about $1,100 per student), while the PTA for Dr. Georgy Washington Carver Elementary School (Bayview) raised less than $50,000 (less than $200 per student) (Grattan Elementary School PTA, 2015; IRS, 2014a). Other school PTAs in Bayview-Hunters Point also reported raising less than $50,000 in recent fiscal years, including those representing Malcolm X Academy, Bret Harte Elementary, and Thurgood Marshall Academic High School (IRS, 2016).

Recreational Area Score

The Indicator Project's Recreational Area Score reflects a relative number of acres of public recreation space within 2 miles, weighted by distance. Proximity to green space is associated with reduced self-reported health problems, better self-rated health, and higher scores in general health questionnaires. Based on parks present in 2011, the Bayview-Hunters Point neighborhood has a score of 37, compared to a score of 56 citywide (SFDPH, 2015b). In general, the eastern half of the City—particularly formerly industrial areas—had lower scores, as shown in **Figure 10**.

Recreational Area Score is considered an indicator of environmental justice concern for Bayview-Hunters Point.

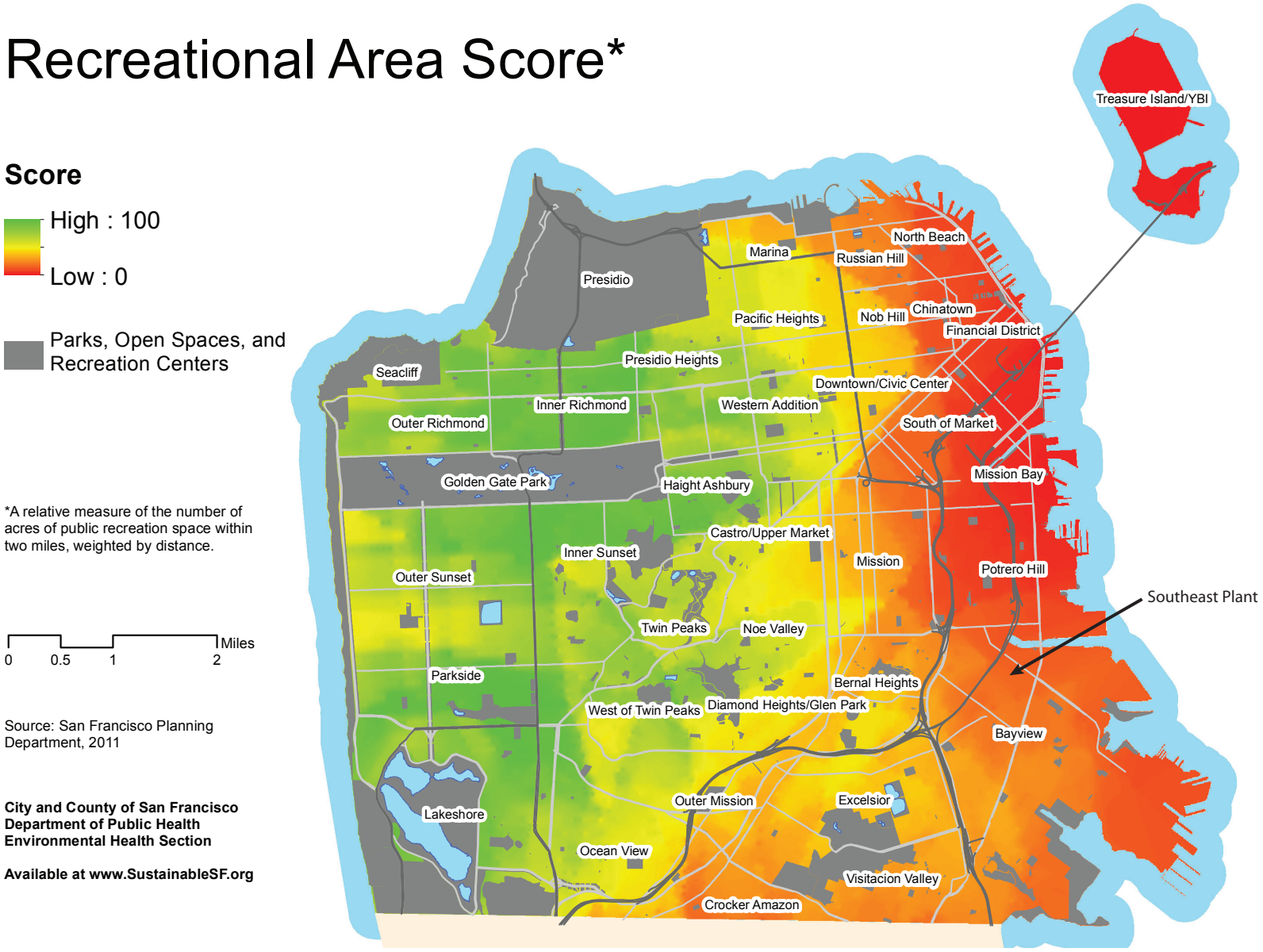
Although not considered as an indicator, a related measure to the Recreational Area Score is access to public recreational facilities (e.g., community centers or community pools). Approximately 57 percent of Bayview-Hunters Point residents live within 0.25 mile of a public recreation facility, as compared to 47 percent of residents citywide. In addition, about 23 percent of Bayview residents live within 0.25 mile of a community garden, which is comparable to the 26 percent of residents who live near such a garden citywide (SFDPH, 2015b).

Open Space and Trees

Open spaces is related to outdoor recreational facilities. The presence of trees provides natural cooling, air and water filtration, and other community benefits. Bayview-Hunters Point has 397 acres of open space, which is about 13 percent of the land area in the neighborhood. As a whole, the City has 6,741 acres of open space, which is about 23 percent of City land (SFDPH, 2015b).

Overall, the City has about 7 trees per acre, concentrated in the neighborhoods with higher elevations and in parks. South of Market, Bayview, and Chinatown have the lowest rates of trees per acre in the City (2 to 3 trees per acre). While the concentration of trees per acre in open-space areas like Golden Gate Park (15) and the Presidio (10) affects to citywide concentration, when compared to other residential neighborhoods like Castro/Upper Market (10) or Inner Sunset (10), for example, Bayview's concentration is disproportionate. The relative lack of trees in the

Recreational Area Score*



SOURCE: SFDPH, 2015b

Figure 10
Recreational Area Score

Bayview can be explained by the lack of vegetated open space, as well as the lack of street trees (SFDPH, 2012; 2015b). Bayview-Hunters Point has 47 trees per road mile, compared to 59 trees per road mile citywide.

Although Bayview-Hunters Point has a lower percentage of open space than San Francisco as a whole, the presence of large parks (such as Golden Gate Park) skews the citywide average; compared to other residential neighborhoods, Bayview-Hunters Point does not have a disproportionately low amount of open space within neighborhood boundaries. Nonetheless, because most other neighborhoods have better proximity and access to nearby open space, including these large parks, than does Bayview-Hunters Point, open space and trees are considered an indicator of environmental justice concern for Bayview-Hunters Point.

Child Care Availability

Higher quality child care positively affects growth, physical development, and physical health, as well as cognitive and behavioral outcomes. The Indicator Project recognizes that child care comes in many different forms, so it focuses on the provision of licensed care centers and their capacity, compared to the number of children, in each neighborhood. In 2012, Bayview-Hunters Point had 2.2 children per center or home slot, while citywide there were 1.5 children per slot. Several neighborhoods had more children per slot than Bayview-Hunters Point, including Crocker Amazon (5.3), West of Twin Peaks (5.2), and Bernal Heights (4.0) (SFDPH, 2015b). The availability of child care is not an indicator of environmental justice concern.

Average Child Care Burden

"Average child care burden" refers to child care costs as a proportion of median household income. Using that measurement, the average child care burden citywide is 12 percent. The neighborhoods with the highest average child care burden are Chinatown (47 percent) and Downtown/Civic Center (35 percent), followed by Bayview-Hunters Point (19 percent) and Visitacion Valley (19 percent). Also, neighborhoods in southeast San Francisco—including the Mission, Bernal Heights, Outer Mission, Ocean View, Crocker Amazon, Visitacion Valley, and Bayview-Hunters Point—have higher total numbers of children eligible for, but not receiving, child care subsidies than other areas of the City (SFDPH, 2015b). Given these considerations, the cost of child care as a percentage of median income is considered disproportionately greater in Bayview-Hunters Point than the remainder of the City, and this is an indicator of environmental justice concern.

Healthy Food Retail Proximity

According to the Indicator Project, access to healthy food choices is directly correlated with obesity and diabetes rates. If supermarkets provide access to cheaper and healthier foods, this facilitates healthier dietary choices. The Indicator Project provides a Food Market Score, which is a relative measure of the number and variety of food resources within 1 mile. As measured in February 2011, Bayview-Hunters Point had a score of 33, compared to a citywide score of 56. Of the five neighborhoods with lower scores than Bayview-Hunters Point, two are former military bases (Treasure Island and the Presidio) and two include large open spaces (Lakeshore and

Seacliff) (SFDPH, 2015b). The Indicator Project data were gathered in February 2011, prior to the opening in August 2011 of the now-closed Fresh and Easy supermarket in Bayview-Hunters Point. Therefore, proximity to healthy food retail is an indicator of environmental justice concern for Bayview-Hunters Point.

Financial Services Proximity

Access to banks or credit unions and freedom from high-interest loans are essential to community health. Being within walking distance of such services increases neighborhood cohesion and safety. (SFDPH, 2015b) Lower-income and minority neighborhoods lack proximity to fair financial services and have disproportionate access to "fringe" services—such as checking cashers, payday lenders, and pawn shops—that have high fees and no savings account options. According to the Indicator Project, 37 percent of residents of the Bayview-Hunters Point neighborhood are within walking distance (0.5 mile) of a bank or credit union, as compared to 81 percent of citywide residents overall. Only populations of former military bases—including Treasure Island and the Presidio—and of the residential neighborhood of Potrero Hill—have lower percentages of people living within walking distance to a credit union or bank (SFDPH, 2015b). Therefore, proximity to financial services is an indicator of environmental justice concern for Bayview-Hunters Point.

Concentration of Alcohol Vendors

According to the Indicator Project, the density of alcohol outlets is closely related to crime and violence. Bayview-Hunters Point has 1.1 alcohol outlets per 1,250 population, or 5.9 per square mile. These rates are lower than the 1.3 outlets per 1,250 population and 17.4 per square mile citywide (SFDPH, 2015b). Therefore, the density of alcohol vendors is not an indicator of environmental justice concern for Bayview-Hunters Point.

4.4.3 Population Characteristics

Income and Employment

Indicator	EJ Indicator	Notes Regarding Disproportionality
Poverty: % Below Two Times Federal Poverty Level	🔴	Also indicated in standard and enhanced community screening
Unemployment	🔴	Double the citywide rate
Earned Income Tax Credit	🔴	Percentage of EITC filers in BV-HP is more than double citywide

Poverty

CalEnviroScreen provides an indicator of the percentage of population living below two times the federal poverty level from 2008 – 2012. Areas of the Central Valley, Imperial County, Greater Los Angeles, and San Diego have the highest unemployment rates in the State. Five Bayview-Hunters Point census tracts (230.01 231.02, 231.03, 234, and 612) rank at or above the 75th percentile for this

indicator. These same tracts rank at or above the 75th percentile citywide. According to the Healthy Homes Project assessment, approximately 39 percent of Bayview-Hunters Point residents lived below two times the federal poverty level (using 2005 to 2009 5-year averages), compared to approximately 27 percent of residents citywide.

As stated in Section 4.1, Bayview-Hunters Point's median income, as well as the percentage of its residents living in poverty, indicates that it is a community of concern for environmental justice. The alterative tools for calculating cost of living and poverty status—such as the Self-Sufficiency Standard—further support this determination.

Unemployment Rate

As explained by the Indicator Project, unemployment has been linked to poor health and increased risk of mortality – particularly from heart disease and suicide (SFDPH, 2015b). CalEnviroScreen provides an indicator measuring the percent of the civilian labor force age 16 or over, for the 5-year average from 2008 to 2012. Unemployment rates are high within individual census tracts across most regions of the State. However, census tracts in the San Francisco Bay Area generally do not have high unemployment rates. About half of the Bayview-Hunters Point neighborhood ranks at or above the 75th percentile for unemployment across the State. As indicated in Table 4 of this document, the unemployment rate in San Francisco in 2013 was approximately 8.3 percent. By contrast, the unemployment rate in Bayview-Hunters Point was approximately 16 percent (U.S. Census Bureau, 2014a). The Indicator Project found a similar disparity, showing that 85.8 percent of Bayview-Hunters Point residents employed, compared to 93.4 percent of residents citywide, for the 2005–2009 5-year average (SFDPH, 2015b). Unemployment is an indicator of environmental justice for the neighborhood.

Earned Income Tax Credit

The EITC is a refundable tax credit for low and moderate income working individuals and couples. The amount of EITC depends on the recipient's income and number of children. In 2013, the maximum income to qualify for the EITC for a married couple filing jointly with two qualifying children was $48,378, and the maximum benefit was $5,372 (IRS, 2014b). Approximately 29 percent of Bayview-Hunters Point tax filers (in zip code 94124) received the EITC in 2013, which was the highest rate citywide. Throughout the City, 12 percent of tax filers received the EITC (Brookings Institute, 2015). Therefore, the neighborhood has a disproportionately greater rate of EITC receipt than the City as a whole, and receipt of the EITC is an indicator of concern for environmental justice for the neighborhood.

Health

Indicator	EJ Indicator	Notes Regarding Disproportionality
Population of Children	●	Percentage of households with children more than double citywide
Population of Elderly		Lower percentage of elderly residents than citywide
Pre-Natal Care Rate	●	Worst pre-natal care rate in the City
Low Birth Weight	●	BV-HP census tracts among the highest rate of low-birth weight babies statewide
Asthma Hospitalization Rate	●	Rate is three times the citywide average
Preventable Hospitalizations / Emergency Room Visits	●	Rate is almost double the citywide average

Population of Children / Elderly

Children and the elderly can be more vulnerable to adverse effects of pollution. Children's organs are still immature and developing, and exposure to pollution may have long-term health consequences. Older populations are more likely to have health conditions that may worsen with pollution exposure. To gauge a census tract's relative potential for age-related effects, CalEnviroScreen provides an indicator that measures the percentage of population under age 10 and over age 65. Statewide, no Bayview-Hunters Point census tract ranks in the top 25 percent for relative population of children or elderly. Citywide, only two census tracts (tracts 231.03 and 234) rank in the top 25 percent for population under age 10 and over age 65 (CalEPA, 2015a).

The Indicator Project measures the percentage of neighborhood population aged 17 years old or younger, as well as 65 years old or older. Using these thresholds, Bayview-Hunters Point is the youngest neighborhood in the City, with 24.7 percent of its residents 17 years old or younger, compared to a citywide average of 13.4 percent. Approximately 47.8 percent of Bayview-Hunters Point households have children under the age of 18, compared to a citywide average of 21.9 percent (SFDPH, 2015b). Therefore, the presence of young residents is considered an indicator of environmental justice concern for Bayview-Hunters Point. Additionally, it is noted that a greater percentage of children do reside in the public housing sites. According to the Healthy HOPE SF assessment, in 2010, 13.4 percent of San Francisco residents were under 18 years of age, compared to the percentage of residents in the Bayview-Hunters Point public housing sites included in the study: Hunters View (38 percent) and Alice Griffiths (30 percent) (SFDPH, 2013b).

Just 10.5 percent of Bayview-Hunters Point residents are 65 years or older, compared to 13.6 percent citywide. Therefore, the presence of seniors is not considered an indicator of environmental justice concern for Bayview-Hunters Point.

Pre-Natal Care Rate

Within the Bayview-Hunters Point zip code (94124), in 2010, 69.2 percent of mothers received pre-natal care in their first trimester as measured by the California Department of Public Health (CDPH) in 2010 (SFDPH, 2015b). This was the worst rate in the City, with the Treasure Island zip code 94130 (70.7 percent) and Downtown/Center zip code 94012 (78.4 percent) not far behind.

Other neighborhoods, such as that represented by the zip code 94123 (Marina, Pacific Heights, 97 percent), had substantially higher rates. The citywide average in 2010 was 87.3 percent (SFDPH, 2015b). Although the Indicator Project reported 2010 data, review of data from 2000 shows that the 94124 rate was higher (77.1 percent) and closer to the citywide average (86.4 percent), and data from 2012, the most recent year available from CDPH, shows that the 94124 rate also was higher in that year (74.6 percent), but that the citywide rate had improved compared to 2010 as well (89.0 percent) (CDPH, 2000; 2012). The CPDH notes that when examining data in ZIP codes with very small live birth numbers (n < 100), caution must be exercised because very small numbers may be unreliable and subject to significant variability from one year to the next. While the number of live births in Bayview-Hunters Point was above 100 in each of the years discussed, some other zip codes to which it is compared did not. Nonetheless, because the CDPH data appear to show a continuing trend of lower first-trimester pre-natal care rates for Bayview-Hunters Point compared to San Francisco as a whole, the relative lack of pre-natal care is considered an indicator of environmental justice concern for Bayview-Hunters Point.

Low Birth Weight

Infants born weighing less than 5.5 pounds are classified as low-birth-weight babies. Such babies have increased risk of later health problems, as well as infant mortality (above). CalEnviroScreen provides an indicator for the number of babies per census tract born as low-birth-weight babies, from 2005 to 2009. Statewide, most Bayview-Hunters Point census tracts rank above the 80th percentile for rate of low-birth-weight babies. Census tracts 231.03 and 232 have particularly high rates, ranking in the 99th and 98th percentile statewide. Similarly, almost all Bayview-Hunters Point census tracts have rates higher than the citywide average, with most ranking in top 75th percentile (CalEPA, 2015a). According to the San Francisco Community Health Assessment & Profile, 9 percent of Bayview-Hunters Point babies were born with low birth weight, compared to 7 percent citywide (SFDPH, 2012). Therefore, low birth weight is an indicator of environmental justice concern for the neighborhood.

Asthma Hospitalization Rate

Asthma is a chronic lung disease, the causes of which are poorly understood. However, it has been established that exposure to outdoor air pollutants can trigger an asthma attack. CalEnviroScreen measures the age-adjusted rate of emergency department visits per 10,000 people, from 2007 to 2009. Statewide, the highest rates occur in more densely populated areas, as well as in San Bernardino, Riverside, Imperial, and Tehama counties. The entirety of the Bayview-Hunters Point neighborhood ranks at or above the 84th percentile for frequency of asthma emergency department visits, with most of the neighborhood at the 95th percentile (CalEPA, 2015a).

BAEHC's cumulative air pollution maps indicate that the eastern third of San Francisco has asthma hospitalizations higher than the rest of the City (BAEHC, 2015b). According to CalEnviroScreen, Bayview-Hunters Point's rate of emergency room visits for asthma is almost three times the citywide average, and all Bayview-Hunters Point census tracts rank among the top 10 percent worst citywide (CalEPA, 2015a). Therefore, asthma rates are an indicator of environmental justice concern for Bayview-Hunters Point.

Preventable Hospitalizations / Emergency Room Visits

According to the Indicator Project, "preventable hospitalizations" are those that may have been avoided with earlier outpatient care, and are an indicator of the accessibility and quality of primary care services available to the community. The Bayview-Hunters Point zip code (94124) has the highest rate of preventable hospitalizations in the City, at 1,931 preventable hospitalizations per 100,000 total hospitalizations. Only Downtown/Civic Center (1,875 per 100,000) and South of Market (1,646 per 100,000) come close to the rate in Bayview-Hunters Point. Most zip codes have rates well less than 1,000 per 100,000 (SFDPH, 2015b). According to the Healthy Homes Project assessment, from 2006 to 2008 there were about 409 preventable emergency room visits per 10,000 population in Bayview-Hunters Point, compared to about 238 visits per 10,000 population citywide (SFDOE and SFDPH, 2012; SFDPH, 2012a). Preventable hospitalizations are disproportionately greater in Bayview-Hunters Point than the citywide average, and they are an indicator of concern for environmental justice for Bayview-Hunters Point.

4.4.4 Community and Social Engagement

Indicator	EJ Indicator	Notes Regarding Disproportionality
Voter Turnout	●	Markedly lower than citywide participation rate
Educational Attainment	●	Rate of non-high school graduates almost double citywide rate
Linguistic Isolation	○	Only one BV-HP census tract ranks at or about 75th percentile citywide, but overall limited English proficiency population is greater than citywide
Violent Crime Rate	●	Double the citywide rate
Property Crime Rate		Close to the citywide rate
Community Resiliency to Climate Change	●	Ranked least resilient citywide, with five other neighborhoods

Voter Turnout

According to the Indicator Project, people who vote in elections are less likely to report poor or fair health. In the November 2010 election, 47 percent of Bayview-Hunters Point registered voters were active, which was the second-lowest rate in the City. Other low-turnout neighborhoods included Treasure Island (40 percent), Visitacion Valley (49 percent), and Chinatown (50 percent). Citywide, 61 percent of voters were active (SFDPH, 2015b). This indicator is similar to what occurred two years earlier. According to the Healthy Homes Project assessment, 69 percent of registered voters in Bayview-Hunters Point voted in the November 2008 election, compared to 81 percent of registered voters citywide (SFDOE and SFDPH, 2012). Voter turnout is an indicator of environmental justice concern for the neighborhood.

Adult Educational Attainment

CalEnviroScreen states that adult educational attainment is an element of socioeconomic status and a social determinant of health. Education is often inversely related to relative exposure to pollution. Statewide, from 2008 to 2012, the higher proportions of the adult population (older

than 25 years old) that haven't graduated high school are located in areas of the Central Valley, San Bernardino County, San Diego, Greater Los Angeles, and some locations in the Bay Area. Four census tracts in the Bayview-Hunters Point neighborhood rank within the top 75th percentile statewide for not graduating high school, including tracts 230.01, 233, 234, and 612. Citywide, approximately 14 percent of adult residents haven't graduated high school, compared to approximately 25 to 30 percent of adult residents in Bayview-Hunters Point. Only Visitacion Valley and Chinatown have lower high-school graduation rates than Bayview-Hunters Point (CalEPA, 2015a; SFDOE and SFDPH, 2012; SFDPH, 2012a). Therefore, educational attainment is an indicator of environmental justice for Bayview-Hunters Point.

Linguistic Isolation

The U.S. Census Bureau defines "linguistic isolation" as households where all members age 14 or above have at least some difficulty speaking English. This difficulty can affect communication with service providers, and people with less English proficiency are less likely to have regular medical care. The highest rates of linguistic isolation statewide are in the Central Valley, Greater Los Angeles, San Diego, Salinas Valley, and the Bay Area. Compared to census tracts statewide, three Bayview-Hunters Point census tracts (230.01, 230.03, and 233) rank at or above the 75th percentile for linguistic isolation. Compared to San Francisco census tracts, only one census tract (230.01) ranks at or above the 75th percentile for linguistic isolation (CalEPA, 2015a).

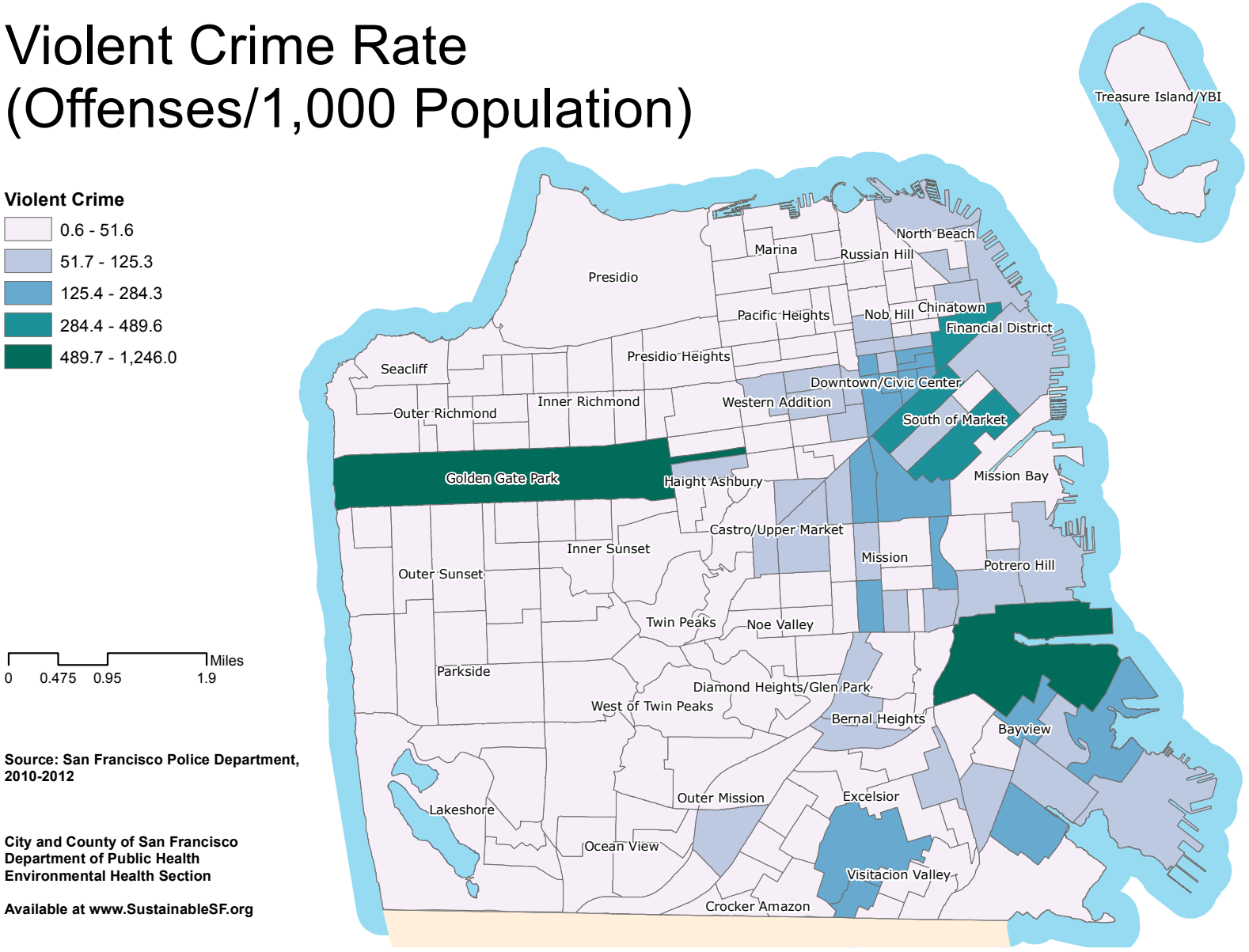
However, according to San Francisco Board of Supervisors Language Access Statistics by district for 2014, 26.2 percent of the population in the district in which Bayview-Hunters Point is located has limited English proficiency, compared to 21.4 percent overall, more than a 22 percent increase over the citywide average (San Francisco Board of Supervisors, 2014). Therefore, linguistic isolation measured as individuals with limited English proficiency may be an indicator of environmental justice for Bayview-Hunters Point.

Violent and Property Crime Rates

Violent crimes have direct adverse health outcomes for a community. According to the Healthy HOPE SF assessment, violence is the leading cause of premature mortality among men in the Bayview-Hunters Point zip code. Violent crimes also have indirect adverse effects, by inhibiting social interaction, separating families through incarceration, and contributing to longer term behavioral and emotional problems in the youths that witness the acts (SFDPH, 2013b).

According to both the Healthy Homes Project assessment and the Community Health Assessment & Profile, which provide rates of individual violent crimes (physical assaults, homicides, and rapes/sexual assaults) for the period 2005 through 2007, Bayview-Hunters Point had higher rates of violent crimes than the rest of the City (SFDOE and SFDPH, 2012; SFDPH, 2012a). According to the Indicator Project, Bayview-Hunters Point had approximately 106 violent crimes per 1,000 residents from 2010 through 2012. This is double the citywide rate of approximately 53 violent crimes per 1,000 residents. **Figure 11** presents violent crime rates (offenses per 1,000 residents) citywide. Among the other residential neighborhoods in San Francisco, only South of Market (175), Downtown/Civic Center (178), and the Financial District (282) had higher rates than

Violent Crime Rate (Offenses/1,000 Population)



SOURCE: SFDPH, 2015b

Environmental Justice Analysis for Bayview-Hunters Point . 120468.06

Figure 11
Violent Crime Rate

Bayview-Hunters Point (SFDPH, 2015b). Therefore, the violent crime rate is an indicator of environmental justice concern for the neighborhood.

Bayview-Hunters Point also had 176 property crimes per 1,000 residents from 2010 through 2012. This rate, however, is close to the citywide average of 163 crimes per 1,000 residents. Several neighborhoods have higher rates than Bayview-Hunters Point, including the Financial District (1,325), South of Market (558) Downtown/Civic Center (345), North Beach (335), Potrero Hill (290), and Castro/Upper Market (238) (SFDPH, 2015b). The property crime rate is not an indicator of environmental justice concern.

Community Resiliency to Climate Change

SFDPH's Community Resiliency Indicator System provides a total neighborhood score within a resiliency index of 1 (least resilient) to 5 (most resilient), weighing the neighborhood's relative score across 36 individual factors in nine categories. In effect, this indicator incorporates many of the individual indicators presented under other headings in this section. Bayview-Hunters Point has an overall score of 1. Its resiliency score in each of the nine categories is as follows, with indicators contributing to each category listed below:

Hazard Risk: 1
- *Percent of the neighborhood in the 100 year storm flood plain*
- *Percent of the neighborhood in 'high' or 'very high' heat vulnerability areas*
- *Percent of the neighborhood in a liquefaction or landslide zone*

Housing: 2
- *Percent of households with a resident living alone*
- *Percent of households with a resident over 65 and living alone*
- *Percent of households with 1 or more people per room*
- *Residential housing violations, per 1000 people*
- *Percent of buildings with air conditioning*
- *Percent of renter households whose gross rent is 50% or more of their household income*

Transportation: 1
- *Average minutes of active transportation (walk+bike) per day*
- *Public Transit Score*

Community: 2
- *Violent crimes, per 1000 people*
- *Voting rates in the 2012 Presidential Election*
- *Percent of the population that moved to San Francisco within the last year*
- *Percent of the population without United States citizenship*
- *Percent of population living in households without English spoken "Very Well"*

Public Realm: 1
- *Healthy Food Score*
- *Percent of the population over 25 with a high school degree*
- *Percent of the land area within .25 miles of a pharmacy*

Environment: 1
- *Percent impervious surface*
- *Percent tree cover*
- *Average annual PM2.5 concentration from all sources*
- *Percent of the neighborhood a contamination risk*

Health: 1
- *Shelters and cooling centers within .25 miles, per 1000 people*
- *Shelters and cooling centers within .25 miles, per 1000 people (daytime population)*
- *Percent of the population within 30 minutes commute of a hospital or clinic*
- *Percent of the population reporting a disability*
- *Preventable hospitalizations, per 100,000 people*

Economy: 1
- *Percent of the population over 16 that are employed*

Demographics: 1
- *Percent of the population over 85*
- *Percent of the population over 65*
- *Percent of the population under 18*
- *Percent of the population under 5*
- *Percent of the population non-white*
- *Percent of the population Latino*
- *Percent of the population Black / African American*
- *Percent of the population Asian*
- *Percent of households below 200% of the poverty rate*
- *Population density, people per square mile*
- *Daytime density, people per square mile*

The category scores are based on the individual indicators in each category. For example, within Hazard Risk, SFDPH reports that while just 6.8 percent of the Bayview-Hunters Point Neighborhood is within the 100-year storm flood plain, 58.7 percent is in high or very high heat vulnerability areas, and 55.7 percent is in a liquefaction or landslide zone. The Environment category takes impervious ground surfaces, tree cover, average annual PM2.5 concentration, and neighborhood contamination risk into account. The Public Transit Score, violent crimes, voter turnout, linguistic isolation, employment rate, and rental housing affordability are among the other indicators described above that also are represented in the Resiliency Index score.

Other neighborhoods considered "least resilient" are the Financial District, Chinatown, Downtown/Civic Center, Treasure Island, Visitacion Valley, and Crocker-Amazon. By contrast, the Potrero Hill neighborhood immediately adjacent to Bayview-Hunters Point, has a Resiliency Index score of 4, the second-highest score. Resiliency to climate change is considered an indicator of environmental justice for Bayview-Hunters Point (SFDPH, 2015c).

4.5 Prioritization of Environmental Justice Indicators

4.5.1 Outreach

SFPUC staff met with Bayview-Hunters Point community groups to gather their input on the content of this report. In December 2014, staff met with the Southeast Working Group (SEWG) at the Southeast Community Facility to discuss environmental justice, data sources, and indicators. The following March, staff met with the SFPUC Citizens Advisory Committee (CAC) Wastewater Subcommittee in SFPUC's offices in the Civic Center.

In May 2017, staff met with the CAC as well as the Facilities & Design Committee, which is a sub-committee of the Southeast Community Facility Commission, to present a preview of the impact analysis in Chapters 5 and 6 of this report. At those meetings, additional feedback on indicators was provided that is addressed below.

4.5.2 Input Received

Sources

Representatives of the community from both the SEWG and the CAC Wastewater Subcommittee advised SFPUC regarding existing data sources and reports that include indicators of environmental justice concern. Where applicable, those reports are included in Sections 4.2 and 4.3 of this document.

Ranking and Prioritization

Prior to preparation of this report (in December 2014), SFPUC presented the SEWG, the Southeast Community Facility Commission sub-committees, the Wastewater CAC, and the full CAC with the list of indicators analyzed in CalEnviroScreen 2.0. SFPUC asked the community representatives suggest other indicators for analysis in this report. As available and relevant,

these suggested indicators were added to the report, including resiliency to climate change, homelessness, and transit accessibility.

SFPUC also asked community representatives to rank the Top 3 indicators from CalEnviroScreen in their order of importance. Although no clear consensus was observable, the indicators that received the highest rankings were unemployment, poverty status, cost of living, displacement/gentrification, educational attainment, DPM concentration, cancer risk, toxic releases from facilities, and groundwater threats.

As described above in Section 4.4, Bayview-Hunters Point experiences double the citywide unemployment rate and more than double the citywide poverty rate and has one of the lowest high school graduation rates among San Francisco neighborhoods. Each of these is considered an indicator of an existing disproportionate adverse condition. Several measures of the cost of living were reviewed as potential indicators. These include housing affordability, childcare costs, and proximity to goods and services. As described above, the rental affordability gap (difference between median income and median rental price), childcare burden, and proximity to healthy food retail and financial services were indicators of existing disproportionate adverse conditions related to the cost of living.

Review of available information indicated that DPM concentrations in Bayview-Hunters Point census tracts are below the citywide average, and therefore are not disproportionately adverse in this neighborhood. Similarly, several studies indicate that other neighborhoods experience a substantially higher burden from toxic releases from facilities than does the Bayview-Hunters Point neighborhood, and that the neighborhood is not disproportionately exposed to toxic releases from facilities. While the potential for groundwater contamination is considered disproportionately greater in Bayview-Hunters Point than citywide, groundwater is not used as a recognized or approved potable water source in Bayview-Hunters Point and thus groundwater threats were not considered an environmental justice indicator. However, conversations with community members have indicated that there are groundwater wells present in Bayview-Hunters Point for which no documentation is known to exist. SFPUC intends to research this further with its Water Enterprise as part of its agency-wide implementation of the Environmental Justice Policy.

Additional Indicator Recommendations and Input

In May 2017, members of the Facilities & Design Committee of the Southeast Community Facility Commission suggested the addition of two more indicators to be included in this analysis: the availability of women- and minority-owned business opportunities, and the timely implementation of sustainable development projects. Additionally, members of the CAC suggested the inclusion of SFPUC utility rate affordability as an indicator.

SFPUC staff considered these suggestions for inclusion in this report and/or further environmental justice analyses. The San Francisco Indicator Project includes data on women-owned business enterprises (WBEs) and minority-owned business enterprises (MBEs), derived from a San Francisco Human Rights Commission data from 2010. As of July 2010, of the 204 certified local business

enterprises (LBEs) in Bayview-Hunters Point, nearly 80 percent were WBEs or MBEs. Additionally, these businesses made up 20 percent of the total number of certified WBEs and MBEs in San Francisco at the time. (SF Indicator Project, 2015b) A review of data currently available from the San Francisco Human Rights Commission (2017) shows that the total number of LBEs in Bayview-Hunters Point has grown to 236, but that the percentage of WBEs and MBEs has dropped to just under 70 percent, while the Bayview-Hunters Point WBEs and MBEs now make up about 24 percent of the total in San Francisco. This may indicate both an overall decrease in the percentage of WBEs and MBEs among total LBEs both citywide and in Bayview-Hunters Point, and possibly further concentration of WBEs and MBEs in this neighborhood compared to the city as a whole. The Indicator Project notes that one limitation of this indicator is that the designation of WBEs or MBEs applies only to businesses that may be hired through city contracts. Therefore, many businesses that may be fully or majority women- and/or minority-owned, such as salons, restaurants, or other services, are not eligible for LBE certification and thus not measured in this indicator (SF Indicator Project, 2015b). Additionally, like several indicators described in Section 4.4, this is considered a secondary indicator and does not inherently suggest a disproportionate burden. For example, the prevalence of MBEs in Bayview-Hunters Point may be seen as indicative of the minority population identified in Section 4.2 – with a higher percentage of non-white residents, this neighborhood could be expected to have a higher percentage of minority-owned businesses than the city as a whole. From another perspective, the relatively high number of WBEs and MBEs may be seen as a positive indication that city contracting programs incentivizing the hiring of LBEs (including WBEs and MBEs) are likely to direct spending to Bayview-Hunters Point businesses, or that contracting funds spent in Bayview-Hunters Point are more likely to go to WBEs and MBEs than other (non-women-owned, non-minority-owned) LBEs because other LBEs make up only 20 percent of the total LBEs in the neighborhood. Thus, for the purposes of this report, SFPUC staff chose to include an acknowledgment of the available data, but not to add this indicator to the list in Section 4.4.

With respect to the timely implementation of sustainable development projects, further research would be needed to identify data that could support the use of such an indicator. Currently, the San Francisco Indicator Project and other known sources of indicator information do not track this topic.

Rate affordability is the first key principle of the SFPUC Rates Policy. Under this policy, rate setting must include consideration of affordability for low-income customers. Further, the Community Assistance Program (CAP) offers a 15 percent discount on water bills and a 35 percent discount on sewer bills for qualified customers. Rate affordability as a measurement of rates compared to household incomes may be considered among possible additional indicators for future study; however, for purposes of this report, because it would not have a direct nexus to the BDFP or the Community Benefits Program, it has not been incorporated.

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CHAPTER 5
Environmental Justice Effects of Biosolids Digester Facilities Project

5.1 Introduction and Summary

This analysis provides an evaluation of potential environmental justice effects of the SFPUC's proposed Biosolids Digester Facilities Project (BDFP) located at the existing Southeast Treatment Plant (Southeast Plant or SEP) in the Bayview-Hunters Point neighborhood. The analysis has been conducted in compliance with the SFPUC EJ Policy and consistent with Executive Order (EO) 12898.

Pursuant to EO 12898, this report evaluates disproportionately high and adverse human health or environmental effects of the proposed BDFP on minority populations and low-income populations. As described in Section 4.2, above, although the minority populations of the Bayview-Hunters Point neighborhood, San Francisco, and the State of California are all above 50 percent, the minority population percentage of Bayview-Hunters Point as a whole is more than 30 percentage points higher than for San Francisco and the state, and therefore is considered "meaningfully greater" than that of San Francisco and the state. Additionally, the percentage of families and individuals with incomes below federal poverty thresholds in Bayview-Hunters Point are meaningfully greater than the citywide and statewide rates. Therefore, Bayview-Hunters Point is considered to be both a minority and low-income population.

Consequently, an analysis of environmental justice effects has been carried out to determine if the BDFP could contribute to existing or create new disproportionately high and adverse effects on minority or low-income populations in Bayview-Hunters Point. All of the physical environmental impacts of the BDFP formally evaluated in the Draft Environmental Impact Report (EIR; SFPUC, 2017) are analyzed here in light of their potential to create disproportionately high and adverse effects in the Bayview-Hunters Point neighborhood in comparison to nearby areas or to the rest of San Francisco. Where applicable, the analysis considers the potential for the BDFP to affect existing human health and environmental burdens associated with the indicators of environmental justice concerns identified in Section 4.4, above. Additionally, and perhaps most importantly for the community, it addresses whether the BDFP would have beneficial effects on these indicators.

5.2 Screening of Environmental Justice Indicators

5.2.1 Screening of Indicators with no Nexus to the BDFP

Table 5 in Section 4.4 summarized the indicator types reviewed and whether they were considered indicators of disproportionate environmental or social burden in the Bayview-Hunters Point Neighborhood. Conditions that were not found to be indicators of environmental justice concern in Section 4.4 are not considered further in the analysis of the BDFP's potential effect on existing environmental justice indicators.

The first step in the analysis of the BDFP's potential impact on existing environmental justice indicators is to consider whether the BDFP has a potential nexus to each of the indicator types that were determined to be indicators of environmental justice, screening out those without a nexus from further study. For example, although homelessness was found to be an environmental justice indicator, implementation of the BDFP would have no potential to affect this indicator; therefore, it is not considered to have a nexus to the BDFP and this indicator is not carried forward for detailed study. **Table 11**, below, lists the 18 environmental justice indicators that do not have a potential nexus to the BDFP and summarizes the reason each has been screened out during this step.

TABLE 11
ENVIRONMENTAL JUSTICE INDICATORS SCREENED OUT OF BDFP ANALYSIS

Indicator	Reason screened out
Solid Waste Sites and Facilities Proximity	SFPUC does not manage or propose new solid waste sites and facilities, and the BDFP would have no effect on the siting of such facilities.
Affordability Gap: Rental	The BDFP would have no direct effect on rental prices or household incomes, which are the elements that contribute to this indicator.
Prevalence of At Risk Foreclosure	The BDFP would have no direct effect on foreclosure rates.
Displacement	BDFP construction and operation would have no direct effect on housing prices or availability.
Homelessness	The BDFP would not affect rates of homelessness or directly affect homeless people or encampments.
Residential Density	BDFP construction and operation would have no direct effect on residential density because it would not result in new housing, remove existing housing, or preclude new or redeveloped housing.
Academic Performance of Schools	The BDFP would have no direct effect on school performance.
Recreational Area Score	SFPUC does not manage recreational facilities in this neighborhood and the BDFP would not affect the availability or location of recreational facilities.
Average Child Care Burden	The BDFP would have no direct effect on childcare prices or household incomes.
Healthy Food Retail Proximity	The BDFP would have no direct effect on food retail locations.
Financial Services Proximity	The BDFP would have no direct effect on financial services locations.
Poverty: % Below Two Times Federal Poverty Level	The BDFP would have no direct effect on family incomes or family sizes, which are the elements that define whether a family's income is at or below the poverty level.
Earned Income Tax Credit	The BDFP would have no direct effect on household incomes or family sizes, which are the elements that determine eligibility for this tax credit,

TABLE 11 (Continued)
ENVIRONMENTAL JUSTICE INDICATORS SCREENED OUT OF BDFP ANALYSIS

Indicator	Reason screened out
Pre-Natal Care Rate	The BDFP would have no direct effect on access to or use of pre-natal care.
Preventable Hospitalizations / Emergency Room Visits	The BDFP would have no direct effect on access to or use of outpatient care.
Voter Turnout	The BDFP would have no direct effect on voter turnout.
Educational Attainment	The BDFP would have no direct effect on adult educational attainment.
Violent Crime Rate	The BDFP would have no direct effect on violent crime.

5.2.2 Indicators Analyzed in Detail

Based on the above discussion, 18 of the 35 indicators identified in Section 4.4 have no nexus to the BDFP, and no potential to be affected by implementation of the BDFP. The remaining 17 environmental justice indicators are carried forward for detailed analysis of the potential for BDFP to adversely or beneficially affect these indicators in Section 5.3. **Table 12** lists these indicators and the sections in which they are discussed in detail.

TABLE 12
ENVIRONMENTAL JUSTICE INDICATORS CARRIED FORWARD FOR BDFP ANALYSIS

Chapter 5 Section and Indicator	Notes on Analysis
5.3.1, Air Quality and Odors	
PM2.5 Concentrations	Focuses on potential for the BDFP's construction-related and operational emissions of PM2.5 to contribute to local concentrations
Cancer Risk from TACs	Focuses on potential for the BDFP's construction-related and operational emissions of TACs to contribute to or improve local cancer risk
Nuisance Odors	Focuses on potential for proposed new facilities to improve odor conditions inside and outside the SEP boundary compared to existing conditions
5.3.2, Traffic	
Traffic Density	Focuses on potential for construction and operation of the BDFP to result in temporary and/or long-term changes in traffic density in census tracts near U.S. 101 and I-280
5.3.3, Hazardous Materials Generators, Sites, and Contamination	
Presence of Cleanup / Brownfield Sites	Focuses on potential for disturbance of known hazardous substances in soil and groundwater and underground storage tanks, and on potential for beneficial effects related to the removal of storage tanks and remediation of soil and groundwater contamination
Hazardous Waste Generators / Facilities Proximity	Focuses on the continued routine generation of hazardous waste at the facility during operation, although the proximity of facilities to residential neighborhoods would not change or would be reduced.
Zoning for Industrial Uses	Focuses on potential to change the amount of zoning for industrial uses and the use of land zoned for such uses in the BV-HP neighborhood

TABLE 12 (Continued)
ENVIRONMENTAL JUSTICE INDICATORS CARRIED FORWARD FOR BDFP ANALYSIS

Chapter 5 Section and Indicator	Notes on Analysis
5.3.4, Neighborhood Accessibility	
Public Transit Ridership and Score	Focuses on whether the BDFP would affect the number of jobs near high transit ridership streets
Bicycle Network	Focuses on potential temporary effects on local bicycle routes during construction of the BDFP and the potential to improve bicycle amenities along the streets adjacent to SFPUC facilities
Walkability	Focuses on potential temporary effects on pedestrian routes during construction of the BDFP and the potential to improve pedestrian amenities adjacent to SFPUC facilities
5.3.5, Available Services and Resources	
Open Space and Trees	Focuses on tree removal and replanting proposed to occur in the vicinity of the SEP
5.3.6, Income and Unemployment	
Unemployment	Focuses on potential for short-term construction jobs to beneficially affect unemployment rates (since no increase in permanent jobs associated with BDFP)
5.3.7, Health	
Population of Children	Focuses on increases or decreases in localized pollution as a result of the BDFP that may have the potential to adversely affect or improve the health of children
Low Birth Weight	Because ozone pollution may be a risk factor for low birth weight, focuses on increases or decreases in regional ozone pollution as a result of the BDFP
Asthma Hospitalization Rate	Focuses on construction-related and operational emissions of particulate matter and ozone precursors, which contribute to asthma-related hospitalizations
5.3.8, Community and Social Engagement	
Linguistic Isolation	Focuses on whether communication about the BDFP would beneficially or adversely affect linguistic isolation in Bayview-Hunters Point
Community Resiliency to Climate Change	Focuses on indicators that are components of the community resiliency score (hazard, environment, transportation, community, public, housing, economy, health, and demographic indicators)

5.3 BDFP Environmental Justice Impacts

This analysis is organized by category and indicator, consistent with and in the same order as used in the organization of Section 4.4. The analysis is based on a review of the Draft EIR for the BDFP (SFPUC, 2017) for information about details of project implementation and the project's physical environmental impacts. Chapter 2 of the Draft EIR (Project Description) is the source of detailed information about the project objectives, design, construction, and operation, and Chapter 4 (Environmental Setting and Impacts) was reviewed for information about the potential environmental impacts of implementing the BDFP. This information is used to assess the potential for the BDFP to result in or contribute to a disproportionately high and adverse impact

on minority and low-income populations in Bayview-Hunters Point. The analysis focuses on the potential for the BDFP to result in a change in that indicator compared to existing conditions. Throughout this impact analysis, references to these Draft EIR chapters will specify the source document (e.g., Draft EIR Section 4.8, Air Quality).

5.3.1 Air Quality and Odors

Relevant to most of the discussions below, SFPUC has taken care to design the project to reduce air quality impacts by siting the proposed project farther from residential receptors, increasing the turbine exhaust stack height to improve dispersal of air quality constituents, and selecting a low-emission turbine compared to the existing internal combustion engines. Additionally, SFPUC has mitigation measure that would require that all construction off-road equipment and all haul trucks be fueled by renewable diesel, which reduces "tailpipe" (i.e., local pollutant) emissions by 1.1 percent (for ROG) to 24.5 percent (for particulate matter) (Ramboll Environ, 2016), and that would require the use of Tier 4 engines for equipment greater than or equal to 140 horsepower, an improvement compared to the requirements of the Clean Construction Ordinance.

● Particulate Matter (PM2.5) Concentrations

As described in Section 4.4.1, Pollution Burden, fine particle matter (PM2.5) has been shown to cause numerous adverse health effects, including heart and lung disease, which have been considered in the development of health-based standards and are the rationale for CalEnviroScreen's use of PM2.5 concentrations as an environmental justice indicator. Although PM2.5 was determined to be an environmental justice indicator for Bayview-Hunters Point because more people live near PM2.5 concentrations at or above 10 $\mu g/m^3$ (e.g., near U.S. 101) compared to other neighborhoods, it is noted that the state standard for "attainment" of air quality goals is an annual average of 12 $\mu g/m^3$. As shown in Table 4.8-1 of Draft EIR Section 4.8, the 2015 annual average concentration at the monitoring station closest to the Southeast Plant was below 8 $\mu g/m^3$, and the state annual average standard of 12 $\mu g/m^3$ was not exceeded from 2011 to 2015.

PM2.5 concentrations and emissions from construction and operation of the BDFP are addressed in Draft EIR Section 4.8, Air Quality. Impact AQ-1 in Draft EIR Section 4.8.3.3 describes impacts related to BDFP construction emissions, Impact AQ-2 describes operational impacts, and Impact AQ-3 describes the health risk assessment related to PM2.5.

As described in Impact AQ-1, Project-related demolition, excavation, grading, and other construction activities may cause wind-blown dust that could contribute PM into the local atmosphere. Additionally, trucks and off-road construction equipment such as excavators, loaders, backhoes, drill rigs, and cranes would generate PM2.5 emissions during construction. The SFPUC and project contractors responsible for construction activities at the project site would be required to use prescribed practices to control construction dust on the site and to implement mitigation (described in Mitigation Measure M-AQ-1a) to reduce vehicle exhaust. Implementation of these measures would reduce construction emissions of PM2.5 to a fraction of the BAAQMD significance threshold of 54 pounds per day of PM2.5 (the average daily PM2.5 emissions during the most

intensive year of Project construction would be approximately 1.2 pounds per day, approximately 2 percent of the significance threshold). Although any emissions would contribute to ambient concentrations in the area surrounding the Southeast Plant, these emissions are well below the threshold set by BAAQMD to maintain PM2.5 concentrations at levels that protect human health in areas that have existing high levels of fine particulate matter.

As described in Impact AQ-2, existing biosolids processing facilities at the Southeast Plant currently emit criteria pollutants, including PM2.5. These existing emissions are reflected in the concentrations described Section 4.4.1 and in Draft EIR Section 4.8, and represent a fraction of the existing emissions sources that contribute to the average annual PM2.5 concentrations measured in Bayview-Hunters Point, along with many other industrial and traffic-related sources such as U.S. 101 and the concrete batch plant near Islais Creek. The BDFP would replace existing solids processing and energy recovery facilities emissions sources with new equipment. Modeling was conducted to estimate future emissions during operation using conservative assumptions and as such the results may overestimate emission levels. The "net" daily and annual PM2.5 emissions, shown in Table 4.8-10 of Draft EIR Section 4.8, would be an increase compared to existing conditions, but would be well below the CEQA significance thresholds. The net increase in the daily emissions rate (16 pounds per day) would be well below the daily significance threshold (54 pounds per day). The annual emissions for PM would increase from 1.7 tons per year (existing) to 4.6 tons per year in full operation in 2045, a net increase of 2.9 tons per year, which is well below the threshold of 10 tons per year for PM2.5 and 15 tons per year for PM10. Additionally, because the existing localized annual average PM2.5 concentration is below 8 μg/m3, long-term operational emissions that are below the project-specific health-based significance thresholds are not likely to increase localized concentrations such that more people would live in areas with concentrations above 10 μg/m3. This information is summarized in **Table 13**.

TABLE 13
PROJECT-RELATED NET OPERATIONAL PM2.5 EMISSIONS

Daily $PM_{2.5}$ Emissions (pounds/day)		
Existing (2014)[a]	Total	9.3
Full Operation (2045)[e]	Total	25
	Project Impact (Net Change)[c]	*16*
Significance Threshold		54
Annual $PM_{2.5}$ Emissions (tons/year)		
Existing (2014)[a]	Total	1.7
Full Operation (2045)[e]	Total	4.6
	Project Impact (Net Change)[c]	*2.9*
Significance Threshold		10

SOURCE: SFPUC, 2017 (BDFP Draft EIR, page 4.8-53).

Thus, operation of the BDFP would not contribute substantially to this indicator as measured at residences within areas of high PM2.5 concentrations, but would contribute marginally to the

overall concentrations experienced by residents and sensitive receptors closest to the project site. Accordingly, this report includes recommendations (see Section 5.4) that would further reduce or offset emissions of PM2.5 and/or move emissions sources (e.g., haul trucks) away from sensitive receptors.

● Cancer Risk from Toxic Air Contaminants

Section 4.4.1 identified cancer risk from TACs as an environmental justice indicator because the residents living in this area are exposed to higher cancer risk compared to other parts of the city. As described in Impact AQ-3, a health risk assessment was conducted to assess both increased excess lifetime cancer and non-cancer (acute and chronic) risks. The measurement of incremental or excess cancer risk identifies the risk specifically associated with exposure to TACs (i.e., in excess of the risk of cancers caused by other factors). For cancer risk, the thresholds used in the Draft EIR to determine whether the BDFP would have a "significant" impact within Bayview-Hunters Point (i.e., within the 94124 zip code) took into account the fact that the Southeast Plant is currently located within an Air Pollution Exposure Zone (APEZ), where excess cancer risk already is higher than in areas outside an APEZ (as described in Section 4.4.1, the APEZ identifies that the existing excess cancer risk from exposure to TACs is greater than 90 cases per million). Within an APEZ, the threshold for increased excess cancer risk caused by an individual project's emissions is set at 7 cases per million - lower than the typical project-specific threshold for areas not within an APEZ, which is 10 cases per million.

Based on this analysis, the BDFP's net unmitigated or uncontrolled construction and operational emissions (i.e., after subtracting the effects of existing facilities to be decommissioned and removed) would result in a lifetime increase in excess cancer risk of between less than 0.1 and 3.4 cases per million. The greatest increase in excess cancer risk caused by the BDFP would occur at sensitive receptor locations to the east of the project site (i.e., those receptors within Bayview-Hunters Point, compared to receptors in the neighborhoods to the north and west of the project site). This increased excess cancer risk was not found to exceed the significance threshold applicable to the nearest receptors in Bayview-Hunters Point of 7 cases per million. Additionally, mitigation recommended for other air quality-related impacts would reduce the BDFP's net increased excess cancer risk to between less than 0.1 and 1.7 per million, well below the significance threshold.

With the addition of the BDFP's net increase in excess cancer risk to the existing excess cancer risk, no new residential or sensitive receptors would be exposed to total excess cancer risk of over 90 per million. Thus, the BDFP would not contribute to this indicator as measured at residences within areas of high cancer risk, but would contribute marginally to the overall cancer risk experienced by residents and receptors closest to the project site, where the existing risk already is high compared to most parts of the City. Accordingly, this report includes recommendations (see Section 5.4) that would further reduce emissions of TACs that contribute to excess cancer risk and/or move emissions sources (e.g., haul trucks) away from sensitive receptors.

● Nuisance Odors

Section 4.4.1 identified nuisance odors from the Southeast Plant as an environmental justice indicator due to the presence of existing odors around the Southeast Plant. As described in Draft EIR Chapter 2, Project Description, one of the specific objectives of the BDFP is to limit noticeable odors from BDFP facilities to the Southeast Plant property boundary. Draft EIR Section 2.4.1.6 describes the new centralized odor control system proposed to treat odors from the pre- and post-digestion processes in order to meet this objective. As discussed in Impact AQ-5, decommissioning the existing biosolids treatment facilities after the new BDFP facilities are commissioned could result in the release of odors similar to those generated by periodic maintenance of the existing facilities. This would be a temporary effect during decommissioning. Following this, during full operation of the new BDFP facilities, all biosolids handling facilities would be located farther from residences compared to existing conditions – the closest solids handling facility to residences would be approximately 900 feet from the nearest residence, compared to just 100 feet under existing conditions. All of the solids treatment facilities identified as an existing odor source or otherwise associated with an odor incident would be taken out of service and replaced with new facilities, and all new odor sources would be served by the Solids Odor Control facility. The proposed odor control system would have redundant features to help the BDFP meet the off-site odor goals during both routine maintenance and accidental shutdowns. Dispersion modeling completed for the BDFP confirmed that implementation of the proposed odor control measures would result in achieving the odor objective. Therefore, the BDFP would have a beneficial effect by substantially reducing the nuisance odors that currently result in the existing disproportionate conditions, resulting in an improvement related to this indicator.

5.3.2 Traffic

● Traffic Density

As discussed in Section 4.4.1, Pollution Burden, traffic densities in the western portion of Bayview-Hunters Point are higher than most parts of the City, primarily due to the presence of Route 101 and I-280, resulting in disproportionately high traffic densities that can contribute to air pollution and associated adverse health outcomes in the surrounding census tracts. As discussed in Impact TR-1 in Draft EIR Section 4.6, Transportation and Circulation, construction of the BDFP would close two blocks of Jerrold Avenue to public traffic for five years, displacing approximately 6,800 vehicle trips to nearby streets such as Oakdale Avenue and Evans Avenue daily. Traffic volumes during the peak commute hours on Evans and Oakdale Avenues west of Phelps Street would increase as a result of project construction by approximately 20 to 25 percent and 15 to 20 percent, respectively, compared to existing conditions. Although the closure of Jerrold Avenue would increase traffic density on these streets, the Draft EIR determined that both Oakdale and Evans Avenues have sufficient capacity to accommodate diverted traffic without a substantial effect on local vehicle circulation, and overall traffic density contributing to localized air pollution would not change compared to existing conditions because most traffic would be detoured to adjacent streets in the same part of the neighborhood. Construction-related traffic could add up to 780 daily vehicle trips on roads surrounding the Southeast Plant. Impact TR-1

describes this increase as a minimal overall contribution to total traffic volumes. The effects of project construction-related vehicle trips on air pollution-related indicators are described further in Section 5.3.1, Air Quality and Odors.

Impact TR-3 in Draft EIR Section 4.6 indicates that the minimal increase in truck trips associated with future operations by 2045 would not substantially increase total vehicle miles traveled associated with BDFP operations. Thus, long-term operational increases in traffic would not contribute to existing disproportionate conditions related to traffic density.

5.3.3 Hazardous Materials Generators, Sites, and Contamination

● Hazardous Waste Generators and Facilities

As described in Section 4.4.1, Pollution Burden, four Bayview-Hunters Point census tracts (231.02, 231.03, 612, and 9809) rank among the top 15 percent of tracts statewide and the top 25 percent citywide for the presence of hazardous waste generators and facilities (CalEPA, 2014; 2015). The remaining seven census tracts in Bayview-Hunters Point rank lower than the citywide average (are less impacted by the presence of hazardous waste generators and facilities). The existing Southeast Plant and proposed BDFP are located within Census Tract 9809, and the other three high-ranking census tracts are among those closest to these facilities (see Figure 1).

As discussed in Impact HZ-1 in Draft EIR Section 4.17, Hazards and Hazardous Materials, construction of the BDFP would require the use of routine hazardous materials such as fuels, lubricants, and solvents for construction vehicles and equipment. Implementation of required best management practices would minimize the risk of a hazardous materials release during construction activities. Operation of the BDFP would increase the use of several chemicals at the Southeast Plant, including polymer, ferric chloride, diesel, and relatively small quantities of sulfuric acid, antiscalant, sodium hypochlorite (similar to bleach), sodium sulfite, and propane gas. None of these materials is considered extremely hazardous under the definitions in Section 25532 (2)(i) of the Health and Safety Code. These materials would be stored in appropriate containers with spill containment systems within proposed buildings and handled in accordance with regulations for the safe storage and handling of hazardous materials. In accordance with Article 21 of the San Francisco Health Code, the existing Hazardous Materials Business Plan for the Southeast Plant would be revised to reflect these changes in chemical use and storage. The BDFP would comply with the regulations of the California Highway Patrol and the California Department of Transportation related to the transport of hazardous materials during construction and operation.

Impact HZ-2 describes the potential for demolition of structures containing hazardous building materials such as asbestos and lead-based paint and the required adherence to regulatory requirements to protect the environment and public health from these materials. The use of hazardous materials and generation of hazardous demolition debris during construction would be temporary and would not create a substantial new source of hazardous waste. Additionally, no soil containing greater than 0.25 percent asbestos would be excavated or otherwise disturbed during

construction at the project site; thus, the project would not disturb naturally occurring asbestos-containing material as defined by the Asbestos Airborne Toxic Control Measure (ATCM).[10]

As discussed in Impact UT-5 in Draft EIR Section 4.12, Utilities and Service Systems, operation of the BDFP would regularly produce iron sponge media waste and siloxane media waste. In general, the spent media are classified as non-hazardous waste based on pre-disposal sampling. Occasionally, however, the spent media exhibit a low pH resulting in classification as a hazardous waste. Spent media would be trucked to an appropriate landfill (based on pre-disposal testing) for disposal.

Operation of the BDFP would not introduce a new hazardous material generator into or near the census tracts most affected by existing hazardous material generators and facilities, but would increase the amount of hazardous materials used and hazardous wastes generated at the Southeast Plant. None of these materials is considered extremely hazardous. However, compliance with the well-established regulatory framework for the abatement of hazardous materials and of the impacts related to exposure to these materials would minimize the potential for new or increased adverse environmental and human health impacts. Because it would not increase the number of hazardous waste generators in the project area, the BDFP would not contribute to this indicator as measured by the presence of hazardous waste generators in Bayview-Hunters Point, but would contribute marginally to the overall amount of hazardous material at the project site.

● Presence of Cleanup Sites / Brownfield Sites

Cleanup Sites / Brownfield Sites. As described in Section 4.4.1, Pollution Burden, cleanup sites are considered because they present a potential for people to come into contact with hazardous substances, which can move off-site and impact surrounding communities through volatilization, groundwater plume migration, or windblown dust. Two cleanup sites were identified in Bayview-Hunters Point: the Hunters Point Naval Shipyard Superfund site and the Potrero Power Plant (listed as "voluntary cleanup") (DTSC, 2015). Each is approximately 1.5 miles from the Southeast Plant. The BDFP would have no impact related to either of these cleanup sites.

Other Listed Sites. Although the project site is not a cleanup site, and although the presence of underground storage tanks (USTs) and leaking underground storage tanks (LUSTs) was not identified as an indicator of environmental justice concern for Bayview-Hunters Point, this analysis includes a discussion of the prior listing of the Southeast Plant, Central Shops and Asphalt Plant sites in the DTSC Hazardous Waste and Substance Site List (EDR, 2015). The SFPUC has conducted investigations to evaluate soil and groundwater conditions at the project site and detected several chemicals at concentrations exceeding screening levels for commercial/industrial workers. The BDFP would include excavation of these potentially contaminated soils as well as dewatering of potentially contaminated groundwater.

[10] In 2001, the CARB adopted the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations in areas of serpentine and other ultramafic rocks, which became effective in July 2002 (17 Cal. Code Regs. Section 93105)

As discussed in greater detail in Draft EIR Impact HZ-4, there is a robust set of regulatory requirements for site investigation and excavation, discharge of dewatering effluent, closure of facilities that handled hazardous materials, and transportation and disposal of hazardous wastes. The SFPUC has prepared, and the SFDPH has approved, a subsurface investigation report for the BDFP, and the SFDPH has required implementation of a site mitigation plan, dust control plan, and safety plan for construction. Groundwater pumped from excavations would be collected, tested to determine treatment requirements, and treated to remove sediments, suspended solids, or specific chemicals as needed. The SFPUC would also prepare a closure plan for USTs at the Asphalt Plant and Central Shops, which would identify appropriate requirements of disposition of any remaining hazardous materials in the tank and the tank itself. If removal were infeasible, a UST could be abandoned in place. If a release from a UST were indicated on the basis of visual observations or sampling, the SFPUC would be required to submit a corrective action plan, including a community health and safety plan, to the SFDPH and the RWQCB, and remediation would be required in accordance with federal, state, and local regulations. Implementation of these plans would result in controlled removal of potential contaminants from the soil and groundwater in the area. Once operational, the new structures and paved areas would preclude off-site migration of, or future contact with, any soil remaining in place. No additional earthmoving activities generating dust would occur during BDFP operations. The site mitigation plan prepared by SFPUC and reviewed by SFDPH would specify any measures the SFPUC would put in place to manage future contact with the site soil during normal operations and minimize the off-site migration of soil. The SFDPH would review the site mitigation plan to ensure that the proposed measures are protective of future site occupants and the environment.

The BDFP and staging areas are all located within a Maher area as defined by Article 22A of the San Francisco Health Code (the Maher Ordinance). Therefore, the project is subject to this ordinance, which is administered and overseen by the SFDPH. Construction of the BDFP would include closure of USTs at the Asphalt Plant and other hazardous materials handling facilities at the Central Shops in accordance with Article 21 of the San Francisco Health Code. This article would require a closure plan identifying how the need for future maintenance of the USTs will be eliminated, how the threat to the environment and public health and safety will be eliminated, and how all hazardous materials in the facility will be removed and appropriately disposed of. Because the BDFP would result in further cleanup of a historically listed site, it would have a beneficial effect on the presence of such sites within Bayview-Hunters Point, and would be an improvement compared to existing conditions because potential contaminants would be removed, and any future contact with site soils would be managed to be protective of people and the environment.

The BDFP would have no effect on the existing disproportionately high and adverse impact with respect to the presence of cleanup/brownfield sites, and would have a minor beneficial effect with respect to the cleanup of an existing UST.

● Zoning for Industrial Uses

As discussed in Section 4.4.1, Pollution Burden, in 2011, 38 percent of property in the Bayview-Hunters Point neighborhood was zoned for industrial use, compared to 7 percent of property in San Francisco as a whole. Although such zoning may allow for proximity to working class jobs, it also increases the potential for residential and sensitive uses to be located in close proximity to industrial pollution sources (SFDOE and SFDPH, 2012).

As discussed in Impact LU-3 in Draft EIR Section 4.2, Land Use, the BDFP would be completed entirely within lands zoned for and currently used for public and heavy industrial uses. Therefore, the BDFP would not result in a change in zoning for industrial use in the Bayview-Hunters Point neighborhood, and would have no impact on this indicator.

Compared to existing zoning and uses, the BDFP would not contribute to an existing disproportionately high and adverse impact with respect to the amount of land zoned for industrial uses.

5.3.4 Neighborhood Accessibility

● Public Transit Ridership and Score

As discussed in Section 4.4.2, Neighborhood Characteristics, the area of high transit ridership in Bayview-Hunters Point is centered around the 3rd Street light rail line (primarily the Kirkwood/ La Salle, Oakdale/Palou, and Revere stops), which has been in operation since 2006 and connects to BART, Muni, and Caltrain (SFDPH, 2012b). The Indicator Project's "Public Transit Score" measures the number of transit routes within 1 mile, weighted by frequency and distance. Bayview-Hunters Point has a score of 14 out of a possible high score of 100, compared to an average score of 25 citywide, and scores of 48 to 90 in several neighborhoods including Pacific Heights, North Beach, Nob Hill, and Chinatown.

One possible way the BDFP could affect this indicator is by temporarily rerouting transit routes during construction. As discussed in Draft EIR Chapter 2, Project Description, and in Impact TR-1, during BDFP construction the Muni 23 Monterey bus route would be temporarily relocated between Phelps Street and Toland Street from its current route along Jerrold Avenue to Palou and Oakdale Avenues, as determined by the SFMTA. The relocated route would retain connectivity with the rest of the existing Muni 23 Monterey bus route and would be approximately 0.3 mile from the existing stops to be relocated; this route is consistent with the Muni 23 Monterey bus route proposed in the Muni Forward implementation plan, and the SFPUC would coordinate with the SFMTA as needed to address local traffic, transit, bicycle, and pedestrian issues associated with BDFP construction and specifically with this temporary relocation. The BDFP would also include implementation of a site-specific Traffic Control Plan that would establish measures to reduce traffic congestion and temporarily discontinue and relocate bus stops, along with other measures to reduce potential traffic, bicycle, pedestrian, transit, and emergency vehicle access disruptions and safety hazards. The temporary relocation, and restoration of the existing route following construction, is unlikely to affect the transit

ridership score. A possible beneficial effect may occur because the temporary relocation would move this portion of the Muni 23 Monterey bus route closer to residences, increasing the ridership as measured from residential intersections near the route and marginally improving the score; however, it is not expected that the Indicator Project would update the score to reflect this temporary change.

Another possible effect the BDFP could have would be changing the ridership of nearby transit routes. As described in Impact PH-1 in Draft EIR Section 4.4, Population and Housing, construction of the BDFP would take approximately 5 years and employ an average of 313 construction workers daily. During peak construction periods, up to 550 construction workers would travel to the site. Construction workers may take the Third Street light rail line or nearby bus routes to the project site or construction staging areas. By increasing the number of jobs in proximity to these routes, BDFP construction could increase their ridership, resulting in a slightly improved transit ridership score. However, because this effect would be concentrated near the BDFP project site and/or staging areas, it would not affect the ridership of routes near most of the residential intersections in Bayview-Hunters Point, and so is unlikely to have a measurable effect on the score.

Once operational the BDFP would not affect public transit routes or ridership in Bayview-Hunters Point because Jerrold Street would be reopened for vehicle travel, and no additional permanent jobs would be created. Overall, the BDFP may have a minor, beneficial effect with respect to the metrics used in determining the transit ridership score, but would not result in a measurable improvement in the score, and would not contribute to an existing disproportionately high and adverse impact as measured by this indicator.

● Bicycle Network

As described in Section 4.4.2, Neighborhood Characteristics, Bayview-Hunters Point has one of the lowest rates of bike lanes and bike paths per road mile among all neighborhoods in the City. As discussed in Impact TR-1 in Draft EIR Section 4.6, there are several bicycle routes in the project site vicinity, including on Phelps Street, Oakdale Avenue, Third Street, Evans Avenue, and Cesar Chavez Street (which provides a higher-quality Class II bike lane compared to the other streets, which provide only signed bike routes shared with vehicle traffic, not counted in the bicycle network indicator's measurement). None of these roads would be closed during construction or operation of the BDFP, but during the BDFP construction period, Oakdale Avenue and Phelps Street could be used as access routes for construction workers, and Phelps Street may also be used for a construction worker shuttle bus route and by delivery, concrete, and haul trucks. Evans Avenue and Cesar Chavez Street would be used for construction truck access as well as by construction workers. This increased construction truck traffic would result in temporary increased potential for vehicle-bicycle conflicts, in particular, where there are no bicycle lanes along Phelps Street and Evans Avenue. If deemed necessary by the SFMTA during review of the project's Traffic Control Plan, bicyclists may be detoured to other roadways such as Third Street or Newhall Street, and/or advance warning signs stating "Share the Road" would be posted for the safety of bicyclists on Phelps Street and Evans Avenue. Overall, while project construction would result in some

increased potential for vehicle-bicycle conflicts, it would not substantially affect bicycle travel in the area or result in potentially hazardous conditions for bicyclists, and thus would not exacerbate or improve existing disproportionate conditions related to the bicycle network.

As described in Impact TR-3, proposed improvements to Jerrold Avenue between Phelps Street and the Caltrain tracks would include bicycle sharrows (shared roadway/bike lane) within the travel lane that would enhance bicycle accessibility in this location, resulting in a minor beneficial impact on existing disproportionately low rates of bike lane availability. Addition of bicycle sharrows within the vehicle travel lane would create Class III bike routes on this portion of Jerrold Avenue. While this would be an enhancement compared to no signage, it would not quantitatively affect the indicator which counts only separate bike lanes and paths. Therefore, this report includes a recommendation that SFPUC study the option of including dedicated bike lanes as an improvement over the proposed sharrows and consider implementing this design feature (see Section 5.4). If dedicated bike lanes were to be implemented, this would result in a small quantifiable improvement in the bicycle network indicator, concentrated around the Southeast Plant.

● Walkability

As described in Section 4.4.2, Neighborhood Characteristics, the walkability indicator of concern is related to pedestrian safety. As discussed in Impact TR-1, in the vicinity of the Southeast Plant, pedestrian volumes are very low throughout the day, and most pedestrians are current workers at the Southeast Plant. Therefore, temporary closure of Jerrold Avenue would have a minimal direct impact on walkability in the vicinity of the Southeast Plant because existing Southeast Plant employees and BDFP construction workers would still be able to access Jerrold Avenue on foot. Detours around Jerrold Avenue to Oakdale Avenue or Evans Avenue would not result in potentially hazardous conditions to pedestrians. Safety for pedestrians on public streets would be addressed by implementation of a site-specific Traffic Control Plan that would ensure compliance with SFMTA Blue Book regulations which require the implementation of construction safety measures with respect to pedestrians. Construction activities that require use of any portion of the adjacent sidewalk are required to maintain pedestrian access for all users, and where complete sidewalk closures are required, alternative pedestrian access routes and detours are required to be implemented with adequate signage. Construction-related project impacts on pedestrians would be minimal and would not contribute to an existing disproportionately high and adverse impact as measured by this indicator.

As described in Impact TR-3, proposed improvements to Jerrold Avenue between Phelps Street and the Caltrain tracks would include new sidewalks, landscaped buffers, corner bulbouts, and crosswalks at the intersection of Phelps Street and Jerrold Avenue and at two midblock locations that would enhance pedestrian experience and safety in this location, which may result in a minor beneficial impact for pedestrian safety. Final design for this portion of Jerrold Avenue and the intersection of Phelps Street and Jerrold Avenue has not been completed. It is anticipated that design of these elements would be consistent with guidelines for pedestrian safety and lighting in the San Francisco Better Streets Plan (Planning, 2011). This report includes consistency with this

plan as a recommendation for implementation of the BDFP to ensure that the intent of this plan is incorporated into final design for public streets (see Section 5.4).

5.3.5 Available Services and Resources

● Open Space and Trees

As described in Section 4.4.2, Bayview-Hunters Point has approximately three trees per acre, compared to a citywide average of seven trees per acre, as a result of the lack of open space and street trees (SFDPH, 2012; 2015b). Bayview-Hunters Point has 47 trees per road mile, compared to 59 trees per road mile citywide. As described in Draft EIR Sections 2.4.2.3, Architecture and Landscaping, and 2.6.5.5, Tree Removal and Tree Protection Plan, and in Impact BI-3 in Draft EIR Section 4.14, Biological Resources, BDFP construction activities would include the removal of about 90 trees from the area within and around the project site and potential staging areas, seven of which are significant trees, defined in Section 810A of the San Francisco Urban Forestry Ordinance. No street trees are proposed for removal. The SFPUC proposes to plant trees and other landscaping in and around project sites. Plantings would both replace trees removed within the project site along Jerrold Avenue as well as add trees in new locations along Jerrold Avenue, potentially increasing the number of trees along this roadway. The number of trees to be planted has not yet been determined; however, SFPUC intends to plant trees in accordance with a landscaping plan that will be finalized after further project design. The BDFP is not expected to contribute measurably to an existing disproportionately high and adverse impact with respect to the overall number of trees per acre and per road mile in the Bayview-Hunters Point neighborhood, and any effect from the net increase or decrease in the number of trees would be concentrated on the areas close to and within the project site and would not affect most of the neighborhood. This report includes a recommendation that SFPUC meet the spirit of the San Francisco Urban Forest Plan (Planning, 2014c) by replacing all trees at a minimum 1:1 ratio.

The BDFP would have no impact on the amount of open space in Bayview-Hunters Point.

5.3.6 Income and Unemployment

● Unemployment Rate

As described in Section 4.4.3, Population Characteristics, the unemployment rate in Bayview-Hunters Point was approximately 16 percent in 2013, compared to a citywide unemployment rate of 8.3 percent (U.S. Census Bureau, 2014a). Further, the San Francisco Local Hiring Policy for Construction (Section 6.22(G) of the Administrative Code) has identified Bayview-Hunters Point as one of the neighborhoods disproportionately affected by unemployment.

As described in Draft EIR Section 4.4, Population and Housing, construction of the BDFP would take approximately 5 years and employ an average of 313 construction workers daily. About 16,800 people worked in construction jobs in San Francisco in 2014. Given the size of the regional construction work force compared to the number of workers needed for project construction, BDFP construction workers would likely be drawn primarily from the local and regional

construction workforce. Specifically, under the San Francisco Local Hiring Policy for Construction, at least 30 percent of project work hours must be performed by San Francisco residents, and for entry-level (apprenticeship) jobs, half of all work hours must be performed by San Francisco residents. Presuming that some residents of the Bayview-Hunters Point neighborhood work or would apply for jobs in the local construction industry, BDFP construction could provide employment to residents of the neighborhood, resulting in a beneficial effect on an existing disproportionately high and adverse condition with respect to unemployment.

Operation of the BDFP would not increase the number of workers employed at the Southeast Plant, and would therefore have no effect on the unemployment indicator.

5.3.7 Health

● Population of Children

Section 4.4.3 explains that CalEnviroScreen uses the population of children to gauge a census tract's relative potential for age-related effects, such as health consequences from exposure to pollution earlier in life. With respect to air pollution from the BDFP, as described in Section 5.3.1, the BDFP would contribute marginally to localized concentrations of PM2.5, but would not result in emissions that exceed project-specific health-based thresholds or increase localized concentrations above state ambient air quality standards. Additionally, as described in Impacts AQ-1 and AQ-2 in Draft EIR Section 4.8, Air Quality, estimated construction and operational emissions of most other criteria pollutants would be below the applicable health-based thresholds (see discussion of construction-period NOx emissions below). Because the thresholds on which these determinations are based are designed to maintain air quality standards that are protective of children's health, they already consider potential health consequences for children. Similarly, estimates of excess cancer risk described in Section 5.3.1 consider the additional risk to children; as described in the Cancer Risk indicator, the BDFP would marginally increase excess cancer risk at receptors closest to the project site.

The only exceedance of a criteria pollutant threshold would occur during construction as a result of NOx emissions. NO_x is an ozone precursor, and as described in Section 4.4.1, Pollution Burden, ozone pollution poses potentially significant health threats including respiratory effects. However, ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. As described in Section 4.4.1, Pollution Burden, Bayview-Hunters Point does not experience disproportionately high ozone concentrations compared to the rest of the City, and ozone concentrations were not identified as an indicator of environmental justice concern. Additionally, as shown in Table 4.8-1 in Draft EIR Section 4.8, existing annual average and maximum daily ozone levels at the monitoring station closest to the Southeast Plant are well below state health-based standards, with no exceedances between 2011 and 2015. Additionally, implementation of Draft EIR Mitigation Measure M-AQ-1a (Construction Emissions Minimization) would reduce NO_x emissions to below the applicable significance threshold during three of the five construction years, in part by requiring all off-road equipment with larger engines to meet USEPA or California Air

Resources Board (CARB) Tier 4 Final off-road emission standards, 80 percent of haul trucks must have 2010 or newer engines, and all diesel-powered haul trucks and off-road equipment must use renewable diesel. In addition, implementation of Mitigation Measure M-AQ-1b (Emission Offsets) could offset the residual NO_x emissions to below significance thresholds during the remaining two of the five construction years, but because no emission reduction project(s) has yet been defined by the SFPUC, construction-related NO_x emissions could remain above thresholds during those years. Because NOx emissions would begin to be dispersed regionally as they are turned into ozone by the photochemical reaction process, NOx emissions from the BDFP would not result in localized ozone concentrations that are higher than surrounding areas. Therefore, construction-related NOx emissions from the BDFP would not result in a disproportionately high and adverse impact in Bayview-Hunters point compared to other parts of the City and region, and thus would not disproportionately affect the health of children in Bayview-Hunters Point.

● Low Birth Weight

As described in Section 4.4.3, the higher rate of low birth weight in Bayview-Hunters Point compared to the City as a whole is an indicator of environmental justice concern for the neighborhood. While the causes of low birth weight vary, environmental factors such as air pollution are associated with higher rates of low birth weights. Ozone pollution, particulate matter, and TAC emissions may be among the risk factors for low birth weight. Because ambient ozone concentrations are not disproportionately higher in Bayview-Hunters Point, it is likely that other factors are responsible for the higher local incidence of low birth weight. The BDFP would result in increased short-term and long-term PM2.5 and TAC emissions that would marginally increase concentrations at residential receptors near the project site; however because the precise causes of low birth weight are unknown, the potential effect of BDFP emissions on the rate of low birth weight in Bayview-Hunters Point cannot be estimated.

● Asthma Hospitalization Rate

Particulate and ozone pollution can trigger asthma attacks. As described above, the BDFP would not result in disproportionately high and adverse localized concentrations of ozone during construction or operation because ozone is a regional pollutant. The BDFP would result in short-term and long-term increased PM2.5 emissions that would marginally increase concentrations at residential receptors near the project site, but would not exceed health-based thresholds. While the potential effect of BDFP emissions on the rate of asthma-related hospitalizations cannot be estimated, there is some potential for BDFP emissions to contribute to this indicator.

5.3.8 Community and Social Engagement

● Linguistic Isolation

Multilingual outreach efforts for the BDFP have included posting notices in Chinese and Spanish community newspapers (Sing Tao and El Tecolote) for the BDFP Scoping Meeting/BDFP Open House in 2016. Project factsheets have been translated into both Spanish and Chinese and used for

local District and citywide events. SFPUC also initiated pre-scoping outreach to a variety of District 10 and citywide organizations that represent the broader community and provided translated materials during this effort. Most recently, SFPUC broadly noticed the March 18, 2017 Open House and included information on the notice in Spanish and Chinese, and provided materials in both languages at the event. To date, public outreach for the BDFP has addressed the needs of Spanish- and Chinese-speaking Bayview-Hunters Point residents with limited English proficiency.

One mitigation measure recommended in the Draft EIR includes a public outreach provision. Mitigation Measure M-NO-1a, Construction Equipment Source and Administrative Controls, would require that SFPUC post a sign on-site describing permitted construction days and hours, noise complaint procedures, and a complaint hotline number available during construction hours. Additionally, implementation of San Francisco's Clean Construction Ordinance, as described in Draft EIR Section 4.8.2.3, would require that the Construction Emissions Minimization Plan be made available to the public for review on-site during working hours and that the contractor post a legible and visible sign at the construction site that summarizes the plan, states that the public may ask to inspect the plan for the project at any time during working hours, and explains how to request to inspect the plan. Neither the Noise mitigation measure nor the Clean Construction Ordinance specifically requires that this public signage be made available in multiple languages (e.g., English, Spanish, and Chinese); however, the SFPUC's Language Access Policy (SFPUC, 2011) would apply to this signage.[11] If signs were to be posted in English only, members of the public with limited English proficiency may be unable to fully participate in the intended public outreach aspects of the mitigation measure and ordinance, and therefore may be unaware of the opportunity or unable to make noise complaints or to inspect the Construction Emissions Minimization Plan. This could disproportionately affect Bayview-Hunters Point residents with limited English proficiency and reduce the effectiveness of these public outreach measures. Therefore, this report includes a recommendation that SFPUC ensure that signs posted pursuant to Mitigation Measure M-NO-1a and the Clean Construction Ordinance comply with SFPUC's Language Access Policy by providing information in both Spanish and Chinese.

● Community Resiliency to Climate Change

This indicator, described in Section 4.4.4, is expressed as a score that weighs a neighborhood's relative resilience in nine categories. The BDFP would have no effect on the Housing, Public Realm, or Demographics components of the resiliency score. Many of the factors in the remaining categories are the same as individual indicators discussed in this report, such as the Public Transit Score in the Transportation Category. Below is a summary of potential BDFP effects in each of the remaining six categories.

[11] "Where it is applicable, the SFPUC provides written translation materials in Spanish and Chinese including but not limited to…written public notices…"

Hazard Risk

The BDFP would not directly affect the factors that make up this category, which are the percentages of the Bayview-Hunters Point neighborhood that are located in 1) the 100-year storm flood plain, 2) a "high" or "very high" heat vulnerability area, or 3) a liquefaction or landslide zone. Therefore, it would not directly affect this category's score or contribution to the overall resiliency score. The BDFP would have no effect related to people's vulnerability to extreme heat events. However, it could indirectly affect the hazard risk associated with the 100-year storm flood plain by placing new facilities and uses that may be susceptible to flood or liquefaction risk.

As described in Draft EIR Section 4.16, Hydrology and Water Quality, only the near-shore areas of Piers 94 and 96 staging areas are located within a 100-year flood zone; the remaining staging areas and the project site are not located in an existing 100-year flood zone. As discussed in Impact HY-3, the BDFP would not place structures that could exacerbate flood hazards within the existing 100-year flood zone at the near-shore areas of Piers 94 and 96, and thus would not expose people or structures to a hazard risk associated with the existing 100-year flood zone. As described in Impact HY-8, due to sea level rise, the 100-year flood zone could expand inland from near-shore areas, and using the upper range of sea level rise projections, it is possible that a portion of the project site could be subject to shallow flooding under 2100 sea level rise conditions. As described in Draft EIR Chapter 2, Section 2.4.2, Other Project Features, proposed facilities that could be affected by future flooding due to sea level rise would include flood-proofing features and incorporate adaptive features to provide resilience to potential worst-case flood levels. Therefore, the BDFP would not exacerbate future flooding, and would not indirectly affect this factor of the Hazard Risk score.

Draft EIR Section 4.15, Geology, Soils, and Paleontological Resources, indicates that the BDFP site is not in an area susceptible to landslide, but is located in a potential liquefaction hazard zone. As described in Impact GE-1, the proposed facilities would not be subjected to substantial damage due to liquefaction because they would be constructed in accordance with the San Francisco Building Code and ASCE/SEI 7-10 as well as the SFPUC's General Seismic Design Requirements that require that the proposed structures be designed to withstand the expected seismic forces and the effects of liquefaction. Therefore, the BDFP would not indirectly affect this factor of the Hazard Risk score.

Overall, the BDFP would not affect the Hazard Risk score.

Environment

The factors that contribute to this category are: 1) percent impervious surface, 2) percent tree cover, 3) average annual PM2.5 concentration from all sources, and 4) percent of the neighborhood at contamination risk.

As described in Impact HY-6 in Draft EIR Section 4.16, the project site is currently covered by impervious surfaces that prevent groundwater recharge. With implementation of the BDFP, the project site would continue to be covered by impervious surfaces, and no new impervious surfaces would be constructed at the staging areas. Therefore, the BDFP would not affect this factor of the Environment score.

As described above in Section 5.3.5 for the Open Space and Trees indicator, BDFP construction activities would include the removal of about 90 trees from the project site, and SFPUC has not yet determined how many replacement trees would be planted. BDFP plantings would be concentrated within the project site and on streets adjacent to the project site (e.g., Jerrold Avenue). The net increase or decrease in the total number of trees would be too minimal and concentrated in too small an area to be quantitatively reflected in the percent tree cover measurement, and the BDFP is not expected to adversely affect this factor.

As described above in Section 5.3.1 for the Particulate Matter (PM2.5) indicator, the BDFP would result in a long-term increase in PM2.5 emissions. Although its PM2.5 emissions would not exceed health-based thresholds set by the BAAQMD, the BDFP would marginally increase the annual PM2.5 emissions in Bayview-Hunters Point, contributing to a potential increase in the average annual concentration of PM2.5 from all sources. However, the BDFP's emissions would not be great enough to cause concentrations to increase to above applicable health-based standards.

Finally, as described in Section 5.3.3 under the Presence of Cleanup/Brownfield Sites indicator, the BDFP would result in further cleanup of a site historically listed for presence of hazardous substances, potentially resulting in a minor beneficial impact on the percent of the neighborhood at contamination risk. Under the Hazardous Waste Generators and Facilities indicator in the same section, it is acknowledged that the BDFP would increase the use of some chemicals; however, the BDFP would be located at the existing Southeast Plant where such materials already are in use. Therefore, it would not increase the percent of the neighborhood that is at contamination risk.

Overall, the BDFP would have minor beneficial effects on the Environment category by cleaning up a listed site, but would also contribute to average annual PM2.5 concentrations. None of these effects would be large enough to affect the Environment category score.

Health

The BDFP would have no effect on most of the factors contributing to the Health category: the number of shelters and cooling centers in Bayview-Hunters Point, the percent of the population within 30 minutes of a hospital or clinic, or the percent of the population reporting a disability. As indicated in Table 11, the BDFP would have no nexus to the Preventable Hospitalizations indicator defined in Chapter 4. The BDFP could affect the number of asthma-related hospitalizations, as described in Section 5.3.7, some of which may be considered to be preventable. Overall, however, the effects of the BDFP would not be large enough to affect the Health category score.

Transportation

The two factors contributing to the Transportation score are the average minutes of active transportation (walk and bike) per day and the Public Transit Score. As described in Section 5.3.4 under the Public Transit Ridership and Score, Bicycle Network, and Walkability indicators, the

BDFP is unlikely to have a measureable effect on the Public Transit Score, but may have a minor beneficial effect on neighborhood residents' use of active transportation by temporarily relocating the Muni 23 Monterey bus route closer to residences, adding bicycle sharrows to a section of Jerrold Avenue, and improving sidewalks and crosswalks on Jerrold Avenue. However, the potential effect of these changes on the use of active transportation is likely to be minor, and cannot be estimated with certainty.

Economy

The only factor contributing to the Economy category is the percent of the population over 16 that are employed. As described in Section 5.3.6 under the Unemployment Rate indicator, the BDFP may have a beneficial effect on the neighborhood employment rate during construction. Based on the data provided by SFClimateHealth.org, the employment rate for the population over 16 would need to increase approximately from 83 percent to 90 percent in order to increase the Economy score from 1 to 2 (SFDPH, 2015d). As described in Section 4.4.3, Population Characteristics, Bayview-Hunters Point has about twice the number of residents 17 years old or younger than the citywide average. The greater proportion of 16- and 17-year-olds in the neighborhood compared to other parts of the city may account for some of the lower rate of employment of those aged 16 and over if most are not working because they are in school. However, given the total population of Bayview-Hunters Point, an increase of 7 percentage points in the adult employment rate would require employing approximately 1,350 of the currently unemployed workforce in the neighborhood (based on the total workforce of 19,255 described in Section 3.2.2). This is many more people than BDFP construction would require. Therefore, although the BDFP would have a beneficial employment effect during construction because it would be required to employ San Francisco residents for at least 30 percent of the work hours represented by the average 313 construction jobs, it would not measurably affect the Economy score.

Community

As indicated in Table 11, the BDFP would have no nexus to the violent crime rate or voter participation. Similarly, the BDFP would not affect the percent of the population that moved to San Francisco within the last year or that does not have United States citizenship. While the BDFP would have no effect on the percent of the Bayview-Hunters Point population living in households without English spoken "Very Well," and therefore would have no direct effect on the factors contributing to the Community Score, as described in Section 5.3.8, public outreach related to the BDFP presents an opportunity to address linguistic isolation by implementing multilingual outreach where appropriate.

Summary

For the reasons described above, implementation of the BDFP is unlikely to measurably affect Community Resiliency to Climate Change, although it would have minor direct and indirect effects related to several of the factors that make up this indicator.

5.3.9 Other Impacts of BDFP

In addition to the analysis of potential BDFP effects on existing environmental justice indicators above, other environmental impacts of the BDFP identified in the Draft EIR were considered in light of whether these impacts would have the potential to cause a disproportionately high and adverse effect within Bayview-Hunters Point. The other Draft EIR impacts reviewed included traffic and transportation (including emergency vehicle access), wind and shadow, public utilities, public services, biological resources, energy and water consumption, aesthetics, cultural resources, noise and vibration, greenhouse gas emissions, seismic safety, water quality, groundwater resources, emergency response and evacuation, and fire risk. The BDFP would not result in significant impacts with respect to most of these topics (some would require implementation of proposed mitigation measures to reduce impacts to a level that is less than significant). For example, mitigation recommended in the Draft EIR would ensure that noise-sensitive receptors including the Wu Yee South East Development Center and residences on the east side of Phelps Street would not experience substantial increases above ambient noise levels. Because these additional potential impacts of the BDFP would be minimal or would be reduced to a level that is not significant with implementation of mitigation proposed in the BDFP Draft EIR, they would not cause a disproportionately high and adverse effect on minority and low-income populations in the Bayview-Hunters Point neighborhood.

One exception is cultural resources, for which the BDFP would result in a significant and unavoidable impact associated with demolition of Buildings A and B at the Central Shops site and Building 870 at the Southeast Plant. The loss of historic buildings was not identified as an indicator of environmental justice concern in Bayview-Hunters Point, nor as a community concern with respect to environmental justice issues. Further, these buildings are located within the campuses of the Central Shops and Southeast Plant, and are mostly obscured from public view (i.e., from Jerrold Avenue) by walls, fences, and other buildings. Therefore, this impact of the BDFP would not be expected to cause a disproportionately high and adverse effect on minority and low-income populations in the Bayview-Hunters Point neighborhood.

5.4 Environmental Justice Recommendations for BDFP

The SFPUC has incorporated commitments to environmental improvement in the design and implementation of the BDFP. As described in Section 5.3.1, the project has been designed to be as far from residential receptors as feasible within the available site at the Southeast Plant and to incorporate turbine design features that decrease emissions and improve dispersal of emissions. BDFP requirements for cleaner construction equipment fuel and engine efficiencies are more stringent than is required by the Clean Construction Ordinance, reducing emissions during project construction. Also described in Section 5.3.1 is the SFPUC's commitment to limit noticeable odors from BDFP facilities to the Southeast Plant property boundary, which would substantially improve nuisance odors surrounding the plant.

In May 2017, SFPUC presented a preview of this report to the Facilities & Design Committee of the Southeast Community Facility Commission and received feedback from members expressing

interest in 24-hour source monitoring to account for peak emissions. Accordingly, the SFPUC will develop options for air monitoring (see recommendation below). Another comment expressed a desire for more coordination between SFPUC and agencies with jurisdiction over other local construction projects on construction traffic impacts. The BDFP Draft EIR Project Description includes the requirement for a robust traffic control plan and hiring a Southeast Area Program Construction Manager to coordinate traffic on all SFPUC construction projects including coordination with other City agencies such as MTA and CTA. Construction traffic was not identified as an environmental justice impact; however, the EIR preparers have received comments on the Draft EIR addressing this concern, and will consider it in preparation of the Final EIR.

Based on the analysis in Section 5.3 and additional feedback received prior to publication, the following actions are recommended to improve outcomes of BDFP implementation and outreach related to environmental justice.

- **PM2.5 Concentrations and Cancer Risk from TACs:**
  - SFPUC should develop options for routine monitoring air pollutant emissions at the Southeast Plant and implement at least one monitoring option for PM2.5. One option may be directly monitoring emissions from the turbine exhaust stack.[12]
  - If source testing of the turbine emissions indicates PM2.5 emissions exceed 3.0 tons per year, consistent with future emissions rates under the no-project alternative (Ramboll Environ, 2017), then SFPUC should enact a PM2.5 offset program to further reduce operational emissions. Based on estimates provided in the Draft EIR (Table 4.8-10), this would require an offset of approximately 1.6 tons per year. Because PM2.5 is a local pollutant (as shown in Figure 6), SFPUC should prioritize PM2.5 reduction options that are located near the Southeast Plant and/or within the existing APEZ that the Southeast Plant is within, followed by options located within the broader Bayview-Hunters Point neighborhood. PM2.5 offsets achieved under option 1 of Mitigation Measure M-AQ-1b (which is recommended to reduce ozone precursor emissions, but could incidentally also reduce PM2.5 emissions) can be used to satisfy part of this PM2.5 offset program if the reductions would be located in Bayview-Hunters Point.
  - SFPUC should coordinate with SF Environment and MTA to expand the City's electric vehicle charging station network by installing publically accessible electric vehicle charging stations in District 10 (close to the Southeast Plant) to facilitate the use of electric vehicles in this area of Bayview-Hunters Point.
  - SFPUC should include a provision in the Traffic Control Plan (described in Section 2.6.13 of the BDFP Draft EIR) that equipment and haul trucks shall not park in or block the loading zone in front of the Wu Yee South East Development Center (daycare) at 1300 Phelps Street during drop-off and pick-up times and during scheduled recess times when children are most likely to be outdoors.

[12] Regarding ambient air quality monitoring in Bayview-Hunters Point, see Community Benefits-related recommendations in Section 6.4.

- **Bicycle Network:** Where the BDFP would make roadway improvements along Jerrold Avenue, SFPUC should coordinate with MTA to study the option of including dedicated bike lanes as an improvement over the proposed sharrows and consider implementing this design feature consistent with the San Francisco Bicycle Plan.
- **Walkability:** SFPUC should coordinate with the inter-agency "Street Design Review Team" to ensure that final design for replacement night lighting along the portion of Jerrold Avenue by the Southeast Plant is consistent with Section 6.3 of the San Francisco Better Streets Plan, including upgrading street lights in this location to LED lighting as is currently underway for SFPUC-owned street lights. Final design also should improve the pedestrian crossing at Jerrold and Phelps, consistent with guidelines in the Better Streets Plan.
- **Open Space and Trees:** Although no street trees would be removed during BDFP construction, to avoid adversely affecting the total number of trees within Bayview-Hunters Point, SFPUC should prepare the draft landscape plan with intent of meeting the spirit of Strategy 2.1.1 of the San Francisco Urban Forest Plan Phase 1 (Street Trees) of replacing all removed trees at a minimum 1:1 ratio (Planning, 2014c). If Phase 3 of the Urban Forest Plan (Buildings and Private Property) is published before the landscaping plan is finalized, SFPUC should review the strategies identified therein and consider whether the landscaping plan is consistent. SFPUC should consider tree planting in District 10 if there is not sufficient space within the Southeast Plant.
- **Linguistic Isolation:** Consistent with Section IV.C of the SFPUC Language Access Policy SFPUC should provide public signage pursuant to Mitigation Measure M-NO-1a and the Clean Construction Ordinance in both Spanish and Chinese.

CHAPTER 6
Community Benefits Program

6.1 Introduction and Summary

The SFPUC believes that our capital projects are not only investments in our facilities but also investments in the future of our communities. Our Environmental Justice and Community Benefits policies shape how we provide our water, power and sewer services. It's simply how we do business. Additionally, the SFPUC supports the City's historic mitigation agreement with the Bayview Hunters Point neighborhood which aims to lessen the environmental and social impacts of the Southeast Treatment Plant by providing residents with educational and job opportunities through the Southeast Community Facility and Greenhouses.

The SFPUC is also dedicated to creating education and professional development opportunities that provide valuable employment skills. As one of the City's largest employers, we're fostering a skilled and diverse local workforce that manages our water, power and sewer operations and is connected to the communities we all call home. We partner with government, education institutions, labor unions, companies and nonprofit organizations at the local, regional and state levels to develop a strong and reliable pipeline of workers for today and tomorrow. Further, our workforce development programs connect local youth and adults with learning, apprenticeship, job training, employment, and business opportunities.

Similarly, the SFPUC is committed to preparing the next generation of environmental stewards and continuing to engage with existing generations to prevent pollution and sustain our natural resources. We collaborate with community organizations, the school district, and other City departments to create programs and tools that educate youth about ecoliteracy, and Science, Technology, Engineering, Art, and Math (STEAM) opportunities. Over the years, we've worked with non-profits and City agencies to upgrade schools and public spaces with healthier, more sustainable features like solar panels, tap water bottle-filling stations, and permeable pavement.

Additionally, the SFPUC contributes to public art through the City's Public Art Ordinance, committing 2 percent of all above ground infrastructure project costs to support arts enrichment. As part of our mission to be inclusive of environmental and community interests, we work with the San Francisco Arts Commission, artists and residents to create public art that inspires communities to appreciate and respect the environmental resources entrusted to our care.

Lastly, as we upgrade our aging infrastructure to maintain public health standards and ensure operation efficiency, we're investing in upgrades to our various Southeast facilities. Specifically,

after several years of community input and dialogue, we're building a new, world class community center at 1550 Evans and launching a Greenhouse Grants Program.

The following discussion of effects of the Community Benefits Program on environmental justice indicators is provided to assess how effectively existing and planned initiatives are targeting known areas of environmental injustice specific to Bayview-Hunters Point and to determine whether additional recommendations are appropriate to better target SFPUC investments in programs benefiting this neighborhood.

6.2 Screening of Environmental Justice Indicators

Table 5 in the Section 4.4 summarized the indicator types reviewed and whether they were considered indicators of disproportionate environmental or social burden in the Bayview-Hunters Point Neighborhood. This section considers whether the Community Benefits Program has a potential nexus to each of these indicators, screening out those without a nexus from further study. **Table 14**, below, lists the indicators of concern for environmental justice in the Bayview-Hunters Point neighborhood as determined in Section 4.4, and then describes whether each has a potential nexus to the Community Benefits Program.

TABLE 14
ENVIRONMENTAL JUSTICE INDICATOR POTENTIAL NEXUS
TO COMMUNITY BENEFITS PROGRAM

Indicator Type	Potential Benefit	Notes Regarding Nexus to Community Benefits Program
PM2.5 Concentrations	●	Although the Community Benefits Program does not currently include initiatives to directly reduce localized air pollutant concentrations, the Community Benefits Policy includes support for environmental programs and policies which preserve and expand clean, renewable water and energy resources, decrease pollution, reduce environmental impacts, and reward proposals for innovative and creative new environmental programs. See the Community Benefits Policy in Appendix C, which identifies desired outcomes related to decreasing pollution (#3) and maximizing individual health and improving community health (#7 and #10).
Cancer Risk from TACs	●	As described under "PM 2.5 Concentrations," the Community Benefits Policy supports programs and policies that decrease pollution. See the Community Benefits Policy in Appendix C, which identifies desired outcomes related to decreasing pollution (#3) and improving community health (#10).
Nuisance Odors	●	As described under "PM 2.5 Concentrations," the Community Benefits Policy supports programs and policies that decrease pollution and reduce environmental impacts such as nuisance odors from SFPUC facilities. See also the Environmental Justice Policy in Appendix B, which identifies SFPUC's commitment to preventing, mitigating, and lessening disproportionate impacts such that no group of people bears a disproportionate share of negative environmental consequences resulting from operations, programs, and/or policies of the SFPUC.
Traffic Density		No nexus - The Community Benefits Program does not directly promote improvements in traffic density.
Presence of Cleanup / Brownfield Sites		No nexus - The Community Benefits Program does not directly promote improvement of brownfield sites.
Hazardous Waste Generators / Facilities Proximity		No nexus - The Community Benefits Program does not have a direct nexus to the locations of hazardous waste generators or facilities.

TABLE 14 (Continued)
SUMMARY OF ENVIRONMENTAL JUSTICE INDICATOR POTENTIAL NEXUS TO COMMUNITY BENEFITS PROGRAM

Indicator Type	Potential Benefit	Notes Regarding Nexus to Community Benefits Program
Solid Waste Sites and Facilities Proximity		No nexus – The Community Benefits Program does not have a direct nexus to the locations of solid waste sites or facilities.
Zoning for Industrial Uses		No nexus – Although the Community Benefits Policy promotes the use of land in a way that maximizes health, environmental sustainability, and innovative ideas, the Community Benefits Program does not affect the SFPUC's uses of or need for land for industrial process (e.g., for wastewater treatment).
Affordability Gap: Rental	●	Although the Community Benefits Program does not have a direct nexus to median rental prices, it does include local hiring policies, facilitate job training and placement, and provide other services that may have a beneficial effect on household incomes, potentially reducing the affordability gap.
Prevalence of At Risk Foreclosure		No nexus – The Community Benefits Program does not have a direct nexus to the prevalence of at-risk foreclosures.
Displacement	●	Employment- and financial services-related aspects of the Community Benefits Program may help reduce displacement.
Homelessness	●	The Human Services Agency is a tenant of the Southeast Community Facility that provides some assistance to homeless individuals and families. Additionally, in anticipation of large storms, the Southeast Community Facility could be designated as an emergency temporary shelter.
Residential Density		No nexus – The Community Benefits Program does not have a direct nexus to the density of residential housing units.
Public Transit Ridership and Score	●	If moving the Southeast Community Facility closer to the 3rd Street transit stop would move jobs closer to this stop, it would have an incremental beneficial effect on proximity of jobs to streets with high transit ridership, and indicator of access to transit.
Bicycle Network		No nexus – the Community Benefits Program does not have a direct nexus to improving the bicycle network.
Walkability	●	While the indicator itself is based on proximity to specific categories of services, the Community Benefits Program does contribute to pedestrian amenities.
Academic Performance of Schools	●	Although the Community Benefits program is not directly aimed at improving test scores, the program makes investments in engineering and science education and ecoliteracy curricula that may have the benefit of improving related test scores.
Recreational Area Score	●	Although SFPUC does not manage recreational facilities in this neighborhood, there may be an opportunity to add recreational space as part of the Southeast Campus revitalizations.
Open Space and Trees	●	As a large landowner, SFPUC has the opportunity to implement design and land use policies that promote the inclusion of open space and trees.
Average Child Care Burden	●	Wu Yee Children's Head Start Services, a tenant at the Southeast Community Facility, provides child care resource and referral services, including child care help and payment assistance.
Healthy Food Retail Proximity	●	While the Community Benefits Program does not have a direct effect on healthy food retail locations, SFPUC is considering implementing an urban agriculture program in Bayview-Hunters Point that could increase access to fresh produce. Other programs may also increase access to fresh produce and convenient water sources.
Financial Services Proximity	●	Revitalization of the Southeast Community Facility may accommodate financial services.

TABLE 14 (Continued)
SUMMARY OF ENVIRONMENTAL JUSTICE INDICATOR POTENTIAL NEXUS TO COMMUNITY BENEFITS PROGRAM

Indicator Type	Potential Benefit	Notes Regarding Nexus to Community Benefits Program
Poverty: % Below Two Times Federal Poverty Level	●	SFPUC Economic and Workforce Development programs are intended to improve economic indicators.
Unemployment	●	SFPUC Economic and Workforce Development programs are intended to improve employment indicators. Employment is a key component of SFPUC's EJ policy.
Earned Income Tax Credit	●	SFPUC Economic and Workforce Development programs are intended to improve economic indicators.
Population of Children	●	As described under "PM 2.5 Concentrations," the Community Benefits Policy supports programs and policies that decrease pollution. Additionally, the Human Services Agency is a tenant of the Southeast Community Facility that assists families with obtaining health care coverage. Improved access to health care can beneficially affect the health of children in Bayview-Hunters Point.
Pre-Natal Care Rate	●	The Human Services Agency is a tenant of the Southeast Community Facility that assists families with obtaining health care coverage, which may improve access to pre-natal care. Additionally, the Southeast Community Facility hosts an annual Family Health Fair in partnership with area hospitals and medical service providers with free health screenings.
Low Birth Weight	●	As described under "Pre-Natal Care Rate," tenants and activities at the Southeast Community Facility can increase access to pre-natal care, which may reduce the rate of babies born with low birth weight by providing health and other support during pregnancy.
Asthma Hospitalization Rate	●	The Human Services Agency is a tenant of the Southeast Community Facility that assists families with obtaining health care coverage, which may reduce asthma-related hospitalizations by providing preventative care and education about managing asthma.
Preventable Hospitalizations / Emergency Room Visits	●	The Human Services Agency is a tenant of the Southeast Community Facility that assists families with obtaining health care coverage, which may reduce preventable hospitalizations by providing preventative care and/or earlier diagnosis and treatment of health problems. Additionally, access to health care coverage provides an alternative to the emergency room for primary care.
Voter Turnout		No nexus – The Community Benefits program does not have a direct effect on voter turnout.
Educational Attainment	●	City College of San Francisco has a campus at the Southeast Community Facility, providing adult educational resources. Five Keys Charter School, another tenant, educates inmates and ex-offenders within the jail and post-release systems by providing high school classes and access to community-based programs that provide recovery, parenting and work skills.
Linguistic Isolation	●	Diverse and culturally appropriate communication to stakeholders is a key component of SFPUC's EJ policy. SFPUC's Language Access Policy also addresses linguistic isolation.
Violent Crime Rate		No nexus – The Community Benefits program does not have a direct effect on the violent crime rate.
Community Resiliency to Climate Change	●	As described for individual indicators above, SFPUC's Community Benefits program has a nexus to many hazard, environment, transportation, community, public, housing, economy, health, and demographic indicators. Specifically, the Community Benefits program has the potential to affect tree cover, air quality, public transit access, linguistic isolation, employment, and the rental housing affordability gap – all components of the overall community resiliency score.

Conditions that were not found to be indicators of environmental justice concern in Section 4.4 are not listed in the table and are not considered in this analysis of the Community Benefits Program.

Based on the above discussion, 25 environmental justice indicators have a potential nexus to the Community Benefits Program and are carried forward for detailed analysis in Section 6.3, organized by indicator or group of indicators that pertain to various SFPUC initiatives.

6.3 Analysis of Community Benefits Program Effects on Environmental Justice Indicators

This analysis is organized by indicator(s) and focuses on specific aspects of the Community Benefits Program that may affect those indicators. Indicators may be grouped if several have a potential nexus to a Community Benefits Program action. Information about the past, current, and intended or proposed future actions under the Community Benefits Program is used to assess the potential for these actions to improve upon environmental justice indicators in Bayview-Hunters Point.

● PM2.5 Concentrations, Cancer Risk from TACs, Children's Health, and Open Space and Trees

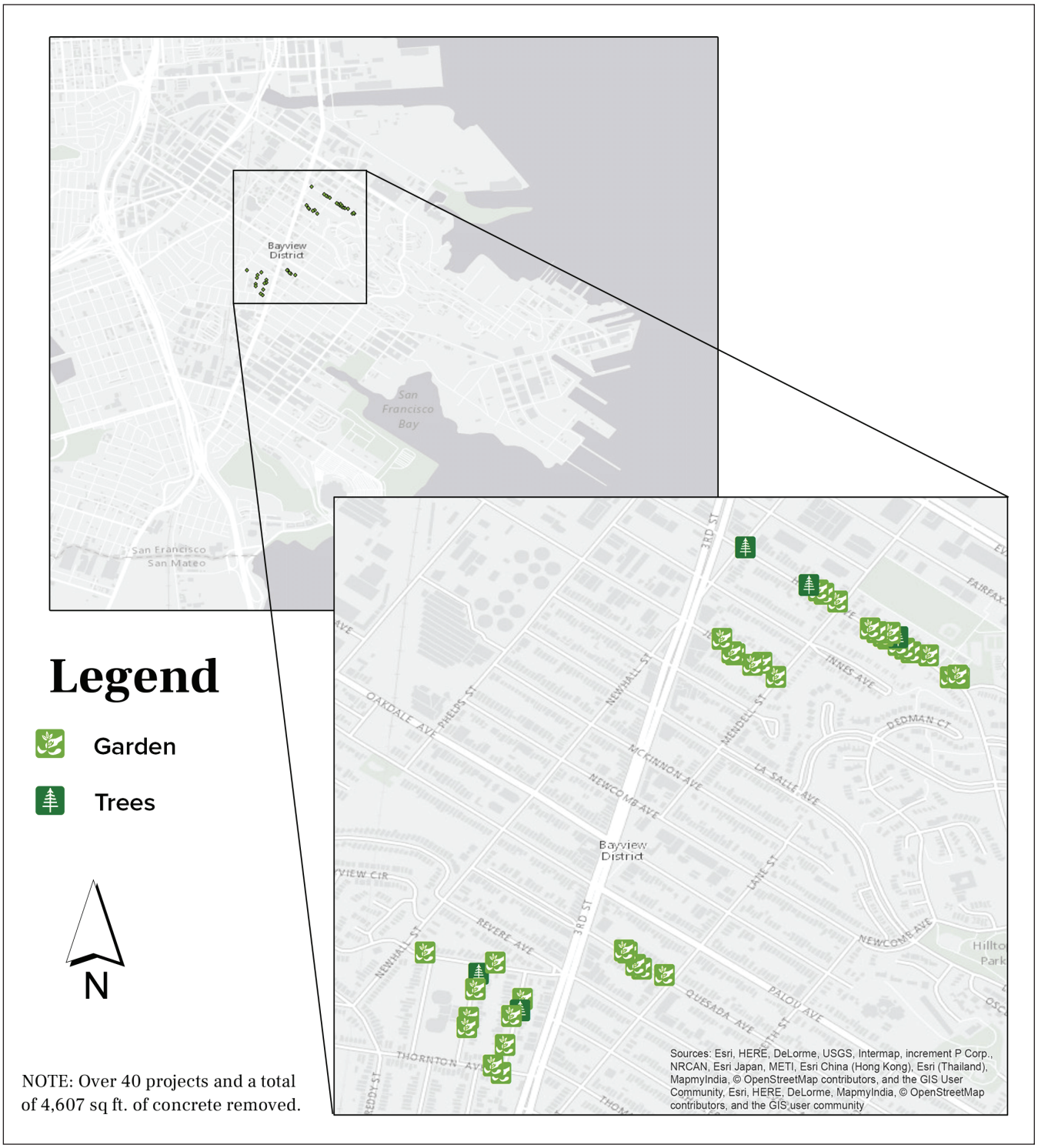
The Community Benefits program promotes grass-roots programs that seek to enhance the overall environmental experience by increasing the neighborhood greenery. Research suggests that trees and greenery can remove air pollutants from ambient air, including particulate matter, ozone, NOx, sulfur dioxide, and carbon monoxide (Planning, 2014c; United Stated Forest Service, 2007; Maher et al., 2013). Therefore, increasing the density of trees and other neighborhood greenery could provide improvements in local PM2.5 concentrations and excess cancer risk from TACs, resulting in improvements with respect to these indicators and the related children's health (population of children) indicator. Additionally, increasing tree density would improve both the trees per acre and trees per road mile measurements for the neighborhood. Relevant programs are described below.

The Sidewalk Garden Project

In partnership with Climate Action Now, the Sidewalk Garden Project has removed over 4,600 square feet of concrete and planted 41 vibrant, drought-tolerant sidewalk gardens in Bayview-Hunters Point. An additional 40 sidewalk gardens, and approximately 4,500 square feet of concrete removal, are planned in Bayview-Hunters Point in FY 2017/18. **Figure 12** shows the current existing sidewalk gardens in Bayview-Hunters Point.

Bayview Garden Supply Pop-Ups

While Bayview-Hunters Point has an abundance of community gardens, backyard gardens, and urban agriculture projects, there is a lack of resources to support existing urban agriculture projects. To address this need, SFPUC developed and hosted, in partnership with Hunters Point



SOURCE: SFPUC

SFPUC-SSIP Bayview Enviromental Justice Analysis . 120468.06

Figure 12

Sidewalk Gardens in Bayview-Hunter's Point

Family and Quesada Gardens, a series of mobile garden resource give-away days that engaged over 150 community residents. Free soil, mulch, compost, plants and seedlings, and educational workshops were provided and local youth ran the pop-up days, gaining valuable workforce development and community engagement experience. This program is currently on-hold due to our partner's lack of capacity. Therefore, this report recommends that SFPUC work to bring back this resource for the community by identifying ways to relieve capacity constraints of existing partners and/or by identifying additional partners.

Tree Planting and Maintenance Grant Programs

In addition to the programs described above, Community Benefits grant programs support planting and maintaining trees and gardens. The San Francisco Indicator Project reported that as of 2007, Bayview-Hunters Point had approximately 10,300 trees 4 meters and higher (SFDPH, 2015b), for an average of about 3 trees per acre. Approximately 3,300 trees would need to be planted or grow to 4 meters or higher to increase the measurement to 4 trees per acre – an increase of 33 percent over 2007 conditions.13 This report recommends that SFPUC ensure that tree planting and maintenance grant programs target the neighborhood around SFPUC facilities in Bayview-Hunters Point (e.g., the Southeast Plant).

● Nuisance Odors

The Community Benefits Program works with the SFPUC Wastewater Enterprise to continually improve community engagement and reporting related to odor complaints at the Southeast Plant. Specifically, we understand that not all community members feel empowered to report sewer-odor concerns and that when an individual reports an odor concerns, they may not know all the relevant information to include when registering their complaints. This dynamic makes it challenging at times for the SFPUC to address odor-related problems in a timely manner. Therefore, we have created a community-centered factsheet called "Smell Something, Say Something" that seeks to encourage reporting of sewer odors in the community and educates stakeholders on the essentials to include in their odor complaint to help ensure a timely response by the SFPUC. We also hosted a community workshop in Bayview Hunters Point to encourage reporting of sewer odor concerns.

The SFPUC is an active participant in the Bayview Environmental Justice Response Task Force, which holds regular monthly meetings at the Southeast Community Facility and administers the "Identifying Violations Affecting Your Neighborhood (IVAN)" website (https://www.bvhp-ivan.org/). The IVAN website is a community-based forum for reporting a number of community concerns, including nuisance odors. When a complaint relevant to SFPUC is made through the IVAN website, SFPUC receives a notification and enters the information into the internal complaint tracking database, creating a service request specific to the complaint. When SFPUC

13 The Indicator Project has transitioned to reporting on percent tree canopy rather than number of individual trees per acre. However, the ratio of Bayview-Hunters Point's tree canopy (6.6 percent) to that of the City as a whole (13.7 percent) is similar to the ratio reported in terms of trees per acre (3, compared to 7 citywide). (SFDPH, 2015b, 2017).

has investigated and addressed the complaint, the resolution of the service request is reported back to the IVAN website. Additionally, the monthly task force meetings provide an opportunity for discussion of complaints and responses with SFPUC representatives.

Timely and accurate response to sewer odor complaints reduces the duration of nuisance odor incidents. Further education of stakeholders to facilitate odor complaints is expected to have a beneficial effect on nuisance odors in Bayview-Hunters Point.

● Unemployment, Poverty, Displacement, Earned Income Tax Credit, Rental Affordability Gap

The Community Benefits program includes several initiatives that seek to improve local employment of San Francisco residents and provide job training, experience, and search assistance. These initiatives, described in more detail below, include local hire for construction projects, youth internship and employment, direct employment at facilities such as the Southeast Greenhouses, and partnerships with job training and job search organizations, each of which contributes beneficially to reducing unemployment in San Francisco. The upcoming Greenhouse Grants Program will also resource additional workforce development opportunities by funding local nonprofits working at the intersection of local jobs and the environment. As described below, three of these initiatives benefit Bayview-Hunters Point residents specifically. In addition to having a direct beneficial effect on the unemployment indicator, these initiatives have a secondary indirect benefit on indicators associated with poverty and low-income status, including the housing displacement and the rental affordability gap. Relevant programs are described below.

Local Hire and Project Labor Agreement

SFPUC projects are covered by the San Francisco Local Hiring Policy for Construction and have a goal of 30 percent local hiring at this time, meaning that 30 percent of total construction work hours must be worked by San Francisco residents. For apprenticeships (entry-level jobs), this goal is increased to 50 percent. As of March 2017, SFPUC is achieving a 36 percent local hiring rate for San Francisco residents and 72 percent for San Francisco apprentices, exceeding the respective goals. This has resulted in a total of $5.5 million in wages and benefits to 231 San Francisco workers and $1.2 million in wages and benefits to 58 apprentice workers, plus over 26,000 training hours. This program has resulted in greater numbers of local hires within Bayview-Hunters Point compared to other neighborhoods, with 30 percent of the 231 San Francisco workers and 42 percent of the 58 San Francisco apprentices come from District 10. As described in Section 5.3.6, construction of the BDFP would comply with the local hiring policy, and several other SFPUC project (e.g., the Headworks Facility Project) also are planned within Bayview-Hunters Point. These projects would provide foreseeable opportunities for local hire within the neighborhood.

The City also has a mandate for local community contractors to participate. Although the goals vary per contract, the SFPUC is committed to maximizing local participation on every project. To date, 196 contracts valued at $108 million have been awarded. Of those contracts awarded to

San Francisco businesses, 41 percent of those businesses are located in Bayview-Hunters Point (District 10).

Additionally, the SFPUC has entered into a Project Labor Agreement (PLA) with construction trade unions covering on-site construction work under the Water System Improvement Program, later extended to the SSIP as well, the purpose of which is to promote employment and career development of low-income individuals within SFPUC's service area and to support and promote local hiring practices in areas where construction will occur. Through the PLA and the Job Opportunities Training Program outlined within it, contractors must provide projections of journeyperson and apprentice-level employment, agree with SFPUC on the level of participation of apprentices to be hired from participating referral agencies, and work with those agencies to identify, interview, and hire locally-based disadvantaged entry-level workers for apprenticeship. (SFPUC, 2010). Implementation of the PLA for Bayview-Hunters Point construction projects would provide entry-level opportunities that could be filled by neighborhood residents.

Youth Internships

The Community Benefits Program has a strong focus on Youth & Young Adult Workforce Development. Our internship efforts provide positive, paid work experience to youth and young adults, fulfilling our agency's mission of being a good neighbor, particularly in the neighborhoods that are most impacted by our operations. They strengthen our workforce pipeline by exposing more people to jobs, skills, and careers at SFPUC, and add value to our work by enlisting interns as ambassadors to their own families and communities.

Specifically, SFPUC supports the Mayor's Youth Jobs Plus Initiative as a part of our overall strategy to educate and prepare job seekers in our communities to be successful SFPUC applicants. Through our efforts, more than 1500 youth and young adults annually benefit from internships through SFPUC and other partner agencies. For this, the SFPUC was honored as a "Model Employer" by Mayor's Office. While the youth served by our programs live all over the city, a large portion come from the Southeast. In 2016, the SFPUC sponsored paid internships for 188 youth and young adults from Bayview-Hunters Point. Since the program's inception in 2013, SFPUC has employed between 150 and 200 young people from Bayview-Hunters Point each summer, and SFPUC is committed to continuing this program, including in 2017. This report recommends that SFPUC commit to and identify means to meet this level of youth employment annually in Bayview-Hunters Point in the future.

SSIP CityWorks Summer Internship Program

SSIP CityWorks is a paid summer internship and mentorship program associated with our SSIP. This program serves high school and college students from the Bayview-Hunters Point neighborhood. During the course of their 10-week summer program, students spend two weeks in pre-employment training in the community, six weeks at their internship worksite, and two weeks back in the community working on a capstone project. Internship worksites include SFPUC and private-sector firms working on the SSIP and/or other SFPUC projects. The program strives to increase interest and diversity in engineering/project management, communications/ public relations, finance/accounting, wastewater operations, and related fields. Since its inception

in 2012, SSIP CityWorks has provided more than 100 students with summer employment, mentorship, and exposure to SFPUC-related careers. In 2017, SFPUC is investing $67,000 in the program and leveraging $108,000 from SFPUC's private-sector partner firms.

Greenhouse Grants Program

As part of its commitment to the historic community mitigation agreement, the SFPUC is launching an Interim Greenhouse Grants Program that will serve to ensure that the community continues to benefit from opportunities at the intersection of workforce development and the environment while the SFPUC plans for and rebuilds the old greenhouses located at 1150 Phelps. The SFPUC estimates that this grant program will award approximately $300,000 annually to local community organizations in Bayview-Hunters Point and will employ up to 10 local residents.

Baywork

SFPUC is a signatory of Baywork, a consortium of water and wastewater agencies dedicated to workforce development. We recognize that the Bay Area is a dynamic economic region and that we benefit from working collaboratively with other water and wastewater utilities to develop regional talent pipelines for careers with SFPUC. In 2016, Baywork secured funding to complete a regional labor market research initiative with JVS, a San Francisco-based non-profit career and skills development organization with over 40 years of experience in sector-based training and job search assistance in the Bay Area. The $150,000 grant is underway and will deliver a regional map of hiring needs and training opportunities and gaps within the region. This research will map the skills, training, and certification required for careers in the water/wastewater industry that are hard to fill, like electronic maintenance technicians, and will lay the foundation for new community college and training programs to fill these gaps.

Another example of our regional work with Baywork is to promote utility career awareness in high schools and college. Baywork recently hosted a Career Fair in partnership with Laney College, and 33 agencies, community colleges, and workforce development intermediaries attend. Over 1,000 students and teachers from the Berkeley, Oakland, Fremont, and San Francisco Unified School Districts attended the event.

● Public Transit Ridership Score

As discussed above under the Greenhouse Grants Program, the SFPUC is building a new community facility to be located at 1550 Evans, next to the 3rd Street Light Rail. The project is still in the early stages of planning; however, at this point, SFPUC anticipates that approximately 45,000 square feet of space will be dedicated to a variety of community services, including educational opportunities, nonprofit workspace, community gathering/event space, childcare, shared/flex space, and a café. Those nonprofits that are tenants in the current Southeast Community Facility located at 1800 Oakdale (and their employed staff that work out of the community facility) are expected to move to the new building. By moving jobs closer to an area of high transit ridership (the 3rd Street Light Rail line), this project may marginally improve the

neighborhood's Public Transit Ridership Score, and would meet the spirit of improving public transit ridership opportunities as represented by this indicator.

● Walkability

As described in Section 4.4.2, the walkability indicator focuses on the number and variety of essential destinations within walking distance. Additionally, information about Bayview-Hunters Point residents' survey responses regarding safety of walking showed that both daytime and nighttime safety is a concern for walkability. While SFPUC's Community Benefits Program would not have a direct effect on these measurements of walkability, some pedestrian amenities result from Community Benefits initiatives, such as the Sidewalk Garden Project described above under the PM2.5 indicator, which aims to bring the total number of sidewalk gardens in Bayview-Hunters Point to approximately 80 by the end of FY 2017/18. Additionally, as identified for the Public Transit Ridership Score above, moving the Southeast Community Facility to 1550 Evans would move numerous services closer to the 3rd Street Light Rail line, as well as to businesses and services along the 3rd Street corridor. This may improve walkability by improving the density of businesses and services around the Southeast Community Facility, and may improve perceptions of safety around walking by moving the facility to a more heavily-traveled corridor.

● Academic Performance in Schools

As described in Section 4.4.2, this indicator is measured by standardized test scores. Although the Community Benefits program is not directly aimed at improving test scores, the program makes investments in engineering and science education and ecoliteracy curricula that may have the benefit of improving related test scores.

STEAM Curriculum

SFPUC is developing a STEAM (Science, Technology, Engineering, Art, and Math) curriculum using our Big Ideas Framework (SFPUC, 2016). We are also working to provide teacher trainings and toolkits to make it easy for teachers to utilize these lesson plans to increase ecoliteracy. The Big Ideas Framework offers sample student activities that engage students in collaborative work; increase students' ability to support their thinking by using evidence; prompt students to synthesize information, make connections, and draw conclusions; encourage students to analyze historical and current events through the lens of environmental justice; and apply analytic thinking to content materials. Each of these skills may translate to improved performance on standardized tests, which would directly benefit this indicator, though the goals of this program go beyond test scores.

High School Career Awareness Program

In mid 2015, the Commission approved a resolution authorizing SFPUC to partner with John O'Connell High School to implement a two-year pilot career awareness program designed to make students aware of and excited about career opportunities in the utilities industry; provide students with work-based learning related to the SFPUC; provide teachers with opportunities to

build connections, knowledge, and excitement around an integrated curriculum related to career skills; and connect graduating students to internship, trainee, pre-apprentice, apprenticeship, and entry-level job opportunities related to the SFPUC. The partnership accomplishes these goals by providing support to develop curricula focused on our SFPUC tours, careers, and environmental stewardship. The partnership also supports field trips for John O'Connell students and professional development time for teachers to visit the SFPUC and to create curricula based on interviews with experts at our agency.

While John O'Connell High School is located in the Mission, about 40 out of 370, or approximately 11 percent of its students reside in the 94124 zip code (Bayview-Hunters Point). About half of all students from Southeast neighborhoods (including Bayview-Hunters Point) are involved in career technical education, with about 14 percent focused on the energy, environment, and utilities sector.

Willie L. Brown Middle School

At Willie L. Brown Middle School, located in Bayview-Hunters Point, students learn to use project-based STEM (Science, Technology, Engineering, and Mathematics) practices to develop the foundational skills and beliefs needed to successfully major in STEM degrees and pursue STEM careers. The school is built to accommodate 650 students, and currently has enrolled 90 sixth graders and 175 seventh graders that came to the middle school from Carver, Drew, Malcolm X, and Harte Elementary schools, also in Bayview-Hunters Point. SFPUC's investments at Willie Brown include $10,000 in STEM curriculum funding in FY2015-2016; $15,000 in funding for a water bottle filling station in FY2016-2017; and a state-of-the-art makers room and engineering lab built with $200,000 in funding brought in by SFPUC's private sector Social Impact Partners.

Additionally, the SFPUC and its private-sector Social Impact Partners sponsor Willie L Brown Middle School's participation in the Spark Mentorship program. Spark is a national nonprofit that provides one-on-one workplace apprenticeships to seventh and eighth graders from disadvantaged communities. During the program, students learned career skills and contributed fresh new ideas to their projects. Under the Spark Mentorship Program, in 2016, the SFPUC sponsored five middle school Spark apprentices from Willie Brown to work with and learn from mentors in our water, power and sewer enterprises. SFPUC's sponsored apprentices were among the 120 students from Willie Brown Middle School who worked with mentors in 2016 (SFUSD, 2016). Approximately $25,000 in funding for these sponsorships was provided by SFPUC ($5,000) and its private-sector partners ($20,000). SFPUC and its private-sector partner firms each host approximately 6-10 students each semester. The students and their mentors present their STEM-related projects at Spark Discovery Day, which brings together families, mentors, companies, philanthropists, educators, city officials, and district representatives.
SFPUC is sponsoring additional apprentices in 2017.

● Recreational Area Score, Open Space and Trees

The new Southeast Community Facility planned for 1550 Evans will include a childcare center playground approximately 6,000 square feet in size, an approximately half-acre pedestrian plaza on Evans, and approximately 1.75 acres of new open space. Initial concepts for this open space include meditative gardens with public art sculpture, outdoor seating, a walking trail or track,

and an ADA-compliant accessible rooftop terrace. These new amenities may improve the Recreational Area Score by placing new public recreational facilities within 0.25 mile of residences that currently do not have such facilities within 0.25 mile. In addition to a potential increase in the score itself, the addition of these facilities would meet the spirit of improving recreational opportunities as represented by this indicator. The over 2 acres of new public open space would be a small quantitative increase in the overall amount of open space in Bayview-Hunters Point (compared to the existing 397 acres, it is an increase of about one half of one percent), but would be a benefit to those residents closest to 1550 Evans, which is located farther from large areas of open space (e.g., India Basin Shoreline Park) than some other portions of the Bayview-Hunters Point neighborhood.

● Child Care Burden, Homelessness, Financial Services Proximity, Prenatal Care Rate, Low Birth Weight, Asthma Hospitalization Rate, Preventable Hospitalizations/Emergency Room Visits, and Educational Attainment

Southeast Community Facility

With the construction of the new Southeast Community Facility at 1550 Evans, the SFPUC plans to double the amount of space available for childcare services to approximately 8,000 square feet, enabling Wu Yee to serve up to 80 children (the current number is closer to 40). The current plans for the new Southeast Community Facility also include approximately 6,000 square feet for a childcare center playground. By nearly doubling the number of children that Wu Yee can serve, this action under the Community Benefits Program would increase the availability of affordable child care close to Bayview-Hunters Point residents, providing an improvement with respect to the child care burden indicator. Therefore, this report recommends that SFPUC move forward with plans to double square footage and number of children served.

Additionally, the new community facility will retain, expand, or bring in new tenants that will provide access to various services in Bayview-Hunters Point. The new facility may accommodate a financial service provider(s), which would improve the proximity of such services to Bayview-Hunters Point residents. The Human Services Agency is a tenant of the Southeast Community Facility that assists families with obtaining health care coverage, which may: (1) improve access to pre-natal care and could reduce the rate of babies born with low birth weight by providing health and other support during pregnancy; (2) reduce asthma-related hospitalizations by providing preventative care and education about managing asthma; (3) reduce preventable hospitalizations by providing preventative care and/or earlier diagnosis and treatment of health problems and providing an alternative to the emergency room for primary care; and (4) provide some assistance to homeless individuals and families. In anticipation of large storms, the Southeast Community Facility could be designated as an emergency temporary shelter to serve homeless individuals and families. Additionally, the facility hosts an annual Family Health Fair in partnership with area hospitals and medical service providers with free health screenings.

Finally, City College of San Francisco has a campus at the Southeast Community Facility, providing adult educational resources. Five Keys Charter School, another tenant, educates inmates and ex-offenders within the jail and post-release systems by providing high school

classes and access to community-based programs that provide recovery, parenting and work skills. These services provide opportunities to improve the educational attainment indicator.

● Healthy Food Retail Proximity (Healthy Food Access)

While the indicator described in Section 4.4.2 focuses on proximity of retail food options like supermarkets, which would not be directly affected by the Community Benefits Program, SFPUC does have the potential to improve access to healthy food and clean water from other sources, as described below. The discussion of the Bayview Garden Supply pop-ups under the PM2.5 indicator above also is relevant to the Healthy Food Access indicator, as these pop-ups were intended to help people grow more food in the numerous existing backyard or balcony gardens throughout the neighborhood.

Drink Tap

In order to help reduce the consumption of sugary beverages and increase drinking tap water, the SFPUC's Drink Tap Program[14] is installing water bottle filling stations throughout the City. In Bayview-Hunters Point, publicly accessible stations have been or are planned to be installed at five locations: Heron's Head, MLK Jr. Pool, KC Jones Playground at Bay View Park, Southeast Center WIC Clinic, and the Bayview Opera House. Additionally, Drink Tap stations have been or are planned to be installed in several schools in Bayview-Hunters Point, including Bret Harte Elementary, Malcolm X Academy, George Washington Carver Elementary, Thurgood Marshall High School, and Willie L. Brown Junior High. An additional 10 to 12 bottle filling stations are planned to be installed in Bayview-Hunters Point in the coming year. These filling stations provide free access to a convenient drinking water source at community- and recreation-centered locations around the neighborhood, as well as at schools.

Crocker Amazon Sharing Farm

The Crocker Amazon Sharing Farm is a planned community garden and farm located on land owned by the SFPUC. Although it is not in Bayview-Hunters Point, it is in another Southeast neighborhood that many Bayview-Hunters Point residents travel to for recreational opportunities, including at the park adjacent to the farm site. Therefore, SFPUC anticipates that the site will serve Bayview-Hunters Point residents as well. SFPUC has partnered with Literacy for Environmental Justice, a Bayview-Hunters Point non-profit that serves local youth, to provide all the native plants for the site, providing a further connection between Bayview-Hunters Point and the Crocker Amazon Sharing Farm. Approximately 15 youth from Bayview-Hunters Point participated in a series of native seed collecting events at the farm site and worked to propagate the native plants for replanting once construction of the farm is complete, anticipated in summer 2017. Investment in this farm is expected to improve healthy food access by providing a source of fresh food as well as learning opportunities around urban produce cultivation.

[14] Information about SFPUC's Drink Tap Program is available online at http://sfwater.org/index.aspx?page=447

Greenhouses

SFPUC intends to replace the old greenhouses located at 1150 Phelps. Once these are completed, this report recommends that the future greenhouses should be used, at least in part, for growing food that will be available locally for consumption. This would improve the availability of fresh produce.

● Linguistic Isolation

As shown in Appendix B, the use of diverse and culturally appropriate communication strategies to ensure that stakeholders can participate in decisions and actions that may impact their communities is a key component of SFPUC's Environmental Justice policy. SFPUC's Language Access Policy also addresses linguistic isolation by providing translation services by phone, in-person language assistance at SFPUC's offices, bilingual inspectors for the Home Water Wise Audits program, interpreter services for public hearings and presentations, written translations of communication materials, and crisis/emergency communication procedures in multiple languages and with outreach to media and organizations serving limited English-proficiency residents. By addressing linguistic isolation through multilingual, culturally appropriate communication, SFPUC contributes to improvements to this indicator.

● Community Resiliency to Climate Change

As described for individual indicators above, SFPUC's Community Benefits Program has a nexus to many hazard, environment, transportation, community, public, housing, economy, health, and demographic indicators. Specifically, the Community Benefits Program has the potential to affect tree cover, air quality, public transit proximity to jobs, linguistic isolation (particularly through crisis/emergency communications), employment, and the rental housing affordability gap (i.e., through increased employment resulting in higher wages) – all components of the overall community resiliency score.

6.4 Environmental Justice Recommendations for Community Benefits Program

As described in Section 6.3, the Community Benefits Program encompasses numerous initiatives with the intention and result of improving environmental justice conditions in Bayview-Hunters Point. The following actions are recommended to ensure that SFPUC's ongoing commitments to initiatives targeting improvements within and for residents of this neighborhood continue and/or are expanded in a manner that most effectively targets the identified indicators of environmental injustice.

In addition to those initiatives that address identified environmental justice indicators, SFPUC staff has received feedback from the Facilities & Design Committee of the Southeast Community Facility Commission. Members expressed interest in SFPUC focusing on small business opportunities and job creation mechanisms beyond construction worker training and local hire programs. Other recommendations included a desire to see more connection to the 3rd street corridor and the San

Francisco Blue Greenway. These suggestions are incorporated into recommendations below in the context of Community Benefits initiatives. One community member expressed a desire to see more scholarships for Bayview-Hunters Point residents; however, SFPUC does not currently have a scholarship program, and as described above, supports educational attainment by providing space at the Southeast Community Facility for City College of San Francisco and Five Keys Charter School, and by providing paid internship programs.

- **PM2.5 Concentrations and Cancer Risk from TACs:**
  - SFPUC should explore installing an ambient air quality monitoring system at the new Southeast Community Facility, to be located at 1550 Evans. Further, the SFPUC should explore community based-programming to support the air monitoring at the new community facility. This would provide more localized data than the current closest BAAQMD monitoring station in Potrero Hill, approximately 1.6 miles north of the Southeast Plant and outside of the Bayview-Hunters Point neighborhood.
  - SFPUC should work to bring back the Bayview Garden Supply pop-ups program by identifying ways to relieve capacity constraints of existing partners and/or by identifying additional partners
  - SFPUC should ensure that Community Benefits grant programs supporting the planting and maintenance of trees and gardens target the neighborhood around BDFP sites (also applies to Open Space and Trees indicator).
  - SFPUC should expand its electric vehicle charging station network by installing publically accessible electric vehicle charging stations at the new Southeast Community Facility at 1550 Evans to facilitate the use of electric vehicles in this area of Bayview-Hunters Point.
- **Unemployment, Poverty/Earned Income Tax Credit, and Affordability Gap:** SFPUC should commit to and identify means to provide paid internships to 150 to 200 young people annually in Bayview-Hunters Point in future years. The SFPUC should continue to support the SSIP Job Training and Opportunities Program (JTOP) and the Business Opportunities Program (BTOP) to create job and small business contracting opportunities for Bayview-Hunters Point.
- **Walkability:** In planning for the new Southeast Community Facility at 1550 Evans Street, SFPUC should consider and incorporate opportunities for pedestrian and bicycle connections to the 3rd Street corridor and transit line, as well as the San Francisco Blue Greenway.
- **Child Care Burden:** SFPUC should move forward with plans to double square footage and number of children served.
- **Healthy Food Access:** Future greenhouses should be used, at least in part, for growing food.
- **Monitoring Progress:** SFPUC, with the initial assistance of the San Francisco Office of the Controller, has created a monitoring and reporting program to track the progress of Community Benefits Program. After 5 years has passed since publication of this report, SFPUC should use this monitoring and reporting protocol to review outcomes and progress related to the indicators identified in Section 6.2 and the Community Benefits program actions and initiatives described in Section 6.3, specifically to assess and record

progress on environmental justice indicators in Bayview-Hunters Point. The assessment should address both the quantitative measurements used to identify the indicators (e.g., geographic proximity to essential services) based on best available information at the time of the assessment (e.g., from CalEnviroScreen or the San Francisco Indicator Project), as well as those programs discussed above that would not directly address those measurements, but are expected to result in quantifiable or qualitative benefits related to the indicators (e.g., expansion of Sidewalk Gardens promoting enjoyable walking).

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CHAPTER 7
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APPENDIX A

San Francisco and Bayview Residential Real Estate Market Trends

Prepared by:
Mara Feeney & Associates, April 2016

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Introduction

The purpose of this report is to present data on recent residential real estate market trends for San Francisco as a whole as well as for the Bayview neighborhood specifically. These data are presented in the context of recent statewide and national economic and housing market trends, for insights into the factors that influence the residential real estate market.

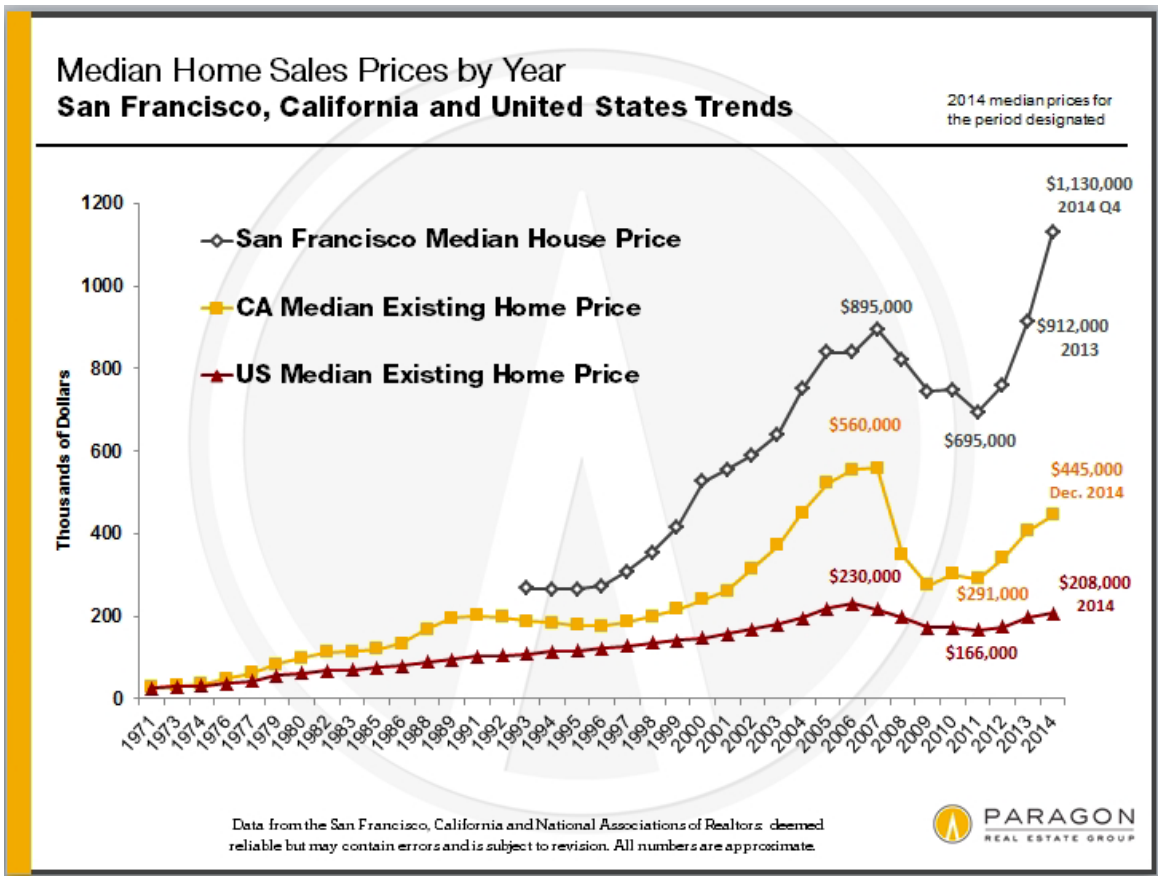
This report first presents a general comparison of housing price trends in San Francisco, California, and the U.S. over the past several decades. This is followed by a discussion of the factors believed to influence housing price trends, both nationally and locally. The next section presents a more detailed examination of San Francisco's housing market overall, then a more detailed look at the housing market in the Bayview neighborhood specifically, with a discussion of how residential real estate market trends in this neighborhood compare to trends in the city as a whole. The report ends with a discussion of factors that could influence local housing market trends in the near future.

Research for this report was conducted during calendar year 2015. Thus the data present a snapshot of local housing market conditions at that time. Information on home sales and prices can change rapidly with market conditions; however, strong demand for homes and price escalation in San Francisco appear to be continuing well into 2016.

A variety of sources were used to develop this report, with considerable reliance on data obtained from real estate market specialists such as the California Association of Realtors, Paragon Realty, Trulia, San Francisco Real Estate, etc. While (or perhaps because) these entities have a commercial stake in property sales, they have robust research divisions devoted to analyzing real estate market data derived from the Multiple Listing Service (MLS), as well as other sources. Their statistics on residential sales and price trends are generally considered reliable. Many of the tables generated by Paragon Real Estate's Research Division are created using a program that links directly to the MLS database to automatically update market trend charts without human intervention for data entry. Paragon's charts and reports are considered accurate and are used widely by other realtors, government entities, financial institutions, and major media such as the Wall Street Journal, the LA Times, and the San Francisco Chronicle. The San Francisco Planning Department uses data provided by the California Association of Realtors and other real estate industry sources such as Zillow and RentSF to prepare documents such as the local Housing Element and annual Housing Inventory report.

Housing Market Overview

Since the late 1970s, home prices in California (and especially San Francisco) have increased much more rapidly than home prices nationwide, particularly since the late 1990s (Figure 1). At the end of 2014, the median California home price was $445,000, compared with $208,000 nationwide, while the median price for a house in San Francisco exceeded one million dollars (Paragon Real Estate, 2015a). Due to a number of conditions discussed below (land scarcity, redevelopment challenges, the recent addition of many new tech sector jobs, home purchasing trends among foreigners and seniors, etc.), housing demand and associated price escalation have been profound in San Francisco, compared to most other market areas in the United States. Housing affordability has become a major challenge, with only about 16 percent of San Francisco's population able to afford the median priced home in the city (San Francisco Planning Department, 2015).



SOURCE: Paragon Real Estate, 2015a

Figure 1
Median Home Sales Price Trends: San Francisco, California, and U.S.

Real Estate Market Influences

Real estate market trends tend to be cyclical, fluctuating in a manner similar to general economic cycles of prosperity, recession and recovery. As Figure 1 shows, the peaks and troughs in residential real estate market cycles have had more variability in California and in San Francisco than elsewhere in the U.S. Real estate market cycles are influenced by a number of national, statewide, and local factors, as described below.

National Factors

General economic conditions influence and are influenced by real estate market conditions locally, nationally, and even internationally (International Monetary Fund, 2011). California and San Francisco's housing price trends reflect the nationwide economic recessions experienced in 1982-1984 and 1991-1996, as well as by the burst of the "Dotcom Bubble" in the early 2000s, and the subsequent housing market bubble exacerbated by subprime lending and followed by the 2008-2012 recession (Paragon Real Estate, 2014b).

Mortgage interest rates are another important influence on housing prices. Lower mortgage interest rates tend to push housing prices up, while higher rates put downward pressure on home prices (Federal Reserve Bank of San Francisco, 2003). In 1981, the average annual 30-year fixed mortgage interest rate in the U.S. was over 16 percent. Since then, rates have generally declined annually, falling below 4 percent in 2012 and 2013. Currently, mortgage rates remain close to those historic lows, hovering around 4 percent (Federal Home Loan Mortgage Corporation, 2015).

The overall performance of the stock market also influences the real estate market and home prices. The Dow Jones Industrial Average, a general indicator of stock market trends, fluctuates considerably, but—like the residential real estate prices in the U.S., California, and San Francisco—the overall trend has been steadily upward, from below 1,000 in the early 1980s, to more than 18,000 in February 2015. The index fell sharply from 2007 to 2009, during the recession brought on by a number of factors but ignited by the subprime lending crisis (Financial Crisis Inquiry Commission, 2011). This was reflected in home sales price patterns during the same period.

For the past five to six years, the U.S. has experienced a "bull market" with the Dow Jones and other indices fluctuating but climbing steadily to reach new all-time highs. The surging stock market (including higher valuations for tech stocks) has created wealth among residents of the San Francisco area and Silicon Valley, through increased tech sector employment, as well as start-up company sales, Initial Public Offerings, and the exercising of stock options (Federal Reserve Bank of San Francisco, 2000; Paragon Real Estate, 2015b).

Statewide Factors

The influences described above affect home purchasing trends throughout the United States, but there are additional factors that influence population trends and home buying patterns specifically in the state of California. California experienced intense population growth in the

twentieth century, growing from 2 million in 1900 to 10 million by 1950, then more than tripling in population over the second half of the twentieth century (Public Policy Institute of California, 2014). Much of this growth was stimulated by the creation of jobs in agriculture, oil, and the entertainment industry, as well as the aerospace and shipbuilding industries stimulated by World War II (Paddison, 2015). This economic growth made California one of the fastest growing states in the nation during most of the twentieth century.

California's population growth has outstripped its growth in housing units, which has contributed to its higher housing costs. In recent years, sharp price increases have made homes in California less affordable, and the percentage of households that can afford to purchase the median priced home has declined, from about 50 percent of households in 2012 to around 30 percent of households in 2014. Rates of home ownership also are declining, and the high cost of either renting or owning a home in California has prompted substantial out-migration, especially among lower income households (California Association of Realtors, 2015a; Kirkham, 2015; Manhattan Institute for Policy Research, 2012).

Local Factors

In recent decades, the San Francisco Bay Area economy has performed strongly compared to the nation as a whole, driven in large part by Silicon Valley job growth. Employment in the tech industry has boomed in San Francisco, San Jose, and surrounding areas. Job growth in all sectors of the local economy has outpaced the rate of job growth nationwide, but jobs in the tech sector have dominated, representing 30 percent of San Francisco's job growth since 2010. Tech jobs pay relatively well compared with other sectors of the economy. For example, the California Employment Development Department estimated the annual wage for software developers in 2012 to be $117,062, compared with annual wages of $36,754 for office clerks and less than $25,000 for retail salespersons and food industry workers (San Francisco Planning Department, 2015; SPUR, 2014).

Many young people working at well-paying jobs in the Silicon Valley want to live in San Francisco, rather than in surrounding suburbs. The "Google Bus" phenomenon[1] is a well-known symbol of this counter-commuting trend, which adds to housing demand within the city (Paragon Real Estate, 2015b; Metro Magazine, 2013).

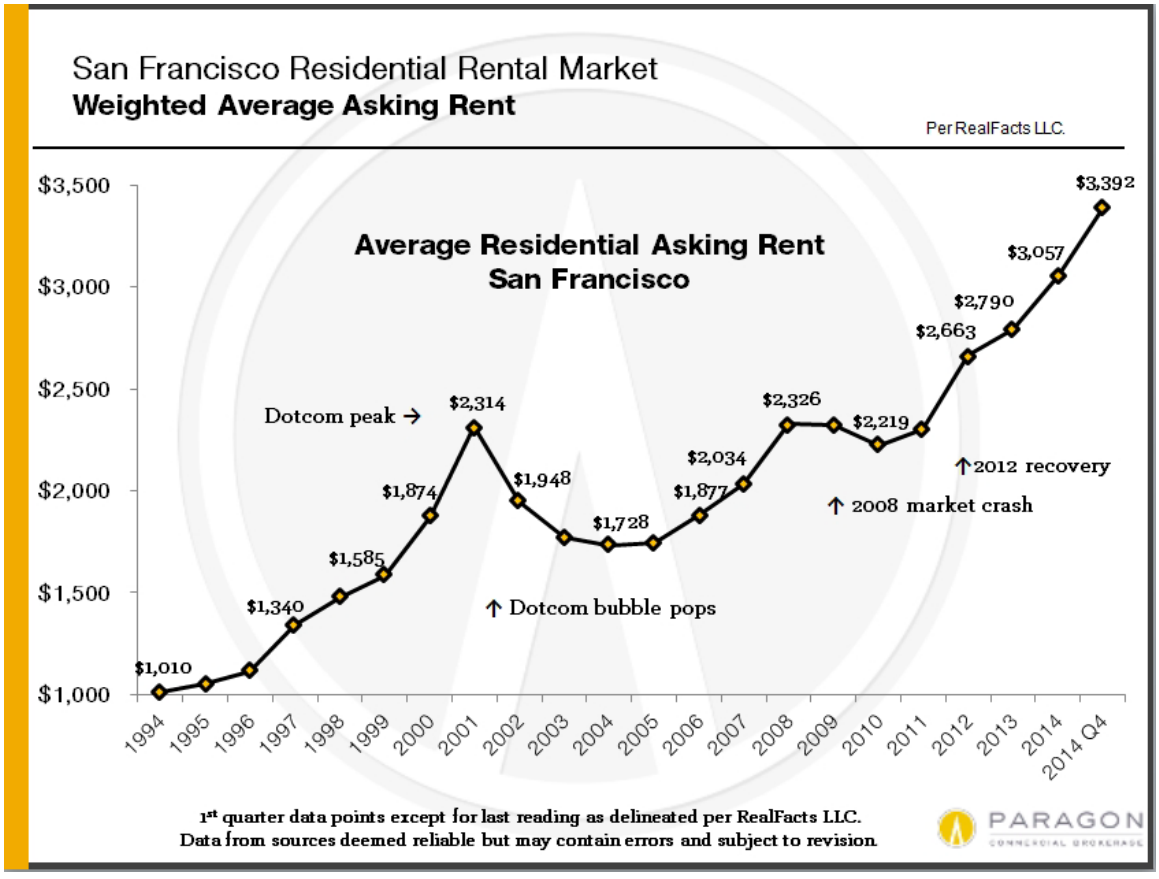
The job growth experienced in the San Francisco area over the past five years has been a primary reason for increased housing demand and higher housing prices. Between January 1, 2010, and January 1, 2015, the number of employed residents in San Francisco increased by 74,000, while the number of housing units constructed in San Francisco during the same time period was approximately 7,500 (SocketSite, 2015). This ten-to-one ratio of new employed residents to new housing units has exacerbated the already existing local housing demand-supply imbalance over the past five years.

[1] Commonly practiced by large companies (such as Google, Facebook, and Genentech) with offices in the Silicon Valley, this is the provision of bus transportation to work from pickup points in San Francisco for workers who live in the city.

Because San Francisco is located on a peninsula that is virtually "built out," vacant land available for new construction is scarce. Thus, new construction is often complicated by the need to demolish existing buildings, perform site remediation, and upgrade utilities. Furthermore, San Francisco is known for having a complex and time-consuming approval process for new construction projects, including environmental review and community vetting (Association of Bay Area Governments, 2015; San Francisco Planning Department, 2015; Schneider, 2014; Russell, 2014). More housing is planned, as discussed at the end of this report, but it is likely that housing demand will far exceed supply for many years, and intense competition for affordable units will continue.

San Francisco Residential Real Estate Market Trends

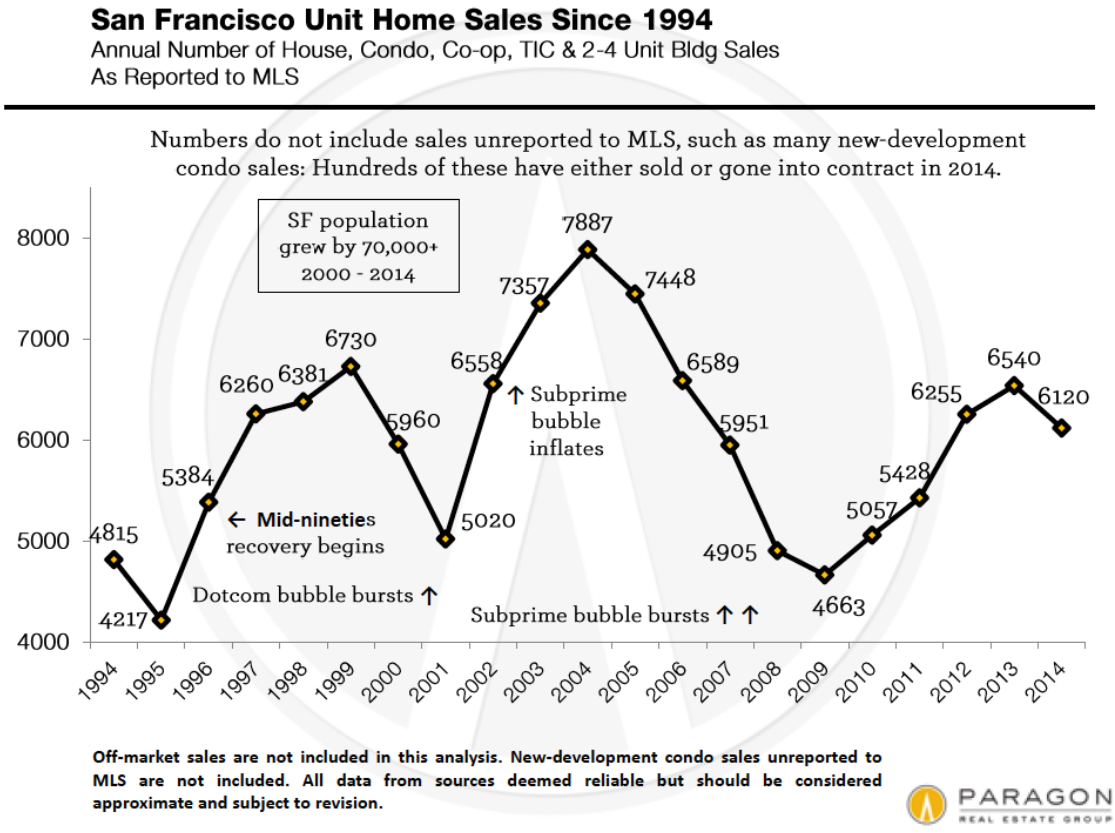
San Francisco currently has the distinction of having the highest rents in the country (Zumper, 2015; California Association of Realtors, 2015a). The average asking rent has increased more than threefold in the past twenty years, from $1,010 in 1994 to $3,392 in 2014 (Figure 2). Because of record high rents, some home owners are opting to rent their homes rather than sell them, thus contributing to the problem of low inventory of housing units for sale (California Association of Realtors, 2015a).



SOURCE: Paragon Real Estate, 2015c.

Figure 2
Average Asking Rent, San Francisco,1994-2014

The number of housing units sold in San Francisco on an annual basis generally follows economic cycles. When employment is strong, housing demand rises. When recessions occur, housing demand declines. Figure 3 shows trends in the total sales of San Francisco homes listed on the MLS from 1994 through 2014. As this figure indicates, total home sales declined during the 1994-95 recession, as well as when the dotcom and subprime lending bubbles burst in the 2000s. Home sales peaked in 2004-2005, at the height of the subprime lending period. Sales also rose during the dotcom bubble in the late 1990s, and again more recently in 2013-2014. The number of days properties stay listed for sale on the market also fluctuates in a similar manner. When demand for homes is high, homes sell faster and the inventory of homes listed for sale on the MLS shrinks, as it did in 2013-2014, when the inventory of homes for sale became relatively small (Carlisle, 2015).

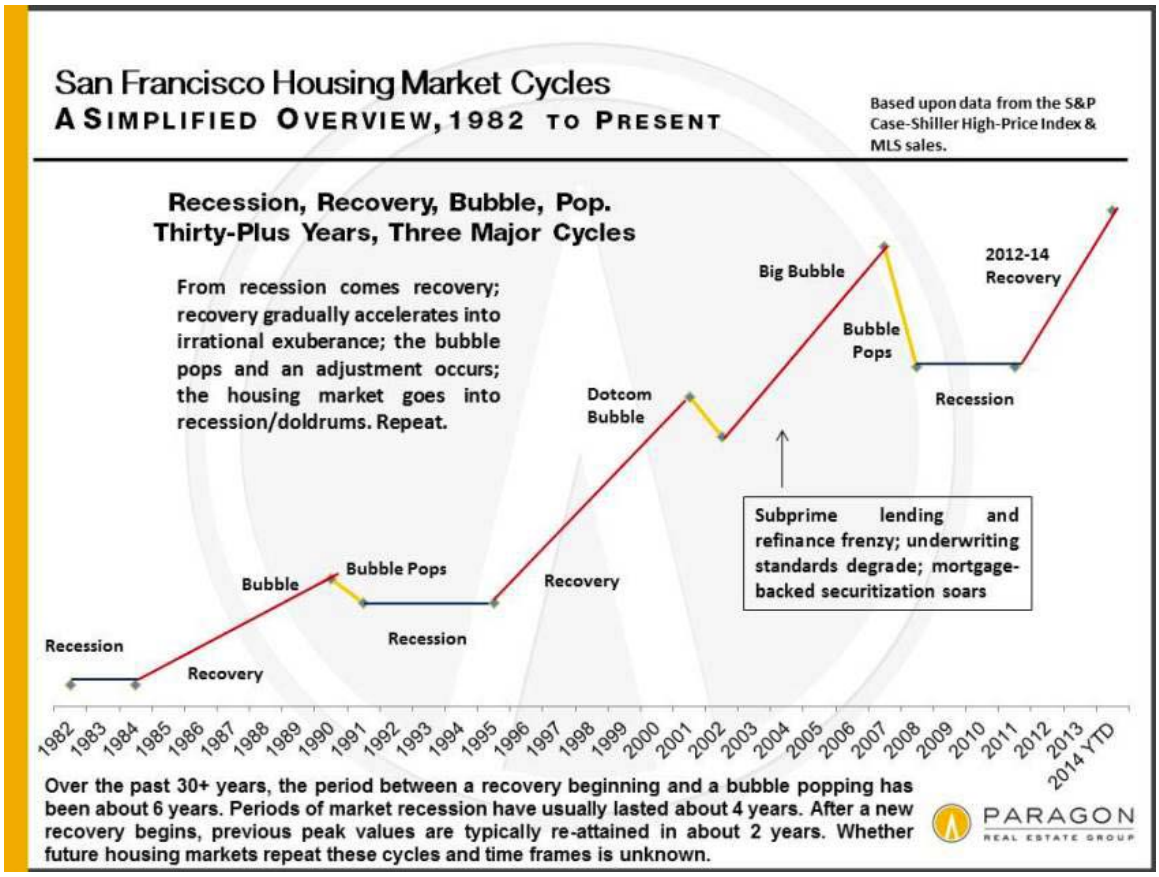


SOURCE: Patrick Carlisle, Chief Market Analyst, Paragon Real Estate Group, 2015

Figure 3
Home Sales in San Francisco,1994-2014

Despite some fluctuations, median home prices in San Francisco have generally increased since the early 1980s, as shown in the simplified figure below (Figure 4). Particularly strong periods of price escalation were experienced in the late 1980s, late 1990s, and twice since the turn of the century (2002-2007 and 2012 to present). Since the early 1980s, periods of economic recession—and parallel slumps in home sales prices in San Francisco—have lasted an average of four years,

and the average period between the beginning of a post-recession recovery and a housing market bubble popping has been about six years. After marked declines in median home sales prices, the housing market in San Francisco has typically regained pre-recession peak values within about two years, subsequently rising further to attain new peak home values (Paragon Real Estate, 2014b).

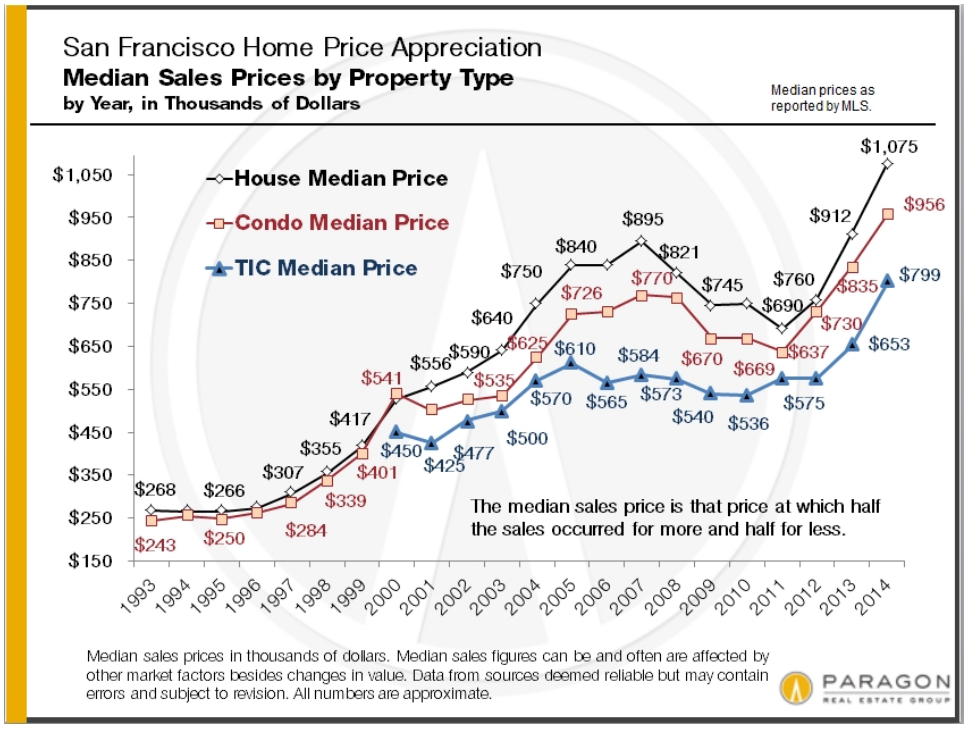


SOURCE: Paragon Real Estate, 2015b

Figure 4
San Francisco Housing Market Cycles, 1982-2014

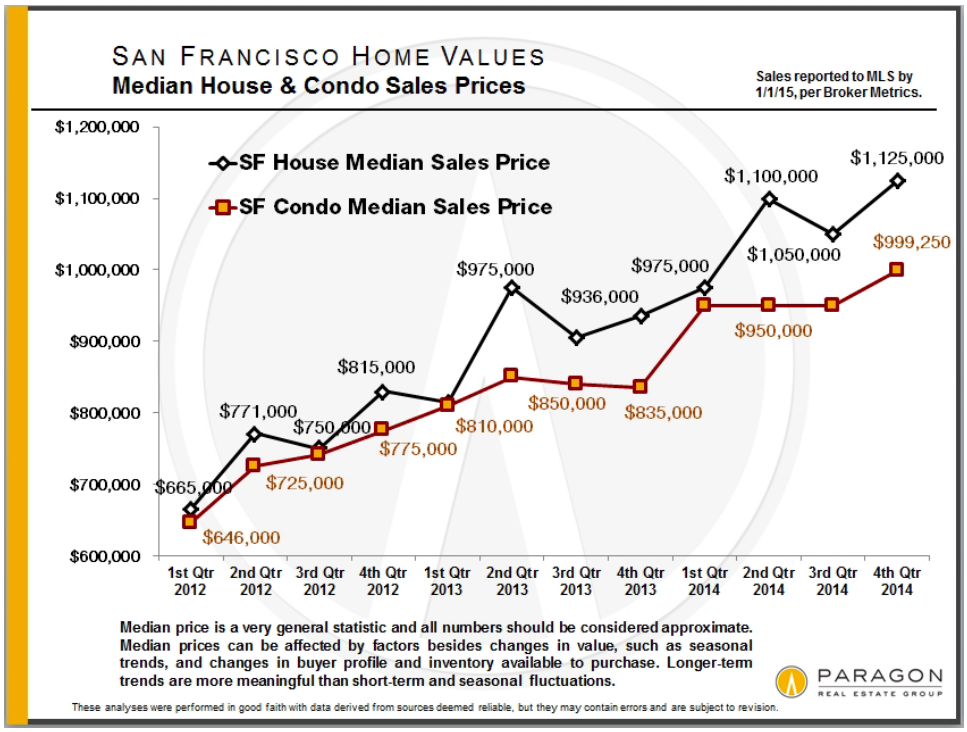
Overall, increases in the median home sales price in San Francisco have far exceeded home price gains in the rest of the state (California Association of Realtors, 2015a).

Over the past twenty years, the median home price in San Francisco has increased fourfold, from around $250,000 in 1994 around $1 million in 2014 (Figure 5). Median home price increases have been particularly sharp in the most recent rebound, which began in 2012. The year-over-year price appreciation rate in San Francisco peaked at 25.7 percent in September 2013 and has tapered gradually since then (Pacific Union, 2015). In November 2014 the median price of a house in San Francisco reached $1,125,000, while the median price paid for a new condominium reached a new high of $999,250 (Figure 6).



SOURCE: Paragon Real Estate, 2015b.

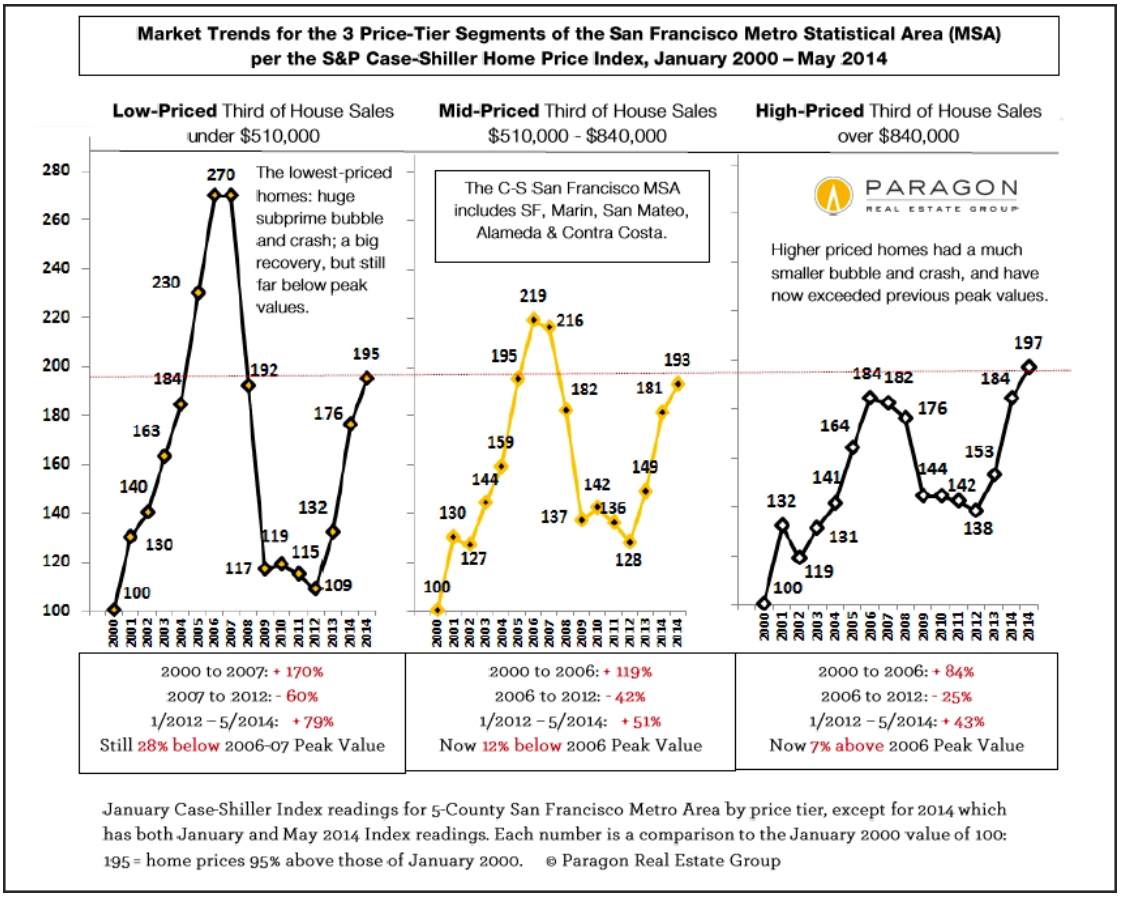
Figure 5
Median Sales Prices by Property Type, San Francisco, 1993-2014



SOURCE: California Association of Realtors 2015a.

Figure 6
Median House and Condominium Sales Price, San Francisco, 2012-2014

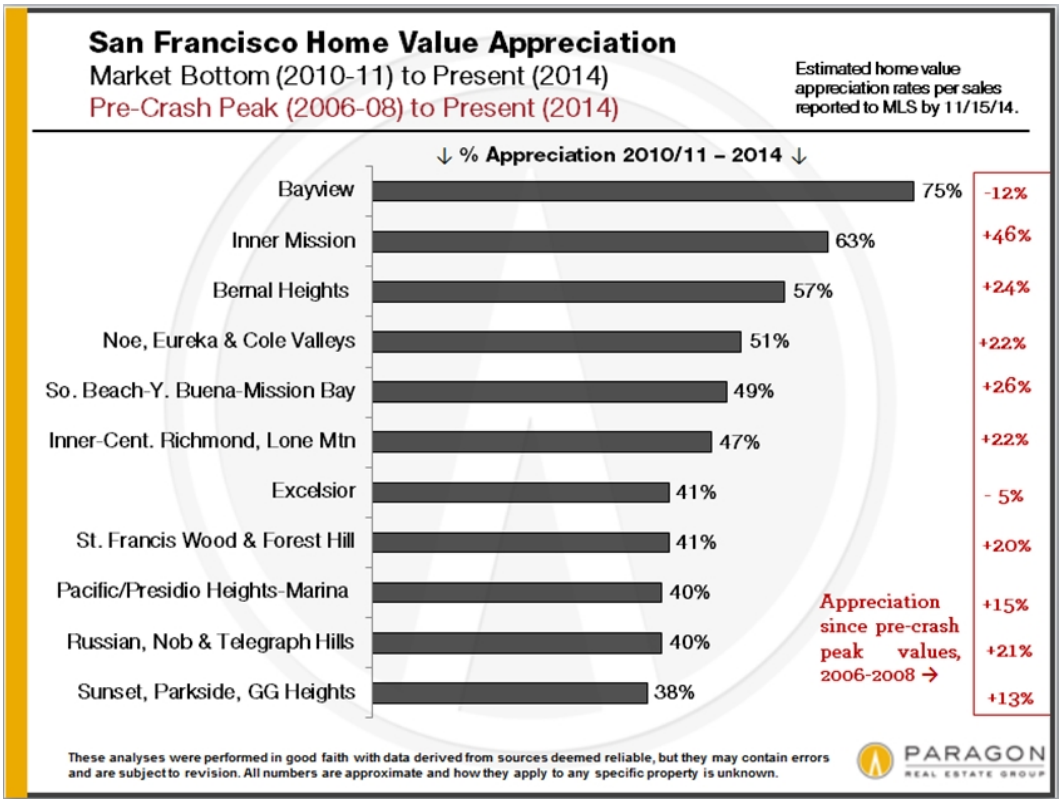
Figure 7 illustrates median home price changes in the broader San Francisco Metropolitan Statistical Area (MSA) (which includes San Mateo, Marin, Alameda, and Contra Costa Counties as well as San Francisco) in three price tiers, illustrating price trends for lower, mid-priced, and higher priced homes from 2000 to present. Prior to the most recent housing market decline experienced 2008-2012, home prices increased at a higher rate in the lower priced tier than in the higher priced tier (170 percent appreciation from 2000 to 2006, versus 117 percent appreciation in the mid-priced tier and 84 percent appreciation in the highest priced tier). Thereafter, prices trended downward in all three price tiers through 2011, then began to rebound in 2012. In the current recovery, area homes that were hit hardest by the subprime loan crisis—lower priced homes in the least affluent neighborhoods, including the Bayview—are taking longer to attain their previous peak values compared to higher priced homes, which have reached and exceeded their previous peak values (Paragon Real Estate, 2014a).



SOURCE: Paragon Real Estate 2014b

Figure 7
Market Trends by Housing Price Tier, San Francisco MSA

Between the market low experienced in 2010-2011 and the new market peak experienced in November 2014, residential real estate in all of San Francisco's neighborhoods appreciated on the order of 40-50 percent, averaging 44 percent citywide (Paragon Real Estate, 2014b). Figure 8 shows home value appreciation rates by neighborhood for this recent rally, as well as total change in home values by neighborhood since the previous market peak in 2006-2007. The Bayview neighborhood has experienced the most substantial recent price increases, but unlike most other San Francisco neighborhoods, home prices there are just below their 2006 peak.



SOURCE: Paragon Real Estate, 2014b

Figure 8
San Francisco Home Value Appreciation by Neighborhood, 2010-2011 through 2014 and 2006-2008 through 2014

The median price of a house in San Francisco at the end of 2014 was more than 1 million dollars. Most houses in the central, north and east neighborhoods of the city now sell for well over $1 million. The majority of house sales under $1,000,000 occur in neighborhoods along the west and south sides of the city, from Outer Richmond south through Sunset and Parkside to Ingleside and Oceanview, and along the southern border of San Francisco through Excelsior, Portola, and Visitacion Valley to Bayview-Hunters Point. In the second half of 2014, 1,011 houses sold in these neighborhoods for under $1 million. Approximately ten percent of these house sales were in the Bayview neighborhood (Weidman, 2015).

Bayview Residential Real Estate Market Trends

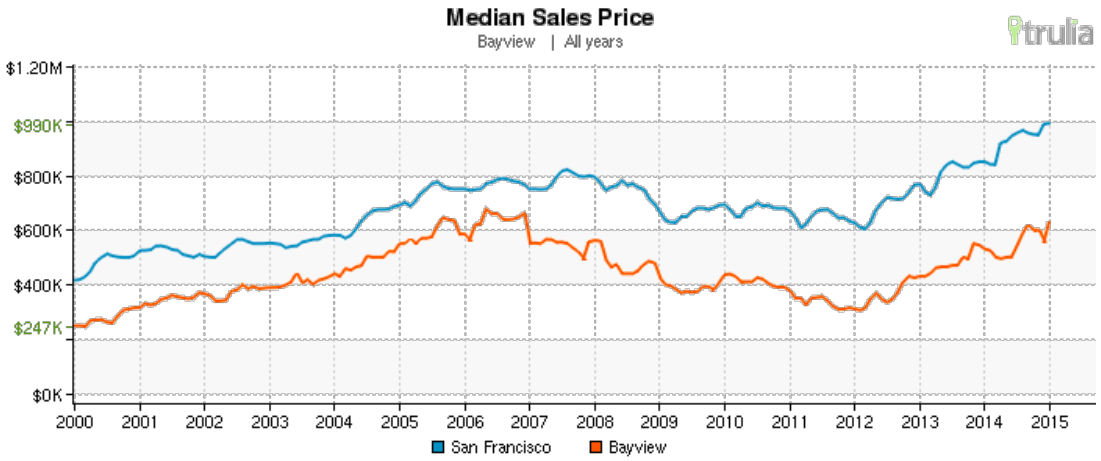
The Bayview neighborhood is located in the southeastern quadrant of San Francisco, south of Cesar Chavez Street, east of Bayshore Boulevard, north of Candlestick Point and west of the Hunters Point Shipyard. The Southeast Water Pollution Control Plant is located in this neighborhood. The residents of this part of the city are predominately minority, and the Bayview neighborhood has the highest concentration of African Americans in San Francisco, although the city's African American population has been declining in recent decades (San Francisco Mayor's Task Force on African American Out-Migration, 2009; San Francisco Planning Department, 2010).

African Americans have been present in San Francisco since the Gold Rush, but in relatively small numbers—until World War II brought a concentration of military jobs to the San Francisco area, including the Hunters Point Shipyard. African Americans migrated from the rural South and Midwest to fill those wartime jobs. Between 1940 and 1950, the number of African Americans in San Francisco increased approximately 800 percent, to around 43,000. African Americans settled mainly in two neighborhoods—the Fillmore and the Bayview. The African American population continued to grow, reaching a peak of 88,000 in 1970, then slowly began to decline (San Francisco Mayor's Task Force on African American Out-Migration, 2009).

By 1990, San Francisco's African American population had declined to about 79,000, representing 11 percent of the city's population. By 2000 the number of African Americans had declined to around 60,500, or about 8 percent of the city population (Van de Water et al, 2002). By 2010, the African American population in San Francisco had declined below 50,000, about 6 percent of the city's population (U.S. Census Bureau, 2015). The California Department of Finance predicts that by 2030 San Francisco's African American population will decline to around 43,000, or five percent of the citywide population (Harder+Company, 2011).

The African American households that have chosen to leave San Francisco in recent decades have been predominantly middle and upper middle class. The loss of many middle class households has resulted in a concentration of lower income households in the Bayview, including those living in relatively large subsidized project housing developments in the Bayview, such as Alice Griffith and Hunters View. Since 1990, the percentage of African American homeowners versus renters in the Bayview has increased, indicating that renters have been most vulnerable to escalating housing costs, and those who own their own homes have had somewhat less incentive to leave the city (San Francisco Mayor's Task Force on African American Out-Migration, 2009).

In general, home price trends in the Bayview neighborhood of San Francisco have closely mirrored citywide trends, though median sales prices have been substantially (30 to 40 percent) below the citywide averages, as shown in Figure 9. Development challenges in this neighborhood include the relatively high concentration of public housing units, the presence of numerous contaminated sites, and prevalence of residential-industrial land use conflicts from the area's heavy industrial past (San Francisco Planning Department, 2010).



SOURCE: Trulia, 2015

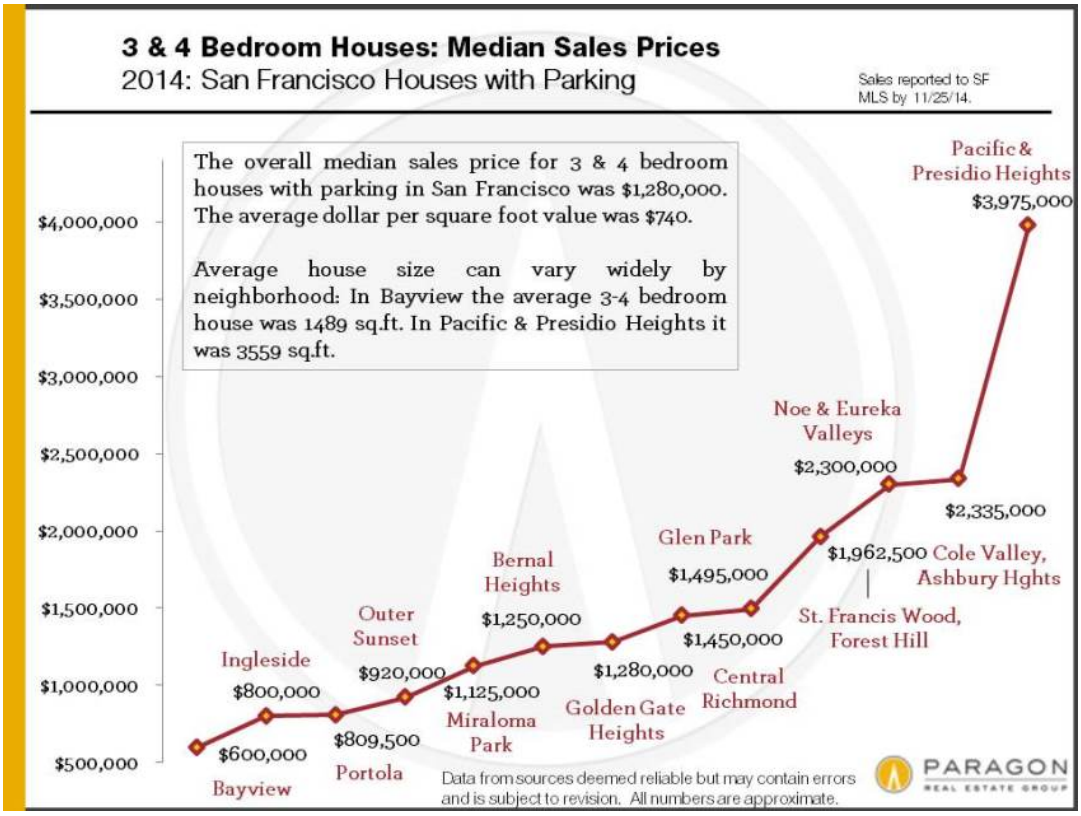
Figure 9
Median Home Sales Price, San Francisco and Bayview, 2000-2015

In 2000, the median price of a home in the Bayview was $247,000, compared to the San Francisco citywide average of just over $400,000. Median housing prices in the Bayview peaked at over $600,000 in 2006-2007, at the height of the subprime lending bubble, when the median home price in the city topped $800,000. Of all San Francisco neighborhoods, the Bayview was the hardest hit by the subsequent recession, with prices falling almost to a median value of $300,000. Median home prices have been rising in the Bayview since 2012, and they have almost achieved the 2006-2007 peak. Citywide, however, median home sales prices exceeded the previous peak, climbing to about $1 million at the end of 2014. Currently (in the period from October 2014 through January 2015), the median home sales price of a Bayview home is $649,500, about one-third lower than the $975,000 median home price citywide.[2]

Bayview housing stock consists predominately of single family homes, with few condominiums, although many new apartments and condominiums are now becoming available or are in the production or planning stages. For example, in the past several years, new construction completed at Hunters View, Candlestick Heights, Bayview Hills Gardens, and Carroll Avenue have added approximately 500 new rental units that are 100 percent affordable (San Francisco Office of Community Investment and Infrastructure [SFOCII], 2015). In addition, developer Lennar Urban is constructing more than 12,000 new housing units at Candlestick Point and the Hunters Point Shipyard through development agreements with the City and County of San Francisco. Phase I at the Hunters Point Shipyard includes construction of 1,600 homes, 27 to 40 percent of which will be affordable. The first market-rate condominiums and flats have been selling for $500,000 to 600,000 ($600 to $700 per square foot)—approximately half the price of comparable units sold in other San Francisco neighborhoods. Lennar will also be developing the remainder of the Shipyard and Candlestick Point as one coordinated development project ("Phase 2"), with mixed use development that will include an additional 10,500 housing units, 32 percent of which will be affordable (San Francisco Mayor's Office of Housing and Community Development, 2015; SFOCII, 2016; San Francisco Chronicle, 2015).

2 Includes both houses and condominiums.

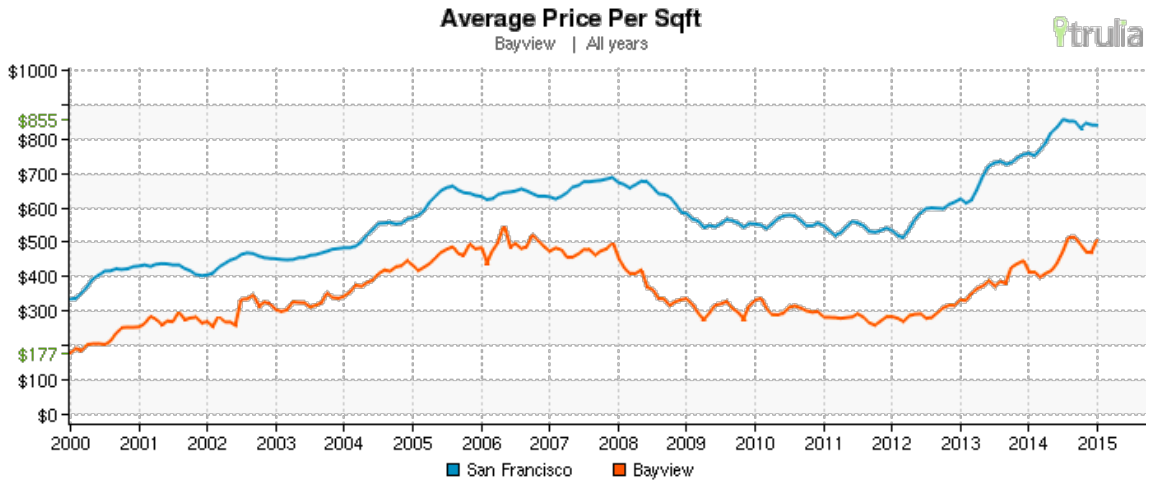
As Figure 10 illustrates, the Bayview offered the lowest priced 3- to 4- bedroom houses with parking in San Francisco in 2014. The median sales price of $600,000 for such units in the Bayview was approximately 25 percent below similar homes in Ingleside and Portola neighborhoods, and less than half the median sales price in nearby Bernal Heights. The Bayview median was well below similarly sized homes in the most expensive San Francisco neighborhoods—e.g. $2,300,000 in Noe Valley and $3,975,000 in Pacific Heights—although unit size and amenities also can vary greatly.



SOURCE: Paragon Real Estate, 2015c.

Figure 10
Median Sales Prices for 3- and 4-Bedroom Houses with Parking, San Francisco Neighborhoods, 2014

Trends in price per square foot paid for homes in San Francisco compared to the Bayview neighborhood have followed patterns similar to overall housing prices, as shown in Figure 11.



SOURCE: Trulia, 2015

Figure 11
Average Price per Square Foot for Residential Sales, San Francisco and Bayview, 2000-2015

Future Housing Market Influences

Slow economic recovery is continuing to take place nationwide. The California Association of Realtors anticipates that the Gross Domestic Product will continue to rise, unemployment will continue to fall, and real income will continue to rise in 2015 (California Association of Realtors, 2015b). The bull stock market also continues, consumer confidence is at a seven-year high, and there is no indication that mortgage interest rates will increase substantially in the near future (The Conference Board, 2015; Swanson, 2015). Thus, nationwide influences that affect housing demand and prices appear poised to remain positive, as they do in the San Francisco Bay Area (SPUR, 2015).

Zillow predicts another overall increase of 2.8 percent in home values in San Francisco for 2015—a slower rate of growth from the unprecedented increases of 2013-2014, but still rising (Zillow, 2015). Upward price pressure and strong competition for housing is likely to continue in all San Francisco neighborhoods. The Bayview—despite its historic problems of lack of amenities, concentrated poverty, heavy industrial use, and land use conflicts—will remain of interest to people wanting to buy a home in San Francisco that seems relatively "affordable" by citywide standards. Recent and planned improvements such as the Third Street Light Rail Line, build-out of the University of California, San Francisco (UCSF) Mission Bay campus (with 9,100 UC employees in addition to employees in new biotechnology research buildings in the immediate area), redevelopment of the Hunters View housing project into a modern mixed use development, and major redevelopments planned for the Hunters Point Shipyard and Candlestick Point, are likely to continue to increase the desirability of the Bayview as a neighborhood to live and work (UCSF, 2015; San Francisco Business Times, 2015).

Municipal Response to Affordability Crisis

Sparked by the acute imbalance between housing demand and supply in San Francisco, there is now a great deal of residential real estate under construction and/or planned in San Francisco. According to the Planning Department, more than 50,000 residential units are now in some stage of planning, permitting or development (San Francisco Planning Department, 2014). Many of the units under construction and planned, however, are expensive, market rate luxury condominium units, with only one or two bedrooms. These homes will house fewer people than the city's traditional housing stock. Many of these units are being purchased by retired Baby Boomers, or by wealthy persons as second or third homes, or by foreigners as investment property (San Jose Mercury News, 2014). This does little to alleviate the housing needs of new employed residents nor demand for lower priced homes and for larger units needed to house families with children (Paragon Real Estate, 2015c; City and County of San Francisco Civil Grand Jury, 2014; Dineen, 2014).

The level of voter concern about housing market conditions is reflected in the number of housing-related initiatives on San Francisco's November 2015 ballot, including:

- **Proposition A** – an initiative proposing $310 million in city bonds to fund affordable housing programs (approved).
- **Proposition D** – an initiative to approve the Mission Rock mixed-use development project, including allowing higher building heights and construction of 1,500 residential units, a third of which would be affordable to low- and moderate-income households (approved).
- **Proposition F** – an initiative to restrict private, short-term housing rentals (defeated).
- **Proposition I** – an initiative proposing an 18-month moratorium on new market-rate housing in the Mission District (defeated).
- **Proposition K** – an initiative to authorize construction of housing on surplus public lands, with more stringent affordability requirements (approved).

In response to the current housing affordability crisis, Mayor Lee has called for construction of 30,000 new housing units in San Francisco by 2020, with at least one-third of these units affordable to low and moderate income households. The City and County of San Francisco has taken several important steps, including authorizing a $1.5 billion Housing Trust Fund to fund affordable housing over the next thirty years, designating $50 million to expedite new affordable housing projects in the next two years, and earmarking $2 million to rehabilitate vacant public housing units. In addition, the city has developed a seven-part housing plan aimed at preventing evictions and displacements, stabilizing at-risk rent-controlled units, increasing assistance to new home owners, reducing the regulatory hurdles to new home construction, and increasing the pace of construction for both affordable and market-rate units (Lee, 2014).

This is a very ambitious building program that greatly exceeds historic housing production levels for both market rate and affordable housing units in San Francisco. Redevelopment agencies were once the primary tool that local governments used to develop affordable housing, but these agencies were dissolved statewide in February 2012. At the same time, Federal and State funding to subsidize affordable housing construction continues to decline.

If the Mayor's goals are achieved, the city's housing stock would expand by 8 percent by 2020—a substantial increase, but not nearly enough to meet current and future projected demand for housing. Upward pressure on rents and home prices in San Francisco is likely to continue for some time to come, with high rents and high home sales prices predominating, favoring high-income buyers and continuing to place pressure on lower income households to move to areas where the cost of housing is more affordable. Primarily due to the housing supply-demand imbalance, and high numbers of well-paying technology jobs, it is likely that gentrification patterns in San Francisco will continue, despite the city's ambitious plans for affordable housing production and rehabilitation.

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APPENDIX B

San Francisco Public Utilities Commission Environmental Justice Policy (2009)

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ENVIRONMENTAL JUSTICE POLICY
(SFPUC Commission Resolution No.09-0170, dated October 13, 2009)

The San Francisco Public Utilities Commission affirms and commits to the goals of environmental justice to prevent, mitigate, and lessen disproportionate environmental impacts of its activities on communities in all SFPUC service areas and to insure that public benefits are shared across all communities.

The SFPUC defines environmental justice as the fair treatment of people of all races, cultures, and incomes and believes that no group of people should bear a disproportionate share of negative environmental consequences resulting from the operations, programs, and/or policies of the SFPUC.

The SFPUC acknowledges that enforcement of environmental laws, rules, regulations, and best practices that apply to its resource supply, operations and delivery of water, wastewater, and power services is core to the fair treatment of the people we serve and the stewardship of our lands.

The SFPUC believes that everyone has the right to a job and reaffirms its commitment as an equal opportunity provider.

In application of this policy to SFPUC projects and activities, SFPUC staff shall:

- Develop and implement training in SFPUC environmental justice issues in conjunction with staff orientation and continuing education efforts.
- Recognize community need for employment through continuation and expansion of workforce development strategies, including green job opportunities in community historically disproportionately burdened by pollution.
- Identify new and continue to implement existing initiatives to avoid or eliminate disproportionate impacts of SFPUC decisions and activities in all service areas.
- Develop diverse and culturally appropriate communication strategies to ensure that stakeholders can participate in decisions and actions that may impact their communities.
- Work with stakeholders, including the SFPUC's Citizens Advisory Committee (CAC) and CAC Environmental Justice Subcommittee, to:

(1) Develop a concise checklist of environmental justice guidelines or best practices that may be useful in assessing how SFPUC actions are improving or can improve specific proposed SFPUC projects, in addition to the enforcement of applicable environmental laws, rules, regulations and the above standards.
(2) Identify SFPUC projects that best demonstrate the implementation of this policy and useful best practices.
(3) Identify SFPUC projects that may have additional environmental impacts on communities already affected by disproportionate environmental impacts and work to minimize those impacts.
(4) Continue to identify and partner with organizations in order to prioritize, establish and fund appropriate activities to improve environmental justice performance in communities already affected by disproportionate environmental impacts of SFPUC activities.

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APPENDIX C

San Francisco Public Utilities Commission Community Benefits Policy (2011)

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COMMUNITY BENEFITS POLICY
(SFPUC Commission Resolution No.11-0008, dated January 11, 2011)

The San Francisco Public Utilities Commission affirms and commits to the goal of developing an inclusive and comprehensive community benefits program to better serve and foster partnership with communities in all SFPUC service areas and to ensure that public benefits are shared across all communities.

The SFPUC acknowledges its responsibility to develop a community benefits program that is intentional in its participation and support programs and projects that are designed to benefit the community, is centrally coordinated within the SFPUC, applies to all of SFPUC's operations and its activities in all SFPUC service areas, and which is sustainable, transparent, measurable, and accessible by stakeholders and SFPUC staff.

The SFPUC defines community benefits as those positive effects on a community that result from the SFPUC's operation and improvement of its water, wastewater and power services. The SFPUC seeks to be a good neighbor to all whose lives or neighborhoods are directly affected by its activities. The SFPUC has adopted a "triple bottom line" analysis to guide its decisions, balancing the SFPUC's economic, environmental and social equity goals, to promote sustainability and community benefits.

The SFPUC will devote sufficient resources and authority to SFPUC staff to achieve outcomes including:

(1) Stakeholder and community involvement in the design, implementation and evaluation of SFPUC programs and policies;
(2) Workforce development, including coordination of internal and external workforce programs and strategic recruitment, training, placement, and succession planning for current and future SFPUC staff to ensure a skilled and diverse workforce;
(3) Environmental programs and policies which preserve and expand clean, renewable water and energy resources, decrease pollution, reduce environmental impacts, and reward proposals for innovative and creative new environmental programs;
(4) Economic development resulting from collaborative partnerships which promote contracting with local companies, hiring local workers, and providing efficient, renewable energy at reduced costs;
(5) Support for arts and culture related to the SFPUC's mission, goals and activities;
(6) Educational programs;
(7) Use of land in a way that maximizes health, environmental sustainability and innovative ideas;
(8) Diversity and inclusion programs and initiatives;
(9) In-kind contributions and volunteerism; and
(10) Improvement in community health through SFPUC activities, services and contributions.

In application of this policy to SFPUC's operations, projects and activities, SFPUC staff shall:

- Develop processes to effectively engage stakeholders and communities in all SFPUC service areas.
- Develop and update a budget and staffing plan to implement and sustain the Community Benefits Program.
- Develop an implementation strategy to review, analyze and coordinate community benefits initiatives and integrate these initiatives into an agency-wide Community Benefits Program.
- Implement the Environmental Justice Policy that the SFPUC adopted on October 13, 2009.
- Develop and implement guidelines, metrics, and evaluation methodologies for existing and future community benefits initiatives.
- Develop diverse and culturally competent communication strategies to ensure that stakeholders can participate in decisions and actions that may impact their communities.
- Develop performance measures to evaluate the Community Benefits Program and report the results.
- Develop new and continue to implement existing initiatives to avoid or eliminate disproportionate impacts of SFPUC decisions and activities in all service areas.

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APPENDIX D

Federal Executive Order 12898

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Federal Register
Vol. 59, No. 32
Wednesday, February 16, 1994

Presidential Documents

Title 3—

The President

Executive Order 12898 of February 11, 1994

Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

By the authority vested in me as President by the Constitution and the laws of the United States of America, it is hereby ordered as follows:

Section 1–1.*Implementation.*

1–101. *Agency Responsibilities.* To the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Mariana Islands.

1–102. *Creation of an Interagency Working Group on Environmental Justice.* (a) Within 3 months of the date of this order, the Administrator of the Environmental Protection Agency (''Administrator'') or the Administrator's designee shall convene an interagency Federal Working Group on Environmental Justice (''Working Group''). The Working Group shall comprise the heads of the following executive agencies and offices, or their designees: (a) Department of Defense; (b) Department of Health and Human Services; (c) Department of Housing and Urban Development; (d) Department of Labor; (e) Department of Agriculture; (f) Department of Transportation; (g) Department of Justice; (h) Department of the Interior; (i) Department of Commerce; (j) Department of Energy; (k) Environmental Protection Agency; (l) Office of Management and Budget; (m) Office of Science and Technology Policy; (n) Office of the Deputy Assistant to the President for Environmental Policy; (o) Office of the Assistant to the President for Domestic Policy; (p) National Economic Council; (q) Council of Economic Advisers; and (r) such other Government officials as the President may designate. The Working Group shall report to the President through the Deputy Assistant to the President for Environmental Policy and the Assistant to the President for Domestic Policy.

(b) The Working Group shall: (1) provide guidance to Federal agencies on criteria for identifying disproportionately high and adverse human health or environmental effects on minority populations and low-income populations;

(2) coordinate with, provide guidance to, and serve as a clearinghouse for, each Federal agency as it develops an environmental justice strategy as required by section 1–103 of this order, in order to ensure that the administration, interpretation and enforcement of programs, activities and policies are undertaken in a consistent manner;

(3) assist in coordinating research by, and stimulating cooperation among, the Environmental Protection Agency, the Department of Health and Human Services, the Department of Housing and Urban Development, and other agencies conducting research or other activities in accordance with section 3–3 of this order;

(4) assist in coordinating data collection, required by this order;

(5) examine existing data and studies on environmental justice;

(6) hold public meetings as required in section 5–502(d) of this order; and

(7) develop interagency model projects on environmental justice that evidence cooperation among Federal agencies.

1–103. *Development of Agency Strategies.* (a) Except as provided in section 6–605 of this order, each Federal agency shall develop an agency-wide environmental justice strategy, as set forth in subsections (b)–(e) of this section that identifies and addresses disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The environmental justice strategy shall list programs, policies, planning and public participation processes, enforcement, and/or rulemakings related to human health or the environment that should be revised to, at a minimum: (1) promote enforcement of all health and environmental statutes in areas with minority populations and low-income populations; (2) ensure greater public participation; (3) improve research and data collection relating to the health of and environment of minority populations and low-income populations; and (4) identify differential patterns of consumption of natural resources among minority populations and low-income populations. In addition, the environmental justice strategy shall include, where appropriate, a timetable for undertaking identified revisions and consideration of economic and social implications of the revisions.

(b) Within 4 months of the date of this order, each Federal agency shall identify an internal administrative process for developing its environmental justice strategy, and shall inform the Working Group of the process.

(c) Within 6 months of the date of this order, each Federal agency shall provide the Working Group with an outline of its proposed environmental justice strategy.

(d) Within 10 months of the date of this order, each Federal agency shall provide the Working Group with its proposed environmental justice strategy.

(e) Within 12 months of the date of this order, each Federal agency shall finalize its environmental justice strategy and provide a copy and written description of its strategy to the Working Group. During the 12 month period from the date of this order, each Federal agency, as part of its environmental justice strategy, shall identify several specific projects that can be promptly undertaken to address particular concerns identified during the development of the proposed environmental justice strategy, and a schedule for implementing those projects.

(f) Within 24 months of the date of this order, each Federal agency shall report to the Working Group on its progress in implementing its agency-wide environmental justice strategy.

(g) Federal agencies shall provide additional periodic reports to the Working Group as requested by the Working Group.

1–104. *Reports to the President.* Within 14 months of the date of this order, the Working Group shall submit to the President, through the Office of the Deputy Assistant to the President for Environmental Policy and the Office of the Assistant to the President for Domestic Policy, a report that describes the implementation of this order, and includes the final environmental justice strategies described in section 1–103(e) of this order.

Sec. 2–2. *Federal Agency Responsibilities for Federal Programs.* Each Federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin.

Sec. 3–3. *Research, Data Collection, and Analysis.*

3–301. *Human Health and Environmental Research and Analysis.* (a) Environmental human health research, whenever practicable and appropriate, shall include diverse segments of the population in epidemiological and clinical studies, including segments at high risk from environmental hazards, such as minority populations, low-income populations and workers who may be exposed to substantial environmental hazards.

(b) Environmental human health analyses, whenever practicable and appropriate, shall identify multiple and cumulative exposures.

(c) Federal agencies shall provide minority populations and low-income populations the opportunity to comment on the development and design of research strategies undertaken pursuant to this order.

3–302. *Human Health and Environmental Data Collection and Analysis.* To the extent permitted by existing law, including the Privacy Act, as amended (5 U.S.C. section 552a): (a) each Federal agency, whenever practicable and appropriate, shall collect, maintain, and analyze information assessing and comparing environmental and human health risks borne by populations identified by race, national origin, or income. To the extent practical and appropriate, Federal agencies shall use this information to determine whether their programs, policies, and activities have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations;

(b) In connection with the development and implementation of agency strategies in section 1–103 of this order, each Federal agency, whenever practicable and appropriate, shall collect, maintain and analyze information on the race, national origin, income level, and other readily accessible and appropriate information for areas surrounding facilities or sites expected to have a substantial environmental, human health, or economic effect on the surrounding populations, when such facilities or sites become the subject of a substantial Federal environmental administrative or judicial action. Such information shall be made available to the public, unless prohibited by law; and

(c) Each Federal agency, whenever practicable and appropriate, shall collect, maintain, and analyze information on the race, national origin, income level, and other readily accessible and appropriate information for areas surrounding Federal facilities that are: (1) subject to the reporting requirements under the Emergency Planning and Community Right-to-Know Act, 42 U.S.C. section 11001–11050 as mandated in Executive Order No. 12856; and (2) expected to have a substantial environmental, human health, or economic effect on surrounding populations. Such information shall be made available to the public, unless prohibited by law.

(d) In carrying out the responsibilities in this section, each Federal agency, whenever practicable and appropriate, shall share information and eliminate unnecessary duplication of efforts through the use of existing data systems and cooperative agreements among Federal agencies and with State, local, and tribal governments.

Sec. 4–4. *Subsistence Consumption of Fish and Wildlife.*

4–401. *Consumption Patterns.* In order to assist in identifying the need for ensuring protection of populations with differential patterns of subsistence consumption of fish and wildlife, Federal agencies, whenever practicable and appropriate, shall collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. Federal agencies shall communicate to the public the risks of those consumption patterns.

4–402. *Guidance.* Federal agencies, whenever practicable and appropriate, shall work in a coordinated manner to publish guidance reflecting the latest scientific information available concerning methods for evaluating the human health risks associated with the consumption of pollutant-bearing fish or

wildlife. Agencies shall consider such guidance in developing their policies and rules.

Sec. 5–5. *Public Participation and Access to Information.* (a) The public may submit recommendations to Federal agencies relating to the incorporation of environmental justice principles into Federal agency programs or policies. Each Federal agency shall convey such recommendations to the Working Group.

(b) Each Federal agency may, whenever practicable and appropriate, translate crucial public documents, notices, and hearings relating to human health or the environment for limited English speaking populations.

(c) Each Federal agency shall work to ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public.

(d) The Working Group shall hold public meetings, as appropriate, for the purpose of fact-finding, receiving public comments, and conducting inquiries concerning environmental justice. The Working Group shall prepare for public review a summary of the comments and recommendations discussed at the public meetings.

Sec. 6–6. *General Provisions.*

6–601. *Responsibility for Agency Implementation.* The head of each Federal agency shall be responsible for ensuring compliance with this order. Each Federal agency shall conduct internal reviews and take such other steps as may be necessary to monitor compliance with this order.

6–602. *Executive Order No. 12250.* This Executive order is intended to supplement but not supersede Executive Order No. 12250, which requires consistent and effective implementation of various laws prohibiting discriminatory practices in programs receiving Federal financial assistance. Nothing herein shall limit the effect or mandate of Executive Order No. 12250.

6–603. *Executive Order No. 12875.* This Executive order is not intended to limit the effect or mandate of Executive Order No. 12875.

6–604. *Scope.* For purposes of this order, Federal agency means any agency on the Working Group, and such other agencies as may be designated by the President, that conducts any Federal program or activity that substantially affects human health or the environment. Independent agencies are requested to comply with the provisions of this order.

6–605. *Petitions for Exemptions.* The head of a Federal agency may petition the President for an exemption from the requirements of this order on the grounds that all or some of the petitioning agency's programs or activities should not be subject to the requirements of this order.

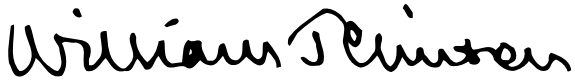
6–606. *Native American Programs.* Each Federal agency responsibility set forth under this order shall apply equally to Native American programs. In addition, the Department of the Interior, in coordination with the Working Group, and, after consultation with tribal leaders, shall coordinate steps to be taken pursuant to this order that address Federally-recognized Indian Tribes.

6–607. *Costs.* Unless otherwise provided by law, Federal agencies shall assume the financial costs of complying with this order.

6–608. *General.* Federal agencies shall implement this order consistent with, and to the extent permitted by, existing law.

6–609. *Judicial Review.* This order is intended only to improve the internal management of the executive branch and is not intended to, nor does it create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by a party against the United States, its agencies, its officers, or any person. This order shall not be construed to create any right to judicial review involving the compliance or noncompliance

of the United States, its agencies, its officers, or any other person with this order.



THE WHITE HOUSE,
February 11, 1994.

[FR Citation 59 FR 7629]

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APPENDIX E
Additional Indicators Considered

Supplemental Poverty Measure

In 2010, an Interagency Technical Working Group (which included representatives from the Bureau of Labor Statistics [BLS], the U.S. Census Bureau, the Economics and Statistics Administration, the Council of Economic Advisers, the U.S. Department of Health and Human Services, and OMB) issued a series of suggestions to the U.S. Census Bureau and BLS on how to develop a Supplemental Poverty Measure (SPM). The SPM is a more complex statistic incorporating additional data derived from the Consumer Expenditure Survey on expenditures for basic necessities (food, shelter, clothing, and utilities), and is adjusted for geographic differences in the cost of housing.

In 2014, the U.S. Census Bureau reported the 2011-2013 3-year estimate of number and percentage of people in poverty by state using both the official federal poverty thresholds and the SPM. For the 2011-2013 period, 16 percent of Californians were estimated to have incomes below the federal poverty thresholds, while the rate was 23.4 percent using the SPM. Nationwide, 13 states, including California and Washington, D.C. had a higher poverty rate using SPM than using the official federal poverty thresholds. (U.S. Census Bureau, 2015a) The SPM has not been calculated at the county or census tract level and therefore cannot be used to compare the poverty rate using the official federal poverty thresholds with the SPM rate in Bayview-Hunters Point or San Francisco. However, the U.S. Census Bureau is researching methods to gather data on the SPM in the ACS; therefore, the SPM may be an available measure of poverty in future publications of the ACS (U.S. Census Bureau, 2015b).

Family Economic Self-Sufficiency Standard

The Insight Center for Community Economic Development (Insight Center) is a national research, consulting, and legal organization dedicated to building economic health in vulnerable communities. According to the Insight Center, 2.9 million households in California need assistance, and only one third of those are captured by the federal poverty thresholds. The Insight Center developed the California Family Economic Self-Sufficiency Standard (Self-Sufficiency Standard) to measure how much income is needed for a non-elderly (over 65), non-disabled individual or family of a certain composition living in a particular county to adequately meet its minimal basic needs, without public or private assistance. Unlike the federal poverty level, which is based on the cost of food without accounting for regional variations in living expenses as discussed above,

the Self-Sufficiency Standard is based on the costs of housing, food, child care, out-of-pocket medical expenses, transportation, and other necessary spending. Key elements of the Self-Sufficiency Standard are: geographic variants in costs, variation by family composition (e.g., age of children), independent pricing of each cost category (rather than reliance on an assumption of fixed percentage of income), and consideration of taxes and tax credits (including payroll taxes like Social Security and Medicare), and specific subsidy programs, such as the Supplemental Nutrition Assistance Program (SNAP). The Self-Sufficiency Standard is calculated for 156 different family types and compositions. (Pearce, et al, 2014)

In San Francisco, the 2014 Self-Sufficiency Standard for a family of four (two adults and two school-aged children) is $69,534 (Insight Center, 2014). This is almost three times the 2014 federal poverty threshold of $24,008 for the same family type (U.S. Census Bureau, 2014).

California Poverty Measure

The Public Policy Institute of California (PPIC) is a nonprofit, nonpartisan think tank dedicated to informing and improving public policy in California through research, with a focus on improving policy responses, planning for the future, and understanding drivers of change (PPIC, 2016). In collaboration with the Stanford Center on Poverty and Inequality, PPIC developed the California Poverty Measure (CPM) in an effort to measure poverty in a more comprehensive manner than the federal poverty level and guidelines. The CPM incorporates changes in costs and standards of living since the federal poverty measure was devised, as well as accounts for geographic differences in the cost of living across the State. It factors in tax credits and in-kind assistance that can augment family resources (such as the Earned Income Tax Credit, CalFresh, and CalWORKs) and subtracts medical, community, and child care expenses. PPIC found that the public assistance provided through State and federal programs cut the State's poverty rate substantially, but that these effects are more than offset by necessary expenses and higher cost of living in the State's most populous areas (Bohn, et al, 2013).

The CPM is based on a variety of factors, and therefore does not offer one income level at which poverty can be measured. Statewide, the most dramatic differences between the federal poverty measure and the CPM occur in counties with high housing costs. In 2013, using the CPM, the Citywide poverty rate in San Francisco was 23.4 percent (Wimer et al., 2013).

Center for Youth Wellness

The Center for Youth Wellness (CYW) is a private health organization embedded within a primary care pediatric home serving children and families in the Bayview-Hunters Point neighborhood. The organization seeks to (1) respond to a new medical understanding of how early adversity harms the developing brains and bodies of children, and (2) raise awareness of "toxic stress," which it defines as the high level of emergency hormones, such as adrenaline and cortisol, that are released in response to stressful situations and can lead to changes in the structure and function of children's developing brains and bodies. The CYW screens young people for Adverse Childhood Experiences (ACEs), which can lead to toxic stress and poor health

outcomes. There are ten recognized ACEs that fall into three general categories: abuse (physical, emotional, sexual), neglect (physical, emotional), and household dysfunction (mental illness, incarcerated relative, mother treated violently, substance abuse, and divorce). CYW analyzed the prevalence of ACEs (percentage of children experiencing 0, 1, 2, 3, or more than 3 ACEs) at the countywide level across California (Center for Youth Wellness, 2014).

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