City of Berkeley
Rincon Consultants, Inc.

Environmental Justice Existing Conditions Report

2180 Milvia Street, Berkeley, CA 94704
berkeleyca.gov | (510) 981-7400 | planning@berkeleyca.gov

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1 Introduction

The City of Berkeley is developing a new Environmental Justice (EJ) Element of the General Plan, consistent with State law. The purpose of this report is to assess the existing environmental justice issues in our community. This assessment will inform the development of a policy framework for the EJ Element.

In addition to the information presented in this report, the City is soliciting input from community members, community leaders, community-based organizations, Tribal governments, and other non-governmental agencies. Feedback received through engagement and outreach will help shape the City's environmental justice-related policies.

The identification of EJ communities is intended to help direct resources, policies, and investments toward areas that have historically experienced disproportionate environmental burdens and socioeconomic disadvantages. However, this designation does not imply that EJ issues are confined to these areas. Environmental health risks, pollution exposure, and inequitable access to resources can affect people throughout the city. Addressing environmental justice requires both targeted action in identified areas and broader efforts to reduce disparities across all neighborhoods.

1.1 Environmental Justice and Senate Bill 1000

Environmental justice is a concept that addresses the systemic, unjust and inequitable environmental burdens placed on communities that have been historically disadvantaged, including low-income populations and Black, Indigenous, Latinx, Asian American, Pacific Islander, Middle Eastern, and North African people. California law 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." Efforts to advance environmental justice focus on improving the status of historically disadvantaged communities through equitable planning and policy decisions.

In 2016, Senate Bill (SB) 1000 was adopted into California Government Code Section 65302(h)(2) to integrate environmental justice into local and regional planning. This law expanded General Plan requirements by mandating that cities and counties with "Disadvantaged Communities" (as defined in the Government Code), either adopt a stand-alone Environmental Justice Element or integrate environmental justice policies into their existing General Plan Elements. In this report, "Disadvantaged Communities" are referred to as EJ areas and EJ communities. SB 1000 requires cities and counties to identify these communities and create policies that accomplish the following:

- "Identify objectives and policies to reduce the unique or compounded health risks in disadvantaged communities by means that include, but are not limited to, the reduction

of pollution exposure, including the improvement of air quality, and the promotion of public facilities, food access, safe and sanitary homes, and physical activity.

- Identify objectives and policies to promote civic engagement in the public decision-making process.
- Identify objectives and policies that prioritize improvements and programs that address the needs of disadvantaged communities." (Government Code Section 65302[h][1])

SB 1000 defines EJ communities as:

"An area identified by the California Environmental Protection Agency (CalEPA) pursuant to Section 39711 of the Health and Safety Code or;

An area that is a low-income area that is disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation."

Following this definition, SB 1000 provides for two approaches to identify EJ areas: 1) CalEnviroScreen, a statewide mapping tool produced by CalEPA; or 2) Custom analysis that identifies areas that are considered low-income and experience disproportionate exposure to environmental burdens. The City is using a combination of both approaches as recommended by the Governor's Office of Land Use and Climate Innovation (LCI), California's comprehensive planning agency (see ***Section 2*** below).

SB 1000 defines a low-income area as:

> "A census tract with household incomes at or below 80 percent of the statewide median income or household incomes at or below the threshold designated as low income by the Department of Housing and Community Development's list of state income limits adopted pursuant to Section 50093 of the Government Code."

Following this definition, SB1000 establishes two approaches to identify a low-income area:

1. Median household income is at or below 80 percent of the statewide median household income ($96,334) (U.S. Census Bureau 2019); or
2. Median household income at or below the amount designated as "low-income" by the California Department of Housing and Community Development pursuant to Section 50093 ($96,650) (California Department of Housing and Community Development 2024).

Unlike identifying low-income areas, SB1000 does not specify a method or threshold for identifying areas that are "disproportionately affected by environmental pollution and other hazards," but it is important to broadly analyze possible disproportionate burdens to further the intent of the law to reduce health risks in EJ communities. The Governor's Office of LCI provides guidance on this topic, which is described below.

1.2 Environmental Justice Context in Berkeley

Berkeley is located in Alameda County, California on the eastern shore of the San Francisco Bay (the Bay). Berkeley's geography is defined by its combination of flatlands near the waterfront and the hilly terrain to the east, known as the Berkeley Hills. These hills are part of the East Bay Hills which separate Berkeley from the inland areas farther east. The Bay shoreline also plays an important role in Berkeley's geography and has been a focus of environmental planning related to sea-level rise.

Berkeley has traditionally been the xučyun, the ancestral and unceded land of the Chochenyo-speaking Ohlone people, ancestors and descendants of the sovereign Verona Band of Alameda County. The City aims to recognize this history and works to engage the Ohlone people who are members of Berkeley and other East Bay communities. In this spirit, in October 2022 the City Council adopted a land acknowledgement which is read at the beginning of all City Council and Commission meetings.[1]

Berkeley's history is deeply tied to the founding of the University of California, Berkeley (UC Berkeley) in 1868, which remains a central feature of the city today. The university has shaped Berkeley's identity, transforming it into a hub for education, research, and activism. Berkeley gained international attention in the 1960s with the Free Speech Movement, which began at UC Berkeley and made the campus a focal point for social and political movements.

Berkeley is also known for being a leader in climate action and environmental sustainability, with initiatives to promote sustainable urban planning, green building practices, and extensive public transportation options. While the City, as a municipal institution, has been progressive in its aim for social equity, like many cities it continues to face challenges in addressing the environmental disparities that disproportionately impact low-income communities, communities of color, and other communities that try to remain resilient in the face of marginalization. These disparities are rooted in historically inequitable land use policies, such as redlining and single-family zoning. Recognizing the need to address these historical and continuing inequities, the City is developing a new Environmental Justice Element of the General Plan.

The city has a complex racial history shaped by segregation, redlining, and struggles for civil rights. In the early 20th century, discriminatory housing policies -- such as single-family zoning, racial covenants, and redlining -- restricted Black residents and other communities of color to specific neighborhoods, particularly South and West Berkeley. Despite these barriers, those neighborhoods became vibrant centers of culture, activism, and resilience. Berkeley was home to both groundbreaking civil rights movements and fierce resistance to desegregation, exemplified by conflicts over school integration in the 1960s.

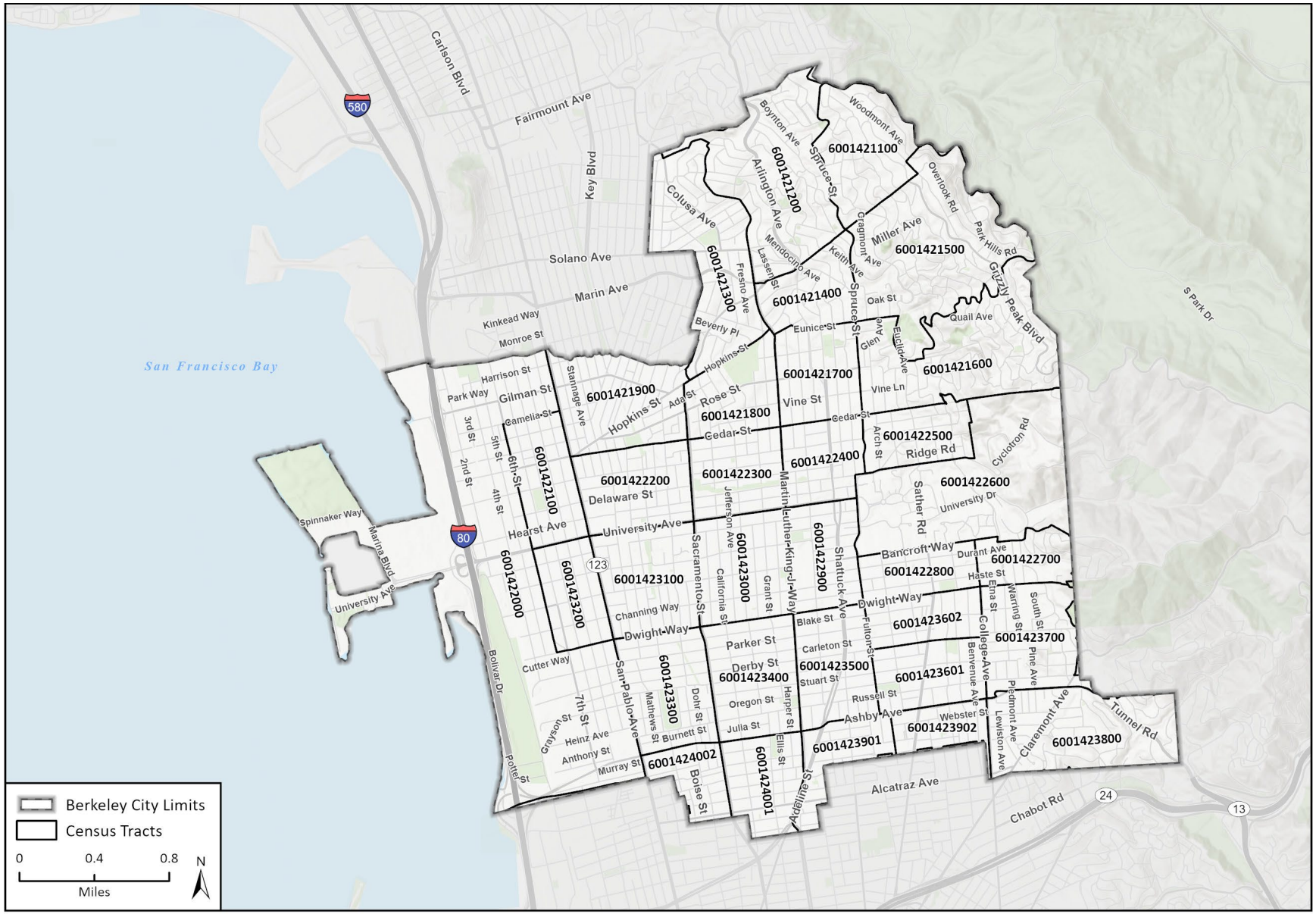
[1] City of Berkeley City Council Resolution 70,564-N.S., October 11, 2022.

In recent decades, rising housing costs and gentrification have accelerated the displacement of long-time residents of color. The Black population, once 19 percent in 1990, declined to 15 percent in 2000, 10.5 percent in 2010, and just 8.6 percent by 2020. Berkeley's Latinx population has also declined in recent decades, while the Asian American and multiracial populations have grown, particularly among students, renters, and younger households. Today, Berkeley remains a racially and culturally diverse city, but its demographic shifts mirror broader regional trends of exclusionary displacement and a loss of historical communities of color. Despite its reputation for inclusivity, Berkeley continues to grapple with racial disparities in housing, education, and policing, reflecting the lasting impact of historical injustices. These patterns underscore the ongoing need for restorative policies that address past harms while protecting and uplifting Berkeley's existing communities of color.

Historically, negative environmental impacts have disproportionately affected people who have been marginalized, including low-income communities, people living with disabilities, and racial and ethnic minorities. Examples of these impacts include greater exposure to air pollutants, unsafe drinking water, and contaminated facilities/structures, and limited access to public resources. These inequities can be traced to discriminatory governmental policies and actions such as land-use planning, code enforcement deficiencies, and lack of equitable community engagement practices, among many other factors. Associated health disparities result from decisions, practices, and policies and actions that provide unjust advantages to some groups solely based on race and ethnicity, age, physical and mental ability, geography, or socioeconomic status. Racial and ethnic differences in health and social outcomes should not be interpreted as intrinsic to any group, but rather as indicators of structural and systemic racism (Boyd et al. 2020). In this context, data points that reveal significant disparities across racial and ethnic lines, particularly disparities that persist even after accounting for population size or other demographic factors, should be understood as reflections of underlying inequities rooted in policy and institutional practices. This type of systematic racism is evident across all sectors including housing, education, employment, and law enforcement.

While the methodology to identify EJ areas utilizes census block groups to areas with heightened environmental and social vulnerability, the assessment presents findings at the census tract level to support policy-making and resource allocation decisions. Neighborhoods are also referenced to provide additional geographical context. The City has 33 census tracts as identified in ***Figure 1***, below. Each of the neighborhoods within Berkeley are identified in ***Figure 2***.

Figure 1 Berkeley Census Tracts



Basemap provided by Esri and its licensors © 2025.
Additional data provided by CalEnviroScreen 4.0, 2021.

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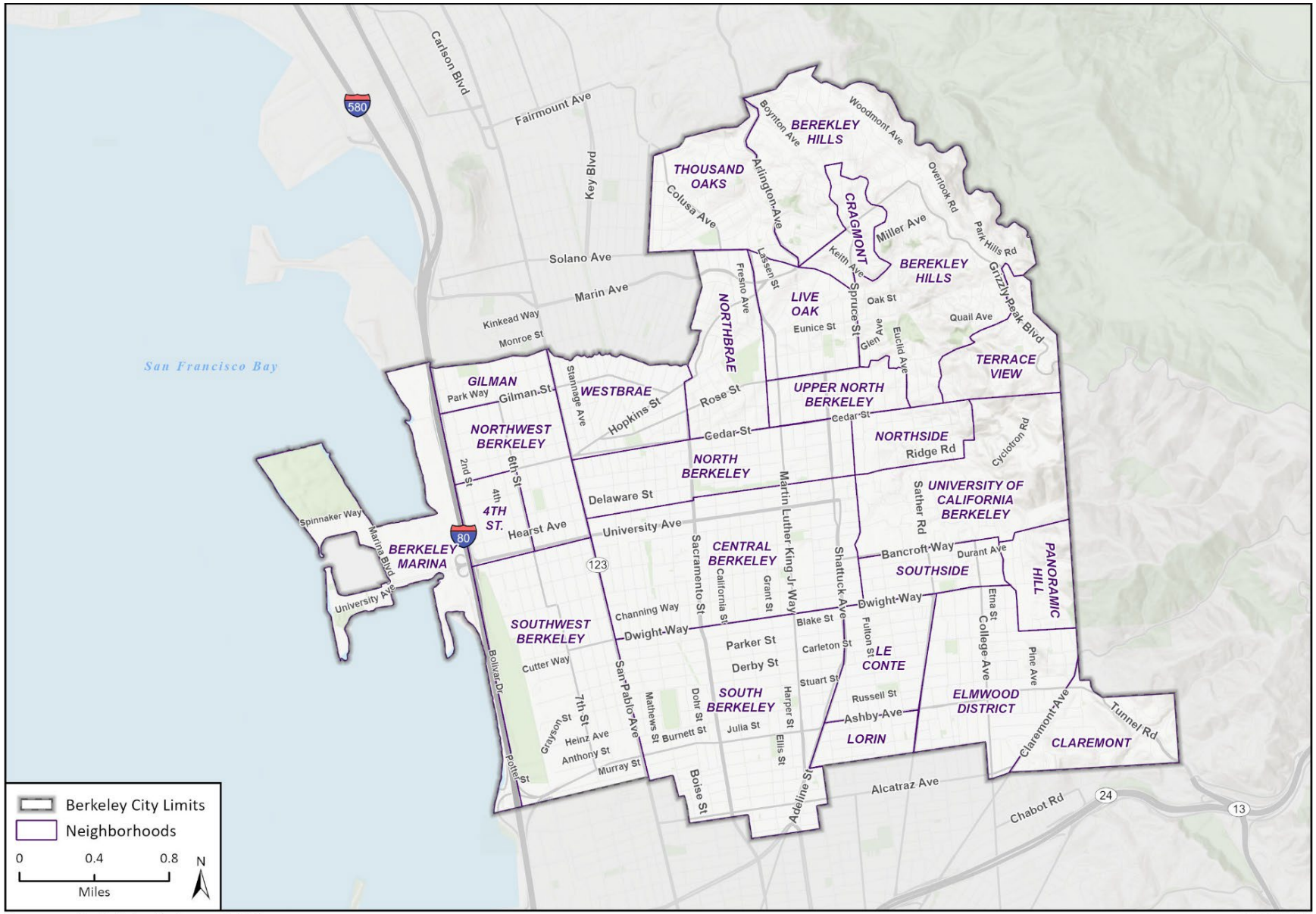
Fig X Berkeley Census Tracts

Figure 2 Berkeley Neighborhoods



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Neighborhoods provided by City of Berkeley, 2025.

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Fig X Neighborhoods

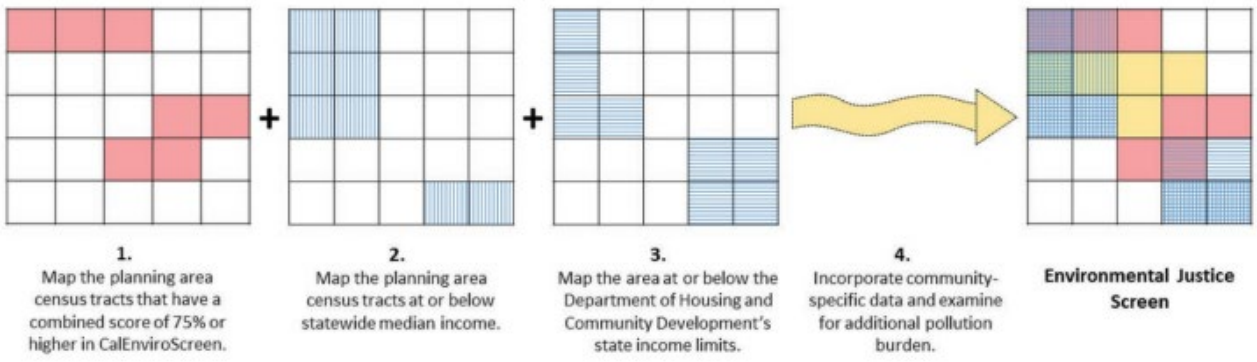
2 Methodology and Approach to Identifying EJ Areas

In 2020, the Governor's Office of LCI, the coordinating agency for environmental justice programs, released guidelines for addressing environmental justice in general plans in alignment with SB 1000 (General Plan Guidelines 2020). In 2023, the California Department of Justice released Best Practices for Implementing SB 1000. The Best Practices for Implementing SB 1000 document provides additional context on community engagement methods and best practices for policies in each SB 1000 topic area.

LCI recommends the following four-step screening process to identify EJ areas (*See **Figure 3** below*):

- **Step 1:** Map the census tracts that have a score in the 75th percentile or higher on the CalEnviroScreen 4.0 index.[2]
- **Step 2:** Map the census tracts that are at or below the statewide median income.
- **Step 3:** Map the census tracts that are at or below the Department of Housing and Community Development's state income limits.
- **Step 4:** Incorporate community-specific data and examine additional health risk factors and disproportionate burden from pollution or other hazards that can also lead to negative health effects, exposure, or environmental degradation.

Figure 3 LCI's Recommended Screening Process for Identifying EJ Areas

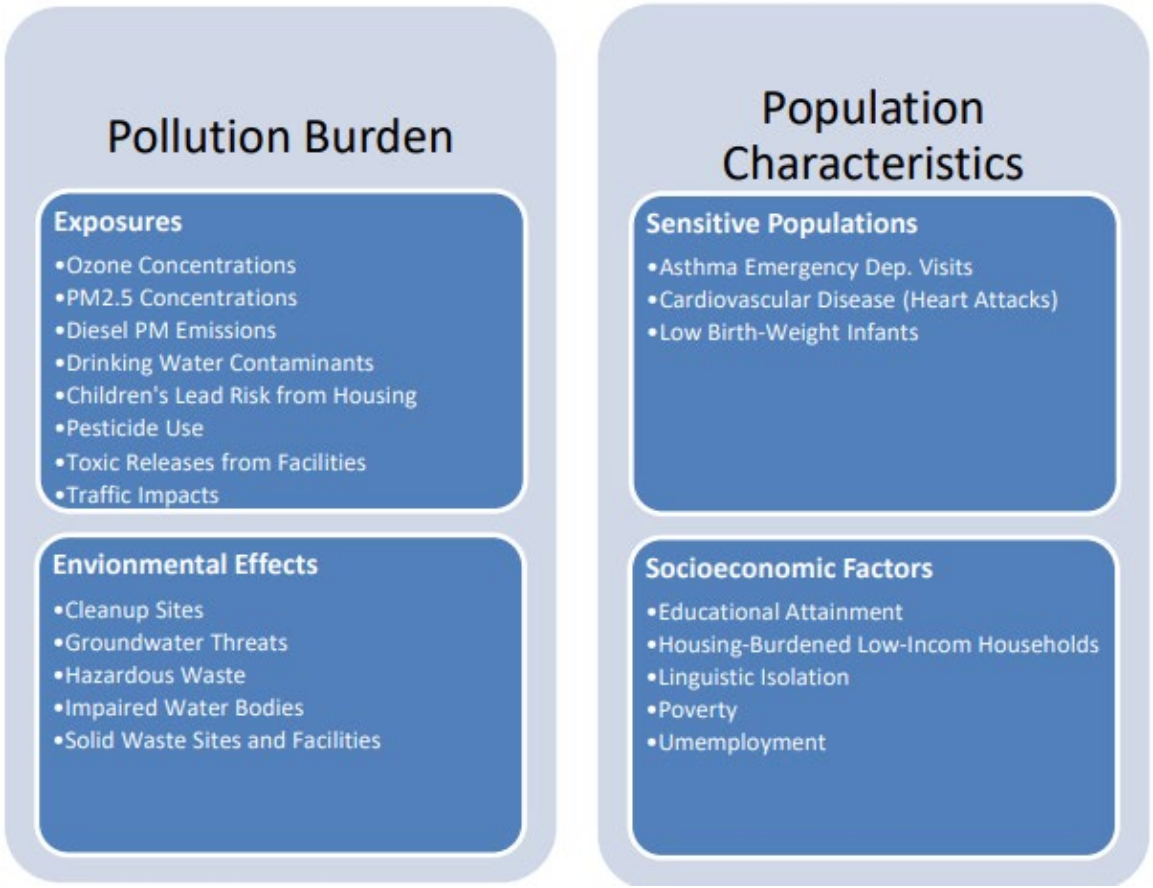


[2] The 75th percentile threshold in CalEnviroScreen is utilized to identify the top 25 percent of California census tracts that are most burdened by pollution and vulnerability factors. This approach aligns with the California Environmental Protection Agency's (CalEPA) designation of "disadvantaged communities" as defined in Senate Bill 535.

2.1 CalEnviroScreen 4.0

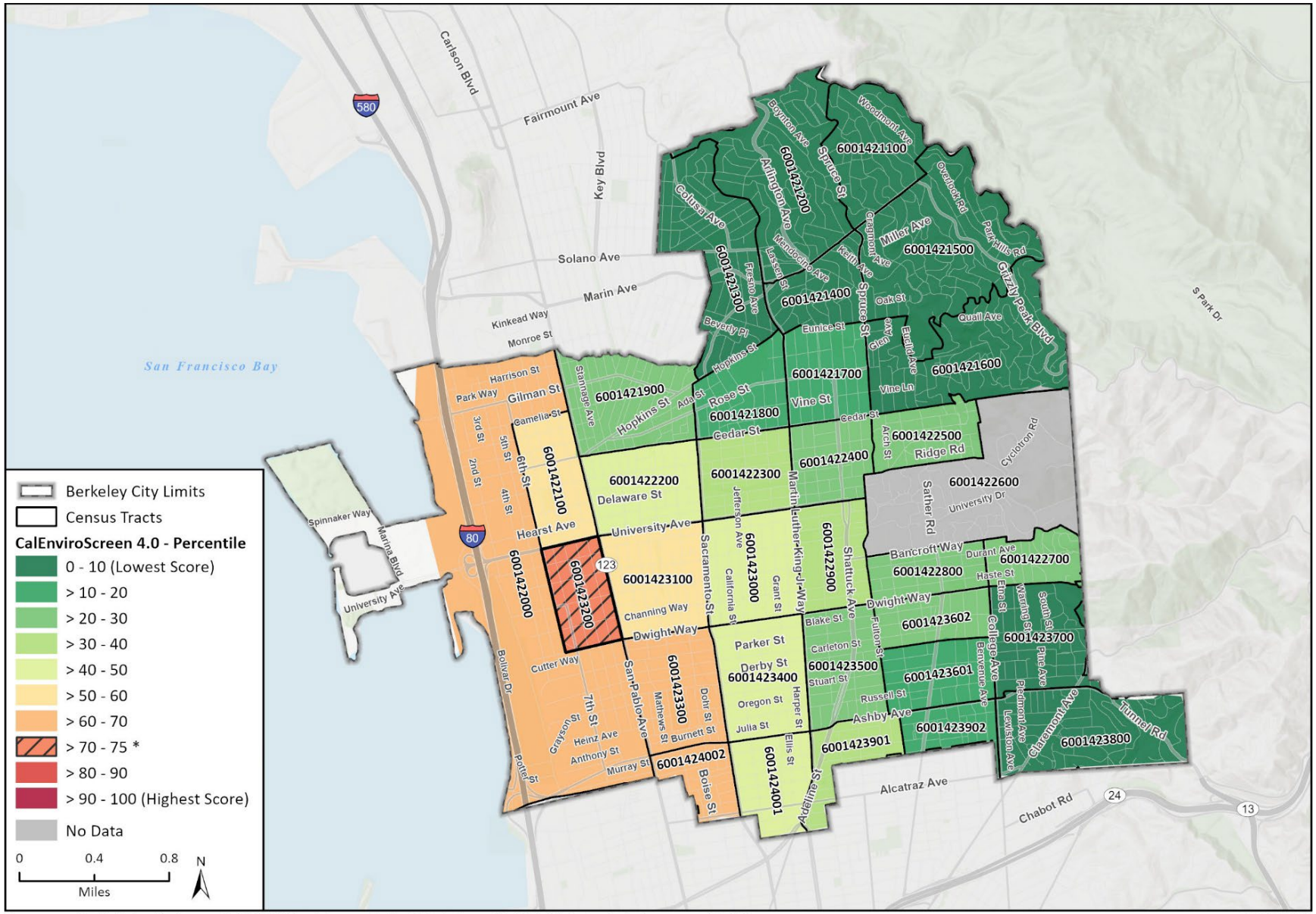
CalEnviroScreen 4.0 is a tool developed by the CalEPA to assess and identify areas in California that are disproportionately affected by environmental pollution and social vulnerability. As shown in ***Figure 4***, the tool measures each California community using 21 indicators, categorized into 'Pollution Burden Percentile' and 'Population Characteristics Percentile.' These indicators are combined to establish an overall CalEnviroScreen score for each census tract in California. Assigned scores for each census tract are based on the presence and/or burden of each pollution exposure, environmental effect, sensitive population measure, and socioeconomic factor indicators within that area. Scores are expressed using a percentile ranking that compares each census tract score to others within California. A high percentile indicates that a census tract has a higher pollution burden or population characteristics score relative to other communities across the state.

Figure 4 CalEnviroScreen Indicators



The 75th percentile threshold in CalEnviroScreen is utilized to identify the **top 25 percent** of California census tracts that are most burdened by pollution and population vulnerability factors. This approach aligns with the California Environmental Protection Agency's (CalEPA) designation of "disadvantaged communities" as defined in Senate Bill 535. As shown in ***Figure 5***, there is a clear disparity in scores between the eastern and western portions of Berkeley with the western areas nearest to Interstate 80 scoring highest. Based on the CalEnviroScreen threshold of the 75th percentile, only one census tract would be considered an EJ area (*see* ***Table 1*** *and* ***Figure 5*** *below*). The census tract denoted with an asterisk and bold lettering indicates that it has been identified as an EJ area. LCI recommends conducting community engagement around the results of the CalEnviroScreen map, particularly with low-income communities, communities of color, sensitive populations, and tribal governments, as well as organizations focused on public health and environmental justice. Community engagement helps ensure that the location of EJ areas, as well as the nature of their exposure to environmental burdens, concerns and needs are accurately identified. The results of this engagement conducted in Berkeley are presented in the ***Summary of Community Engagement Activities*** (https://berkeleyca.gov/your-government/our-work/adopted-plans/general-plan).

Figure 5 CalEnviroScreen 4.0 Comprehensive Percentile Scores in Berkeley



Basemap provided by Esri and its licensors © 2025. Additional data provided by CalEnviroScreen 4.0, 2021; Priority Population Investments 4.0, 2021.
** Census tract in the 75th percentile is considered an EJ community.*

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Fig 1 CalEnviroScreen Composite 75th Percentile

Table 1 CalEnviroScreen Comprehensive Score Overview

Census Tract	Overall Percentile Range	Score
6001421100	1-5% (lowest scores)	3.3
6001421200	1-5% (lowest scores)	3.4
6001421300	1-5% (lowest scores)	4.2
6001421400	1-5% (lowest scores)	5.4
6001421500	1-5% (lowest scores)	4.3
6001421600	1-5% (lowest scores)	1.6
6001421700	15-20%	10.8
6001421800	10-15%	9.6
6001421900	25-30%	15.9
6001422000	65-70%	34.2
6001422100	50-55%	27.3
6001422200	45-50%	25.0
6001422300	30-35%	17.6
6001422400	25-30%	14.9
6001422500	20-25%	14.2
6001422600	NA	N/A
6001422700	25-30%	15.1
6001422800	25-30%	16.1
6001422900	35-40%	19.2
6001423000	45-50%	23.7
6001423100	55-60%	29.8
6001423200*	**70-75%**	**39.8**
6001423300	60-65%	31.6
6001423400	40-45%	22.3
6001423500	25-30%	15.4
6001423601	10-15%	10.5
6001423602	20-25%	14.2
6001423700	5-10%	7.3
6001423800	1-5% (lowest scores)	4.7
6001423901	30-35%	18.8
6001423902	15-20%	11.0
6001424001	45-50%	25.2
6001424002	60-65%	32.1

* = Contains EJ Areas.
Source: CalEnviroScreen 4.0 (accessed March 2025).

2.2 Berkeley EJ Areas Identification

Building on the approach described in Section 2.1 above, the City completed additional analysis to develop a localized Citywide EJ Areas Map. The City had numerous goals in developing this additional map:

- Align with the required and recommended process as described in SB 1000 and State guidance.
- Use community-specific data to ensure that all EJ areas are recognized.
- Identify areas where policies and programs could be focused to promote public health.
- Utilize community input to identify areas of high need.

The CalEnviroScreen map for Berkeley (***Figure 5***) provided a starting point for the Citywide EJ Areas Map. The City also considered a range of datasets and indicator maps, including composite indices such as Metropolitan Transportation Commission's Equity Priority Communities Map and the Bay Conservation and Development Commission's Community Vulnerability Map.

Recognizing that local knowledge and context are critical to identifying Berkeley's EJ communities – some of which may not be reflected in statewide data sets -- the City also incorporated community-specific data based on feedback from the project's Community Advisory Committee (CAC) (see the ***Summary of Community Engagement Activities*** for more information about the CAC: https://berkeleyca.gov/your-government/our-work/adopted-plans/general-plan).

After reviewing available data and listening to community feedback on Berkeley-specific issues, the City selected the datasets summarized in ***Table 2*** and in ***Section 2.2.2*** for inclusion in the Citywide EJ Areas Map. This analysis is intended for local planning purposes and provides a more robust analysis of environmental justice issues in Berkeley by using additional data beyond what CalEnviroScreen[3] considers. The weights assigned to each of the four layers are intended to prioritize CalEnviroScreen, avoid duplication of income-related indicators, and supplement air pollution exposure indicators with more fine-grained and locally-relevant information.

The Citywide EJ Areas Map (***Figure 6***) is a preliminary analysis meant to be used as a tool for community engagement and policy development. It is also important to note that the Citywide EJ Areas Map, which is required by State law and illustrates geographic clustering of various data indicators, is just one tool to help shape goals policies and programs that address health-related inequities. There are also individuals and groups who face disadvantage that are not

[3] This analysis applies only to local policies and programs. CalEnviroScreen is the official map for State policies and programs.

reflected within the confines of the geographic areas in the Citywide EJ Areas Map. The full Environmental Justice Areas Methodology is provided in Appendix A.

Table 2 Citywide EJ Areas Map Datasets and Weights

Dataset and Weight	Indicators
CalEnviroScreen[1] – 60 percent	Pollution exposure: • Ozone • PM2.5 • Diesel particulate matter • Pesticide use • Toxic release from facilities • Cleanup sites • Hazardous waste generators and facilities • Solid waste sites and facilities • Drinking water contaminants • Traffic density Population characteristics: • Educational attainment • Linguistic isolation • Poverty • Unemployment • Housing burdened low-income household • Asthma • Cardiovascular disease • Low birthweight infants
Areas of Social Vulnerability[2] – 10 percent	• Tenure • Poverty • Rent Burden (renter households) • Persons of color • Youth • Seniors • High school or less • Limited English proficiency households • Households with Disabilities • Non-citizen voting age population • Single-parent families
CA Department of Housing and Community Development (HCD) Housing Income Limits – median household income for two-person household[3] – 10 percent	Area Median household income below $96,650 (Berkeley threshold for very low-income, two-person household)
Air Pollution Exposure Zone[4] – 20 percent	100-meter scale daily air pollution levels, fine particulate matter ($PM_{2.5}$)

[1]Source: CalEPA.
[2, 3]Source: *American Community Survey 5-Year Estimates (2018-2022).*
[4]Source: *UC Berkeley School of Public Health, Science Advances Examining air pollution exposure dynamics in disadvantaged communities through high-resolution mapping (2024)*

2.2.1 Datasets

Dataset 1: CalEnviroScreen (60 percent)

As described in ***Section 1.3.3***, CalEPA's CalEnviroScreen 4.0 identifies census tracts that score at or above the 75th percentile across the State as "disadvantaged," using 21 pollution, health and socioeconomic indicators. The CalEnviroScreen score reflects the extent of pollution burden and the specific population characteristics that increase vulnerability to that burden, compared to the rest of the State. The Berkeley Citywide EJ Areas Map includes all of the CalEnviroScreen indicators and identifies census block groups that score at or above the 60th percentile, in order to capture areas of the City that experience a higher EJ burden relative to rest of the City and assigns a weight of 60 percent of the total score.

Dataset 2: Areas of Social Vulnerability (10 percent)

The Citywide EJ Areas Map produced by CalEnviroScreen includes five socioeconomic factors that may increase vulnerability to pollutants:

- Educational Attainment
- Housing-Burdened Low-Income Households
- Linguistic Isolation
- Poverty
- Unemployment

This local, Berkeley-specific methodology adds six additional factors (resulting in a total of 11) to reflect Berkeley's demographics more fully:

- Renters
- People under the age of five
- Non-U.S. citizens
- Zero-vehicle households
- People with a disability
- Single-parent families
- Communities of color[4]
- People 65 years of age or older who are living alone.

These additional social vulnerability factors are drawn from the Disaster Preparedness and Safety Element Social Vulnerability Analysis (2025) to give a more complete picture of social vulnerability within the Citywide EJ Areas Map. These indicators were developed by the Bay

[4] Black/African American, Latino/Latinx/Hispanic, Indigenous/Native, Pacific Islander, Asian, East Asian, Middle Eastern and other People of Color.

Conservation and Development Commission through a robust process to address environmental justice in the San Francisco Bay Plan (San Francisco Bay Conservation and Development Commission 2020), and reflect professional experience, local knowledge, and the latest research regarding which factors contribute to vulnerability to hazards (Adapting to Rising Tides 2023). These factors are weighted at 10 percent of the total score.

Dataset 3: Median Household Income (10 percent)

Following State guidance, the Citywide EJ Areas Map includes median household income data. CalEnviroScreen includes income data as an indicator within the population characteristics category (*see **Figure 4** above*). Specifically, CalEnviroScreen uses the percentage of the population living below two times the federal poverty level, which accounts for the fact that California's cost of living is higher than many other parts of the country. Based on community feedback, and to account for the higher cost of living in the Bay Area compared to other parts of the state, the Citywide EJ Areas Map includes household income for a two-person household that is at or below the Department of Housing and Community Development's state income limits for Alameda County. This indicator is weighted at 10 percent of the total score.

Dataset 4: Air Pollution Exposure (20 percent)

To assess exposure to air pollution, CalEnviroScreen measures the annual average concentration of fine particulate matter pollution (PM2.5). Of the six criteria air pollutants measured, PM2.5 poses one of the most significant health risks. Concentrations are measured annually by monitoring stations and provided for each 1 km grid across the City. New research published by UC Berkeley in August 2024 provides a more fine-grained analysis of PM2.5 pollution at a nearly block-by-block level. Given Berkeley's relatively small geographic size, this new data set provides a more complete picture of exposure to air pollution. This indicator is weighted at 20 percent of the total score.

2.2.2 Map Analysis and Symbology

While CalEnviroScreen uses UC Census data at the census tract level, the Citywide EJ Areas Map uses data at the block group level (a smaller scale geographic scale) to account for Berkeley's geographic size and to help the City better understand where to focus resources within historically marginalized communities.

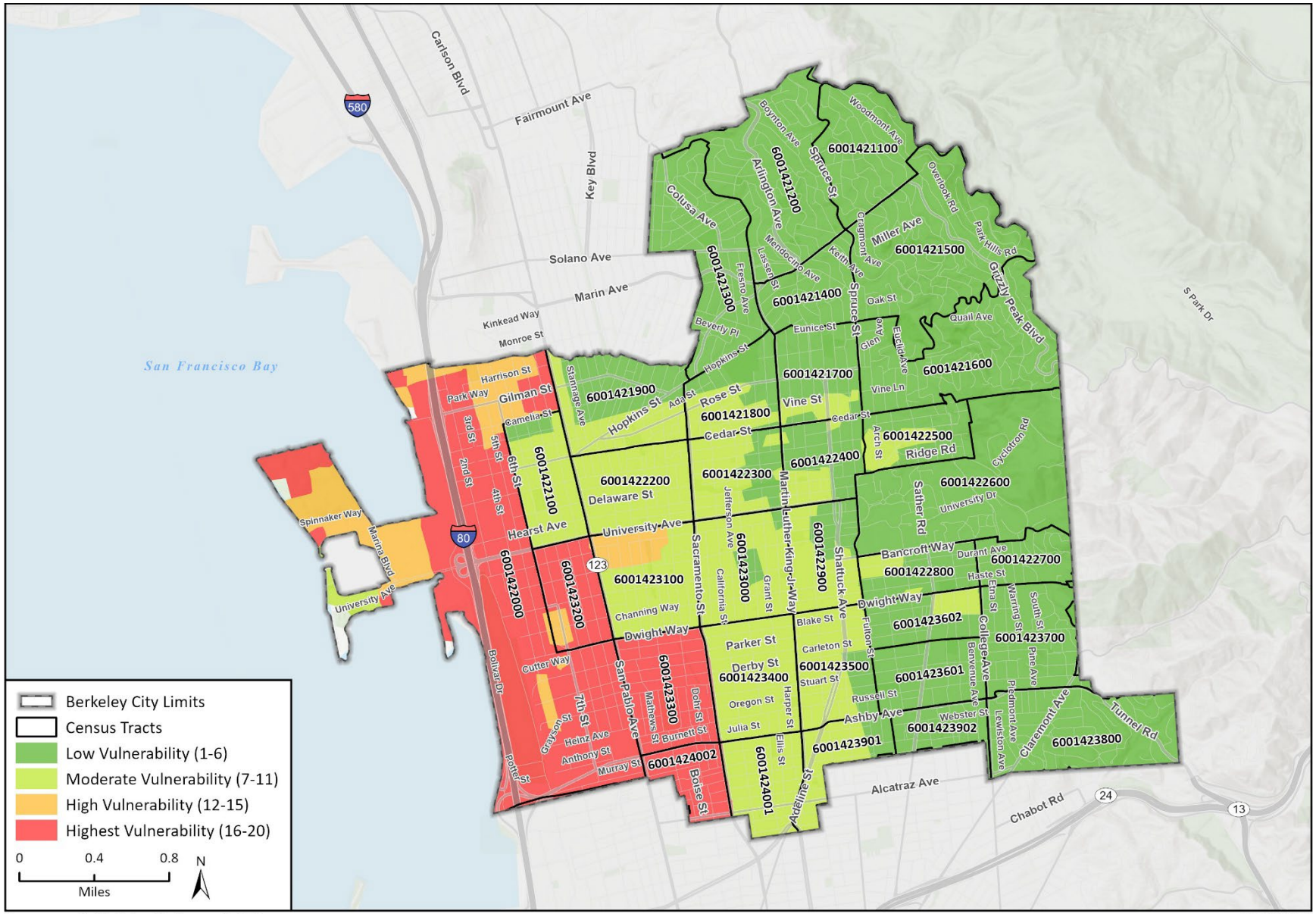
The Citywide EJ Areas Map was created using a raster analysis in ArcGIS that combined the datasets listed in ***Table 2*** into a final composite map. A raster analysis is a type of spatial and quantitative analysis that overlays multiple thematic layers to create a new, synthesized layer. In this process, geographic areas are broken into individual cells or pixels, with a numeric value based on the weighted average of the datasets listed in ***Table 2.*** The resulting map symbology groups the raster analysis results into categories assigning a color ramp modeled after CalEnviroScreen: green indicates the lowest cumulative environmental burden, and red indicates the highest environmental burden. The raster values were standardized across 20

classifications, or levels of burden, which were then grouped into four categories – low, moderate, high and highest – to represent increasing levels of cumulative environmental burden. The highest category represents the block groups scoring in the 75th percentile or above, which are designated as EJ areas in Berkeley (*see* ***Figure 7*** *and* ***Table 3****).****Figure 7*** illustrates only the highest category, while ***Figure 6*** illustrates the full color ramp, or categories, across the city.

Table 3 Citywide EJ Areas by Block Group

Census Block Group Number
060014240021
060014240022
060014220002
060014220001
060014232001
060014232002
060014233001
060014233002
060014233003

Figure 6 EJ Areas (Citywide)



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EJ Communities based on a Locally Specific Methodology provided by City of Berkeley, 2025.

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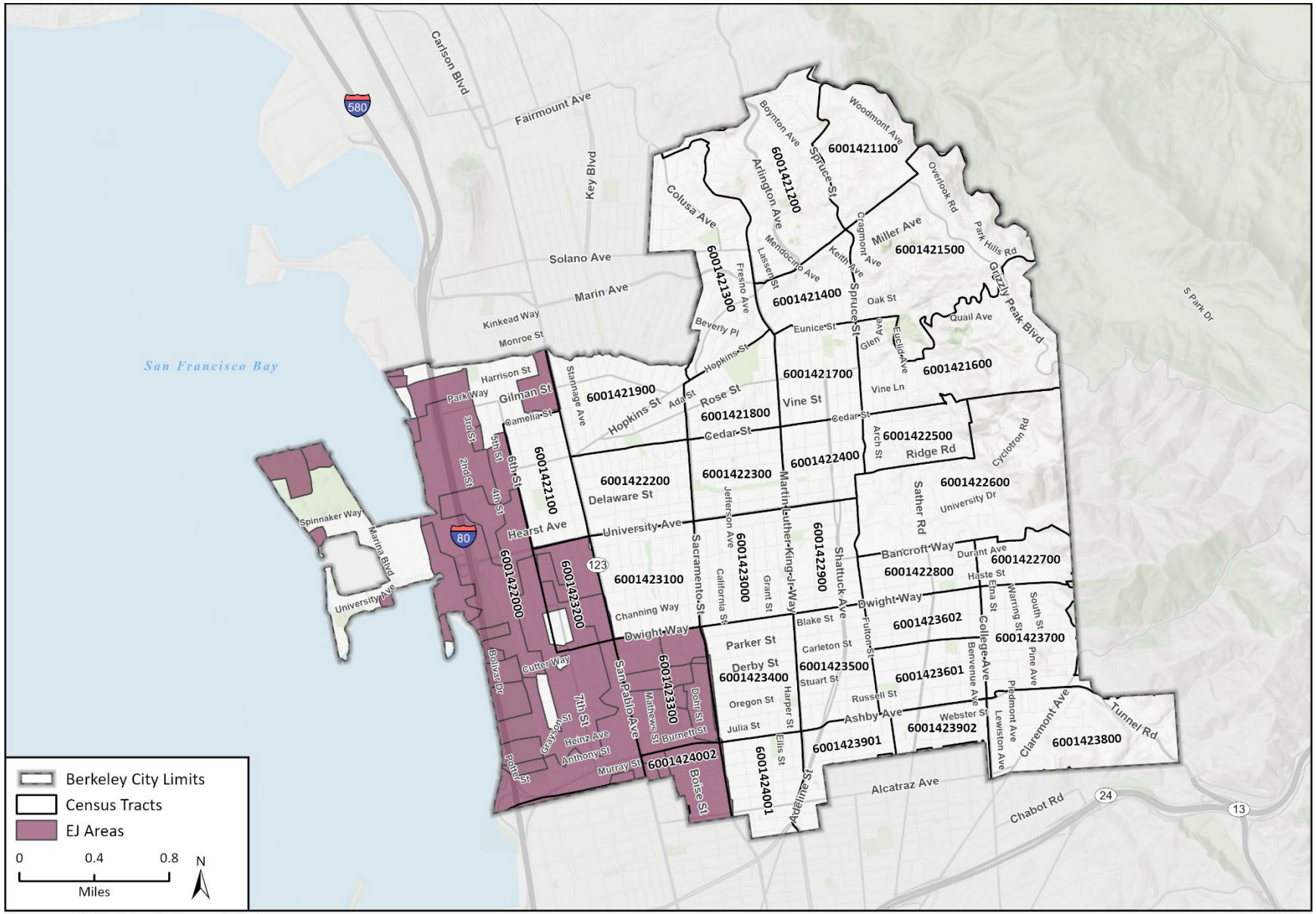
Fig 4 EJ Communities Citywide

Figure 7 EJ Areas (Top 25%)



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EJ Communities based on a Locally Specific Methodology provided by City of Berkeley, 2025.

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Fig 3 EJ Areas

3 Environmental Justice Determinants

The negative impacts of environmental hazards and pollution on communities in California can be measured across seven key focus areas. These focus areas encompass the range of environmental factors that may influence a person's health status, and they are collectively referred to as the environmental determinants of health. The analysis in this report describes the environmental determinants of health impacting Berkeley, which include:

1. Community Characteristics
2. Pollution Burden and Air Quality
3. Public Facilities
4. Food Accessibility
5. Safe, Sanitary, and Affordable Housing
6. Physical Health
7. Civic Engagement

3.1 Community Characteristics

This section describes the population characteristics and the racial and ethnic composition of Berkeley. It explores social and health-related factors, including socioeconomic status and populations who have been made vulnerable, as well as the diverse racial and ethnic makeup of the city. By examining these factors, the City can better understand how different communities experience and respond to environmental stressors and identify those communities that may be disproportionately affected by environmental pollution.

3.1.1 Population Characteristics

The population characteristics layer in the GIS analysis represents social and health-related factors that influence a community's vulnerability to pollution and environmental hazards. This layer includes indicators related to socioeconomic status, such as poverty and unemployment, as well as populations who have been made vulnerable, including children, the elderly, and individuals with preexisting health conditions. These factors help identify communities that may experience greater health risks due to environmental burdens.

CalEnviroScreen looks at this layer in combination with pollution burden data to identify communities that may be disproportionately affected by environmental risks. The population characteristics layer consists of two major categories:

1. Populations who have been made Vulnerable – This includes factors that make certain groups more susceptible to pollution-related health impacts.

2. Socioeconomic Factors – This includes factors that highlight community-level disadvantages that can make it harder to cope with environmental stressors.

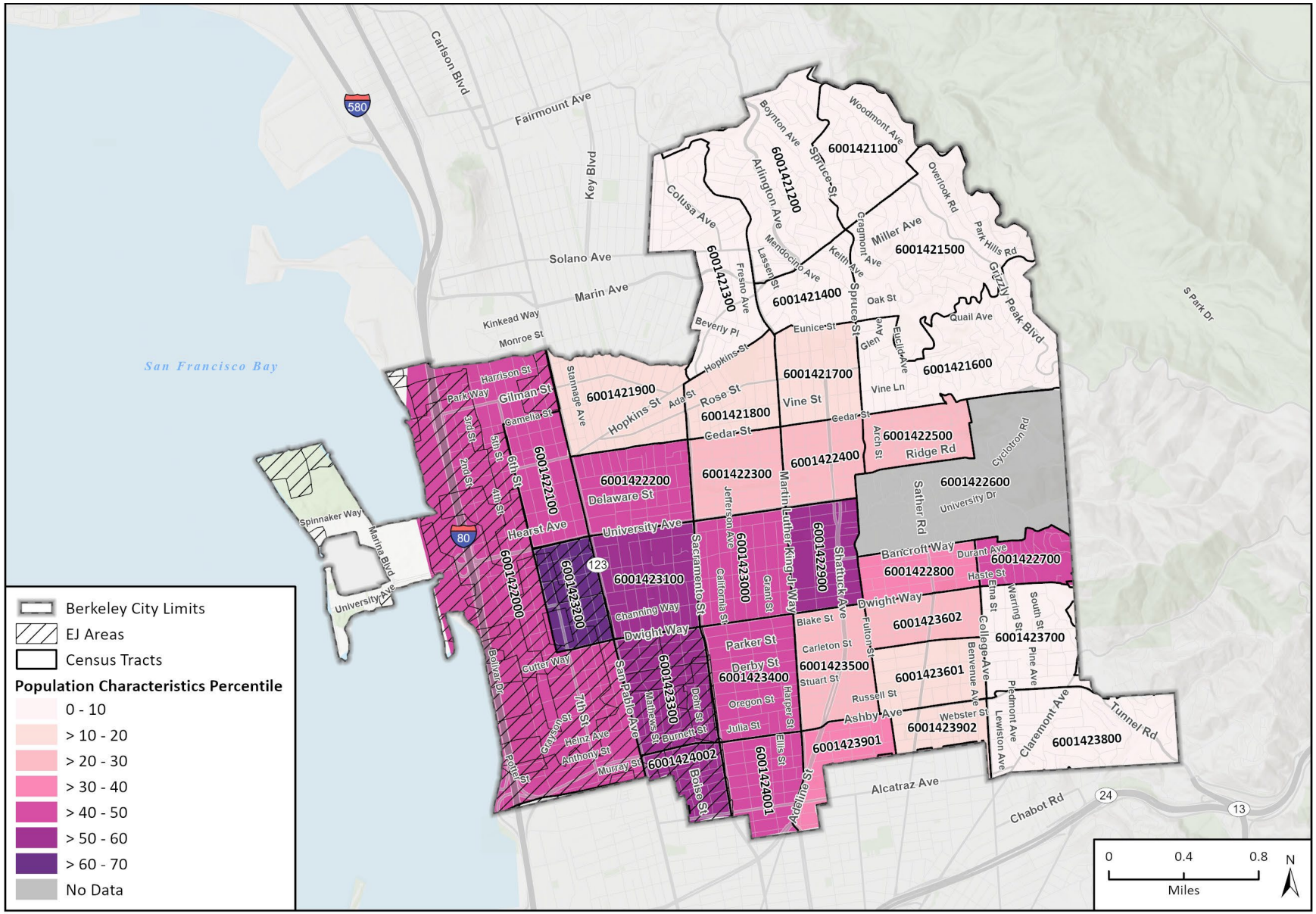
By combining these population vulnerability factors with pollution burden indicators, the resulting scores help policymakers and community leaders prioritize resources, funding, and interventions for communities most affected by environmental injustices. ***Table 4*** and ***Figure 8*** show percentile scores for population characteristics by census tract. While no census tracts score above the 75th percentile, higher population characteristics scores are observed in the central, western, and southern portions of Berkeley including the neighborhoods of Southwest Berkeley, Central Berkeley and South Berkeley.

Table 4 Population Characteristics in Berkeley

Census Tract	Population Characteristics Percentile
6001421100	3.66
6001421200	2.24
6001421300	1.11
6001421400	8.01
6001421500	8.48
6001421600	0.08
6001421700	14.21
6001421800	12.82
6001421900	19.09
6001422000*	42.49
6001422100	44.45
6001422200	45.99
6001422300	29.64
6001422400	22.20
6001422500	23.71
6001422600	N/A
6001422700	40.15
6001422800	30.03
6001422900	51.34
6001423000	43.41
6001423100	51.37
6001423200*	69.54
6001423300*	50.90
6001423400	41.05
6001423500	27.56
6001423601	12.58
6001423602	29.30
6001423700	8.06
6001423800	2.02

Census Tract	Population Characteristics Percentile
6001423901	33.83
6001423902	15.60
6001424001	43.78
6001424002*	53.06
*= Contains EJ Areas. Source: CalEnviroScreen 4.0.	

Figure 8 Population Characteristics in Berkeley



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Additional data provided by CalEnviroScreen 4.0, 2021.

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EJ - Berkeley

3.1.2 Race and Ethnicity

Home to over 121,000 people, Berkeley's diverse population reflects a multitude of racial and ethnic groups. Nearly 20 percent of the population identifies as Asian, about 12 percent as Hispanic/Latino, 8 percent as Black or African American, and 7 percent as multiple races. In total, nearly half (48 percent) of Berkeley's population identifies as a person of color, including Black or African American, Hispanic or Latinx, Asian, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, or multiple races (see ***Table 5***). Berkeley is also home to a significant immigrant community: more than one out of every five residents (22 percent) was born outside of the United States and over six percent of the population has limited English proficiency.

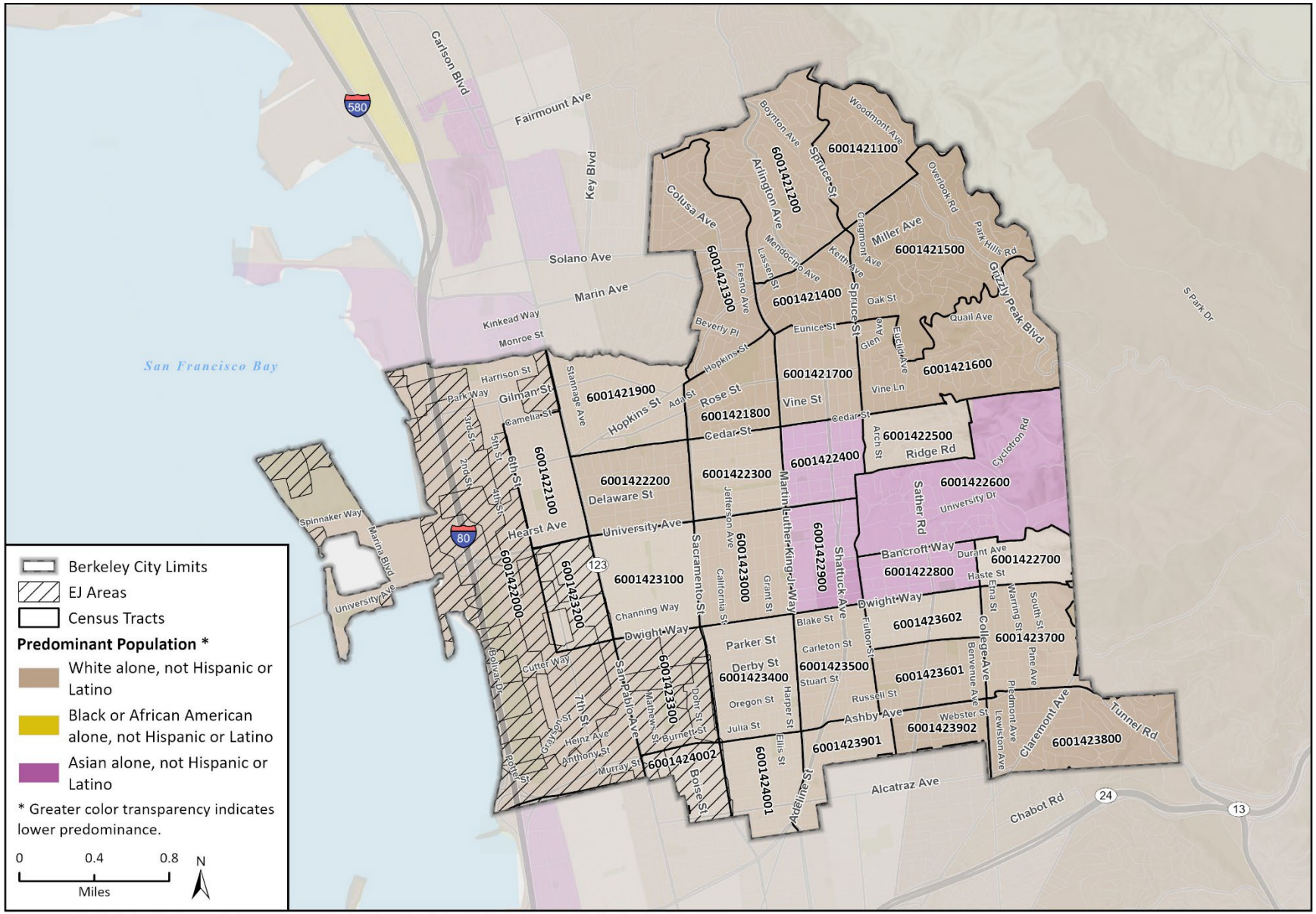
The following map displays racial plurality at the census tract level, that is, the single racial or ethnic group that has the highest percentage share within each tract (see ***Figure 9*** below). Importantly, this does not mean that the identified group constitutes a majority of the tract's population, nor does it imply that other racial or ethnic groups are absent or insignificant. For example, in many areas labeled as "White alone" residents of color may make up 40 percent or more of the population, yet no single racial or ethnic group exceeds the percentage of White residents.

Because the map shows only the leading racial or ethnic group per tract, it is best interpreted alongside citywide data on total racial and ethnic composition (***Table 5***) to provide a more complete picture of Berkeley's demographic diversity. The overlay of the EJ areas further helps identify neighborhoods where historically marginalized populations are more likely to experience environmental and health-related burdens. Together, these layers highlight the need to address racial disparities both citywide and at a neighborhood scale.

Table 5 Racial and Ethnic Composition of Berkeley

Race/Ethnicity	Population	Percentage of Population
White	63,018	51.9
Asian	25,134	20.7
Hispanic/Latino	14,654	12.1
Black/African American	9,153	7.5
Multiple Races	8,017	6.6
Other Race	1,012	0.8
American Indian/Alaska Native	213	0.2
Native Hawaiian/Pacific Islander	184	0.2
Source: U.S. Census Bureau, American Community Survey Data, 5-Year Estimates 2018-2022 Table Dp05 ACS Demographic and Housing Estimates (accessed March 2025)		

Figure 9 Racial Plurality in Berkeley



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Additional data provided by ACS, 2018-2022.

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Fig X Racial Plurality

3.2 Pollution Burden and Air Quality

Pollution burden is an environmental determinant of health that disproportionately impacts EJ communities in Berkeley. Currently, marginalized and low-income populations across the United States face a disproportionate burden of pollutant exposure (Tessum et. al. 2021). Numerous studies by the United States Environmental Protection Agency (U.S. EPA) have consistently demonstrated the detrimental impacts of environmental pollution on historically marginalized populations. Research has shown that these populations face higher levels of pollution, resulting in increased health risks and disparities.

The consequences of this unequal exposure to pollution are notable. Air pollution is a major component of overall environmental pollution burden and has direct, measurable impacts on community health, particularly in overburdened and disadvantaged areas. Historically marginalized communities suffer from higher rates of respiratory illnesses, cardiovascular diseases, and other health issues linked to pollution (Bullard et. al. 2019).

The City of Berkeley's 2002 Environmental Management Element of the General Plan includes numerous policies aimed at reducing pollution and improving environmental quality. However, many of these policies lacked the specificity, enforcement mechanisms, or sustained funding necessary to achieve long-term impact. As a result, progress has been limited and disparities in exposure persist. Adoption of a new Environmental Justice Element will allow the City to revisit and strengthen policies by providing clear implementation steps, measurable goals, and dedicated resources to address the cumulative pollution burden, with a focus on communities that have been made vulnerable by structural inequities.

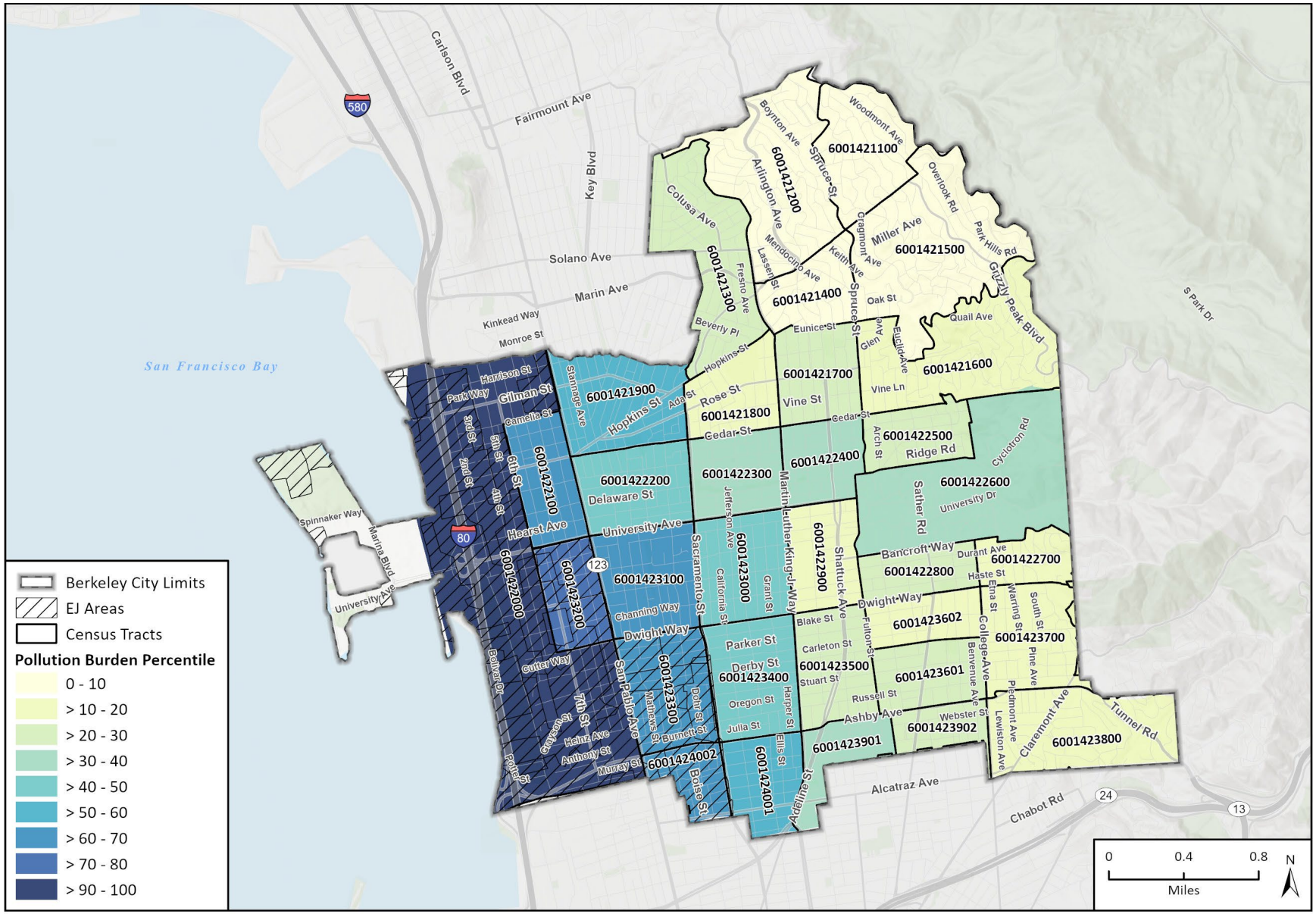
3.2.1 Pollution Exposure

To measure disparities in exposure to pollution, a ranking system called a percentile is used, which compares one area to another. For example, the statewide percentile is 50, meaning the State experiences a moderate level of pollution burden. Cumulative exposure to pollution has emerged as a pressing environmental health issue, particularly in underserved communities where multiple pollution sources converge, increasing the risk of respiratory illness and other health problems.

Note to the Reader: In each of the tables, census tracts denoted with an asterisk indicate those that are identified as EJ areas. Census tracts that are shown with an asterisk denote where percentile score exceeds 75. On each of the maps, EJ areas are either color blocked or shown using hatching.

The citywide percentile in Berkeley is about 40, compared to all other cities in California. As shown in ***Figure 10*** and ***Table 6***, eight census tracts score above the 50th percentile and only one census tract (Census Tract 2000 in the 90th percentile) scored above the 75th percentile, indicating significantly higher localized exposure to pollution than other census tracts within the City. Census Tract 2000 includes the Gilman, Northwest Berkeley, 4th Street, Berkeley Marina, and Southwest Berkeley neighborhoods and contains EJ areas.

Figure 10 Pollution Burden in Berkeley



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Additional data provided by CalEnviroScreen 4.0, 2021.

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Table 6 CalEnviroScreen Pollution Burden

Census Tract	Percentile Score
6001421100	1.5
6001421200	4.1
6001421300	20.8
6001421400	3.9
6001421500	1.1
6001421600	11.6
6001421700	25.1
6001421800	19.7
6001421900	50.7
6001422000*	**91.1**
6001422100	61.7
6001422200	48.2
6001422300	38.0
6001422400	35.1
6001422500	27.5
6001422600	30.1
6001422700	12.9
6001422800	27.7
6001422900	17.5
6001423000	46.5
6001423100	61.0
6001423200*	**71.1**
6001423300*	**69.2**
6001423400	43.1
6001423500	28.3
6001423601	26.6
6001423602	20.0
6001423700	14.6
6001423800	18.5
6001423901	37.9
6001423902	23.0
6001424001	53.0
6001424002*	**67.9**

* = Contains EJ Areas.
Source: CalEnviroScreen 4.0 (accessed March 2025).

The California Air Resources Board (CARB) monitors air quality attainment status across the state, including in Berkeley, which falls under the jurisdiction of the Bay Area Air District (BAAD). Attainment status is determined by whether an area meets federal and State air

quality standards for pollutants such as ozone (smog), particulate matter (PM2.5 and PM10), and carbon monoxide.

Berkeley, like much of the Bay Area, has historically struggled with reducing PM2.5 and ground-level ozone pollution, both of which can be harmful to respiratory health (see attainment status for each monitored air pollutant in ***Table 7***). While the region has made significant progress in reducing vehicle emissions and industrial pollution, it still experiences exceedances of air quality standards due to a combination of local and regional pollution sources. In recent years, wildfire smoke has also contributed to episodic spikes in fine particulate matter (PM2.5), particularly during late summer and fall. The Bay Area remains in nonattainment for PM2.5 under federal standards, specifically the National Ambient Air Quality Standards (NAAQS) set by the U.S. Environmental Protection Agency (EPA), which establish an annual average limit of 12 micrograms per cubic meter (μg/m³), and must continue implementing pollution reduction measures to meet clean air goals.

CARB, BAAD, and the City are working to improve air quality through strict emissions regulations, clean energy initiatives, public transit investments, and community-based air monitoring programs. The CARB, BAAD, and the City each implement complementary strategies to improve air quality and reduce exposure to harmful pollutants. CARB is responsible for statewide regulations such as vehicle emissions standards, the Advanced Clean Cars program, and mandates for zero-emission vehicle deployment and cleaner fuels. BAAD enforces regional air quality rules, including permitting and emissions limits for industrial facilities, wood-burning restrictions through the Spare the Air program, and the development of regional wildfire smoke response and mitigation strategies. The City contributes at the local level by incorporating air quality goals into land use planning, expanding active and public transportation options, adopting local electrification regulations, and partnering on community-based air monitoring efforts. These coordinated actions are critical for achieving compliance with federal PM2.5 standards and protecting public health, particularly in EJ communities disproportionately burdened by pollution.

Table 7 CARB State Attainment Status (Alameda County)

Criteria Air Pollutant	Attainment Status
Ozone	Nonattainment-Transitional
PM 2.5	Nonattainment
PM 10	Nonattainment
Carbon Monoxide	Attainment
Nitrogen Dioxide	Attainment
Sulfur Dioxide	Attainment
Sulfates	Attainment
Lead	Attainment
Hydrogen Sulfide	Unclassified
Visibility Reducing Particles	Unclassified
Source: CARB 2023 (accessed March 2025).	

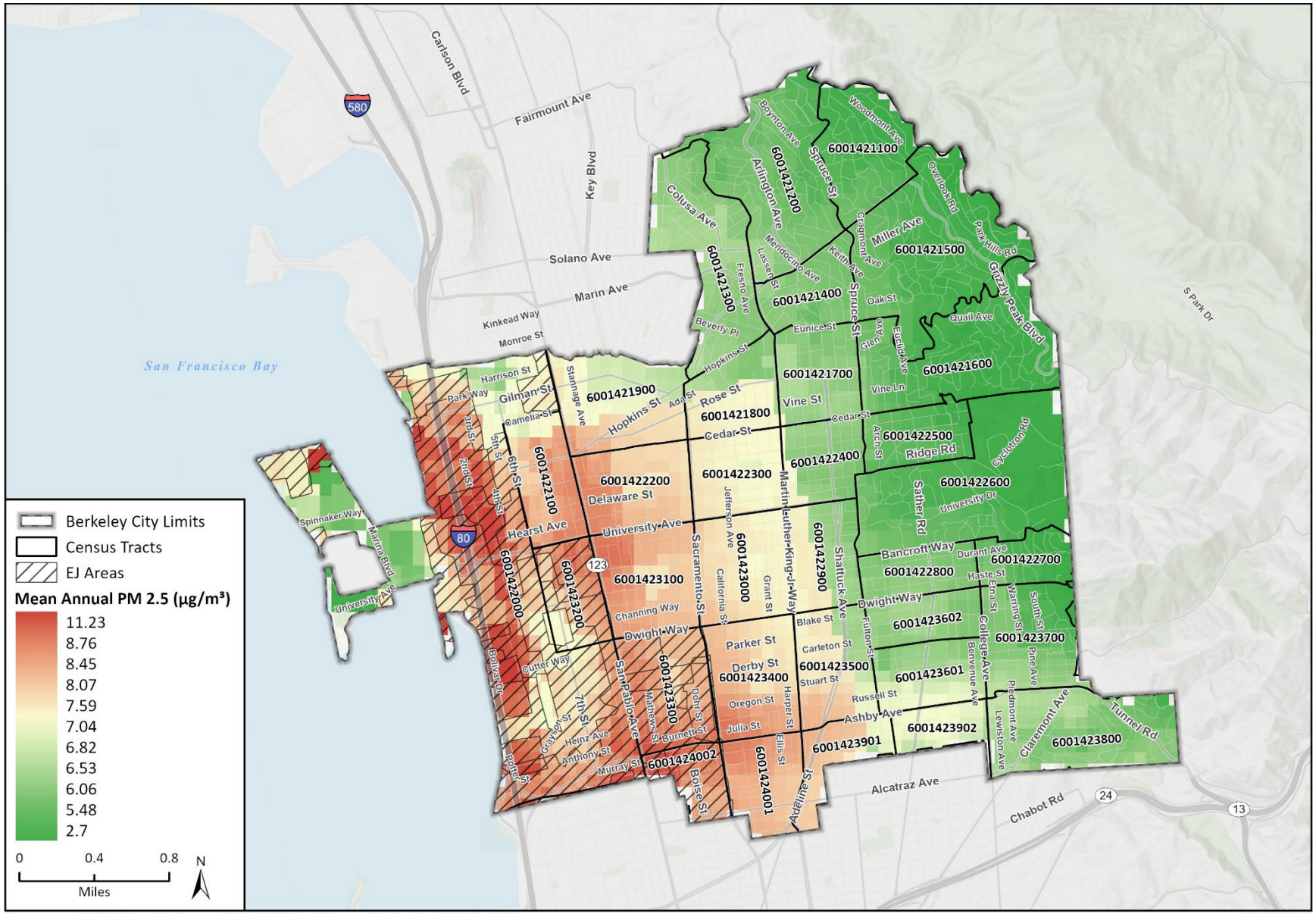
Exposure to PM2.5 can result in significant health and environmental impacts. PM2.5 particles, which are smaller than 2.5 microns in diameter, can penetrate deep into the lungs and even enter the bloodstream, increasing the risk of respiratory and cardiovascular diseases. Exposure to PM2.5 is linked to severe health effects, including respiratory diseases, asthma, cardiovascular issues, and premature death. EJ communities often face multiple overlapping challenges, such as difficulty accessing healthcare, pre-existing health conditions, like asthma or heart disease, and socioeconomic barriers, that combined exacerbate the effects of air pollution. These factors interact in ways that increase vulnerability, meaning residents in these communities may suffer more serious or long-term health impacts from the same level of pollution than residents in more advantaged areas.

Additionally, when regulations are not consistently enforced and broader systemic inequities, such as underinvestment in low-income communities or lack of political influence, are not addressed, pollution reduction efforts may overlook or deprioritize EJ communities. This can result in continued exposure to harmful pollutants in these areas, deepening existing disparities in health and environmental quality.

West Berkeley has historically been an industrial zone, adjacent to freeways and rail, with many older buildings, small manufacturing sites, and legacy contamination. Concerns about underenforcement of air and noise standards in this area have been raised in past planning and community forums. Berkeley's EJ communities often lack sufficient air monitoring, meaning that violations are less likely to be detected or reported. In addition, housing and building code enforcement may be inconsistent. For example, older rental units in South and West Berkeley are more likely to have deferred maintenance, mold, and exposure risks, yet renters may face barriers in reporting violations or seeking remediation, especially if they are undocumented or face eviction risks.

In Berkeley, PM2.5 pollution comes from sources such as vehicle emissions, wood smoke from residential heating and wildfires, and industrial activities. Wildfire smoke has become a growing concern in recent years, leading to unhealthy air quality episodes that disproportionately affect populations that have been made vulnerable, including children, the elderly, and people with preexisting health conditions. As shown in ***Figure 11*** below, there is a clear disparity in the annual mean distribution of PM2.5 between the eastern and western portions of the City, particularly in the neighborhoods of Northwest Berkeley, 4th Street, Southwest Berkeley, North Berkeley, Central Berkeley, and South Berkeley. The western half of Berkeley experiences significantly higher rates of exposure to PM2.5. This may be due to Interstate 80, located on the western edge of Berkeley and results in generation of PM2.5 from vehicles and freight.

Figure 11 Annual Mean PM2.5 Distribution in Berkeley



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EJ Communities based on a Locally Specific Methodology provided by City of Berkeley, 2025.

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Fig X Mean Annual PM 2.5

3.2.2 CalEnviroScreen Exposure Indicators

CalEnviroScreen exposure indicators are based on measurements of different types of pollution that people may come into contact with. Exposure indicators include ozone, PM2.5, diesel particulate matter (DPM), children's lead risk from housing, drinking water contaminants, pesticide use, toxic releases from industrial facilities, and traffic impacts. Below is an overview of the most prevalent CalEnviroScreen exposure indicators for Berkeley and a discussion of how each indicator impacts Berkeley's EJ areas and Berkeley overall. Percentile scores for the exposure indicators are shown in ***Table 8*** below.

Diesel PM. DPM is emitted by diesel engines and is considered a Toxic Air Contaminant (CARB 2023). DPM impacts are characterized by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but short duration) effects on human health. Diesel particulate matter remains a major contributor to localized air pollution, especially near highways, ports, and industrial corridors, disproportionately impacting low-income communities and people of color (Black, Indigenous, Latinx, Asian American, Pacific Islander, Middle Eastern, and North African) who are more likely to live near these high-exposure areas. The average percentile score for the impacts from DPM on census tracts in California is 50.0. Berkeley has a higher average DPM percentile score of 60.5. CalEnviroScreen scores indicate that areas within the eastern and westernmost portions of Berkeley have higher scores than the central portion of the city, likely due to the proximity to Interstate 80 and Telegraph Avenue, which are transportation corridors with high levels of vehicle traffic (see ***Figure 12***). A total of 10 census tracts within Berkeley score above the 75th percentile, and of the 10 census tracts, three contain EJ areas (Census Tracts 2000, 3200, and 3300). These three tracts include the neighborhoods of Berkeley Marina, Gilman, Northwest Berkeley, 4th Street, Southwest Berkeley, and South Berkeley. The highest scoring census tract (Census Tract 2000) scores within the 94th percentile and is part of the Berkeley Marina, Gilman, Northwest Berkeley, 4th Street, and Southwest Berkeley neighborhoods.

Children's Lead Risk from Housing. High levels of lead exposure can lead to a range of detrimental health outcomes, including anemia, weakness, kidney and brain damage. Lead poisoning can often result from lead exposure at home due to the use of contaminated materials such as lead-based paint and lead-contaminated dust in older buildings. Lead exposure can also occur through contaminated air, water, and soil. The average percentile score for lead risk in California is 50. In Berkeley, the average is slightly higher than the state - about 65. As shown in ***Figure 13***, children's lead risk from housing across Berkeley communities vary. Seven census tracts within Berkeley score above the 75th percentile for children's lead risk from housing, three of which contain EJ areas (Census Tracts 3200, 3300, and 4002). Located within the central portion of the city, the highest scoring census tract (Census Tract 3500) scores within the 81st percentile. This tract includes portions of the South Berkeley and Le Conte neighborhoods.

Traffic. Although California has established strict standards for vehicle emissions, high levels of traffic on major roads and highways still produce high rates of vehicle-related pollution emissions across the State. Automobile exhaust can contain toxic chemicals that are associated with cancer, make it difficult to breathe, and can be associated with low weight and premature births. Children who live or go to schools near busy roads have higher rates of asthma and other lung diseases than children living in areas located farther from busy roads (World Health Organization 2016). The average percentile score for traffic related impacts in California is 50. Compared to California, Berkeley has a lower average traffic related impact, scoring about 26. ***Figure 14*** shows that CalEnviroScreen scores indicate that areas on the western edge of Berkeley experience moderate to elevated traffic related impacts compared to areas in other portions of Berkeley. Only one census tract scores above the 75th percentile for traffic impacts (Census Tract 2000). This census tract is home to EJ communities and includes the neighborhoods of Berkeley Marina, Gilman, Northwest Berkeley, 4th Street, and Southwest Berkeley. This tract has a significantly higher percentile score of 94.2 compared to all other tracts within the City.

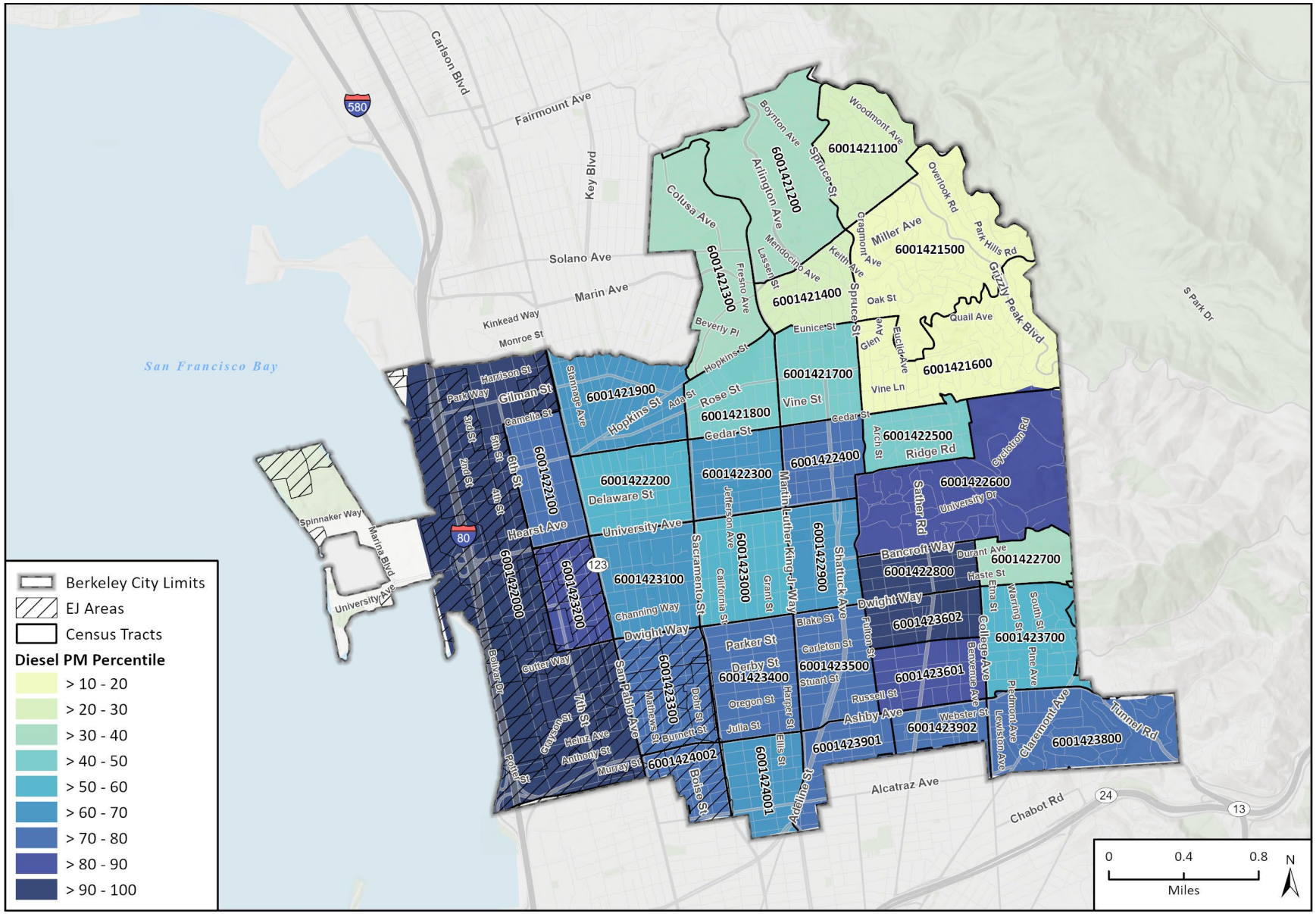
Toxic Release from Facilities. Chemical facilities can have severe impacts on the surrounding air quality and health of nearby areas. The chemicals being processed or created at these sites can lead to respiratory illnesses, which can contribute to other compounding health impacts for communities. Studies show that there is a disparity in the citing of these facilities across California. Black, Indigenous, Latinx, Asian American, Pacific Islander, Middle Eastern, and North African people and low-income Californians are more likely to live in areas with higher toxic chemical releases. The average percentile score for impacts from toxic releases from facilities across California is 50. Compared to California, Berkeley has a slightly higher impact than the State average, at 59. While no census tracts within Berkeley score above the 75th percentile, impacts from toxic releases from facilities are relatively elevated across the city, scoring within or somewhat above the 50th percentile (see ***Figure 15***). Scores are slightly higher on the western edge of Berkeley including the neighborhoods of Berkeley Marina, Gilman, Northwest Berkeley, 4th Street, and Southwest Berkeley.

Trash and Illegal Dumping. While illegal waste dumping is not a topic covered by CalEnviroScreen, it has been identified as a pressing issue within Berkeley through community engagement. Furniture, appliances, bottles, cans, clothing, and other trash is often found interfering with residents' use of sidewalks and parking areas. Several factors contribute to illegal dumping in Berkeley, including high disposal costs, lack of awareness about proper waste disposal, homelessness-related waste, and limited enforcement. Certain areas, particularly near industrial zones, underpasses, and areas that are not regularly monitored or cleaned tend to experience higher rates of illegal dumping. Although the City has implemented programs such as Bulky Waste Pickup Days, illegal dumping hotlines, and community clean-up initiatives, enforcement and prevention remain ongoing challenges. Dumping is illegal within Berkeley and individuals can be fined up to $500.00 per day if caught. The City operates an

online reporting system where residents are able to report any illegal dumping they have witnessed.

As shown in ***Figure 16***, trash and illegal dumping is greatest in the western, central, and southern census tracts in Berkeley. Census Tracts 1800, 2000, 2200, 2300, 3100, 3602, and 4001 score high relative to all other tracts in Berkeley. Of these seven census tracts, Census Tracts 2000 contain EJ areas. This tract includes the neighborhoods of Berkeley Marina, Gilman, Northwest Berkeley, 4th Street, and Southwest Berkeley.

Figure 12 Diesel PM in Berkeley



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Additional data provided by CalEnviroScreen 4.0, 2021.

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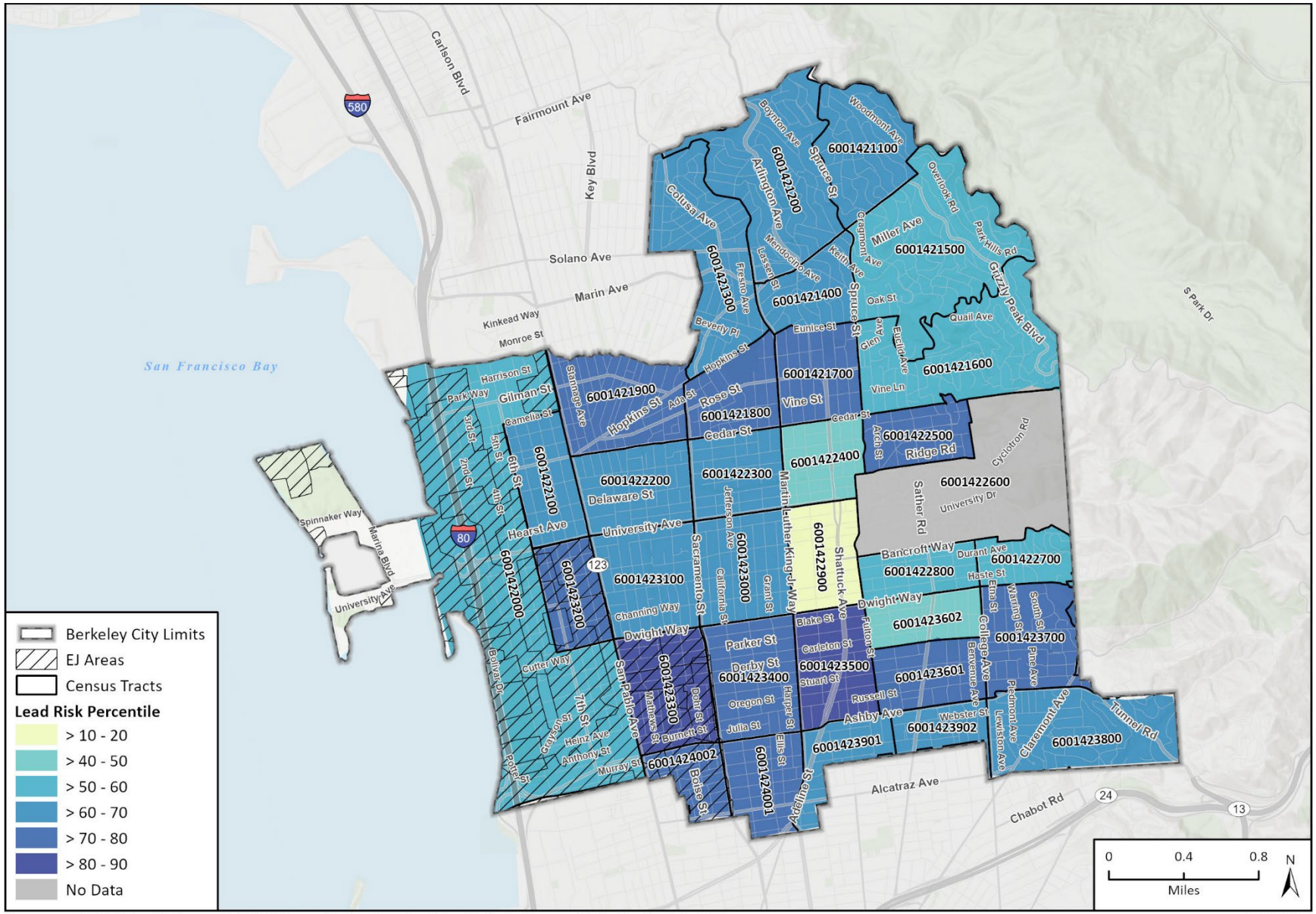
EJ - Berkeley

Figure 13 Children's Lead Risk from Housing in Berkeley



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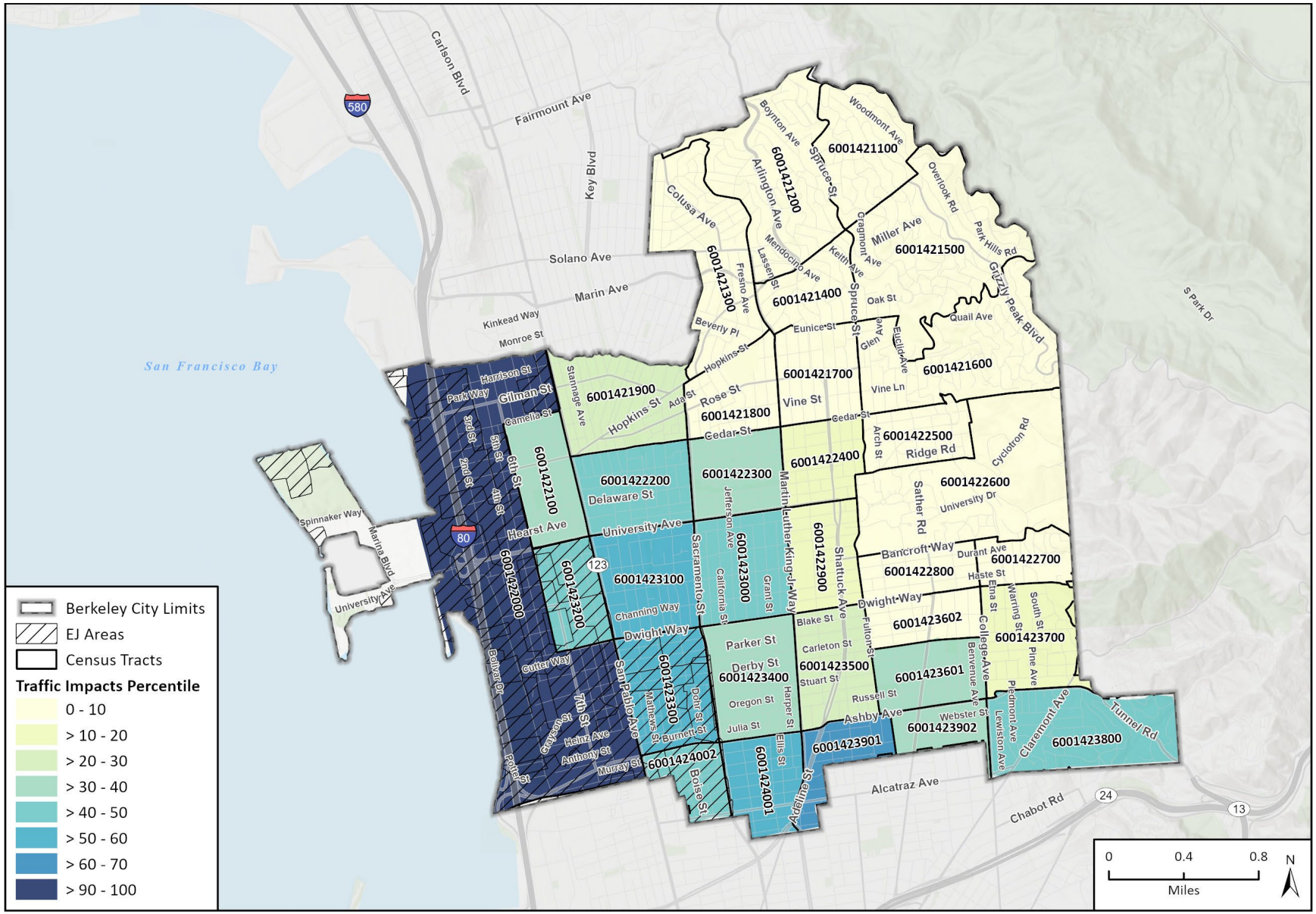
Additional data provided by CalEnviroScreen 4.0, 2021.

23-15392 EPS EJ
EJ - Berkeley

Figure 14 Traffic in Berkeley



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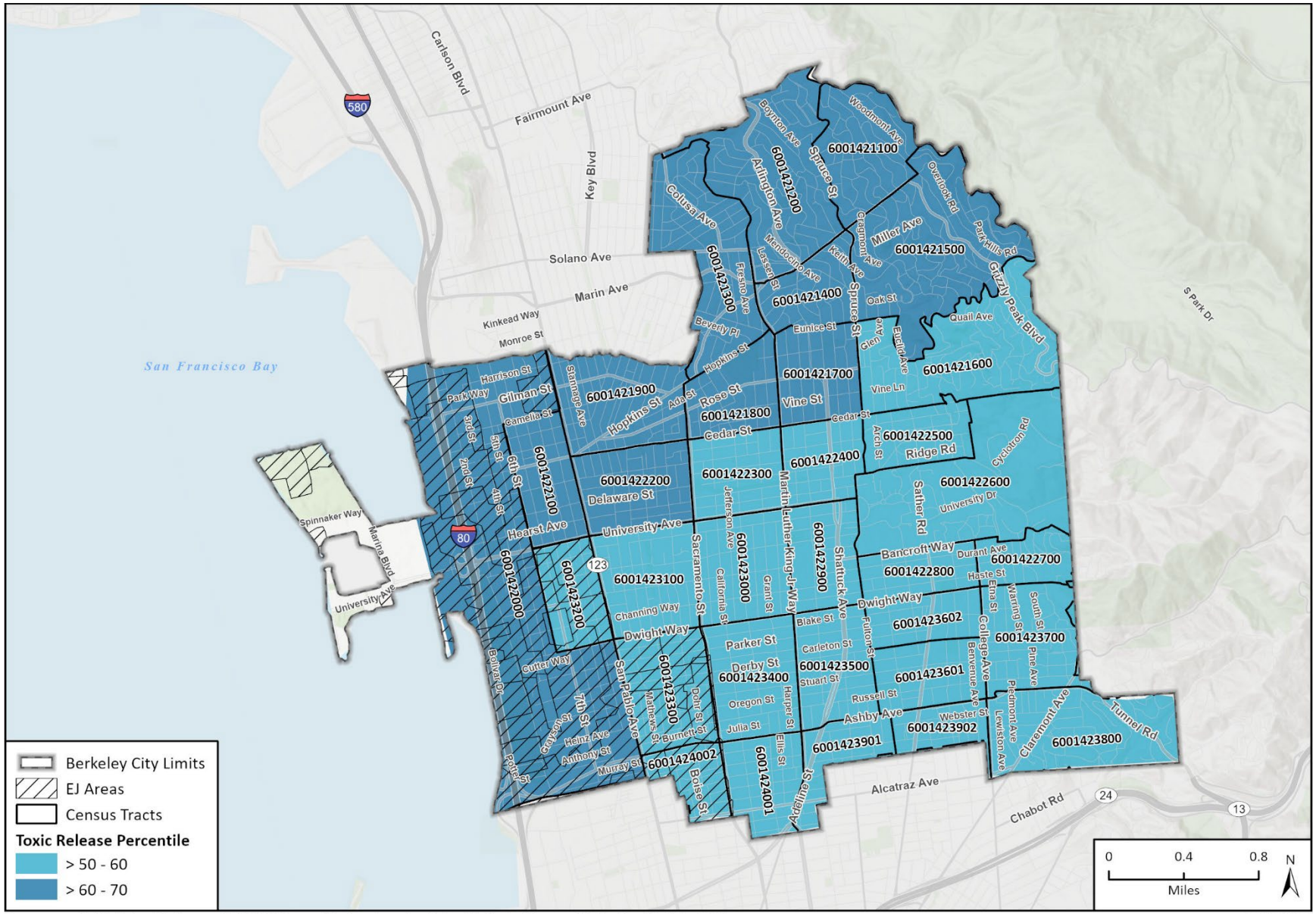
Additional data provided by CalEnviroScreen 4.0, 2021.

23-15392 EPS EJ
EJ - Berkeley

Figure 15 Toxic Releases from Facilities in Berkeley



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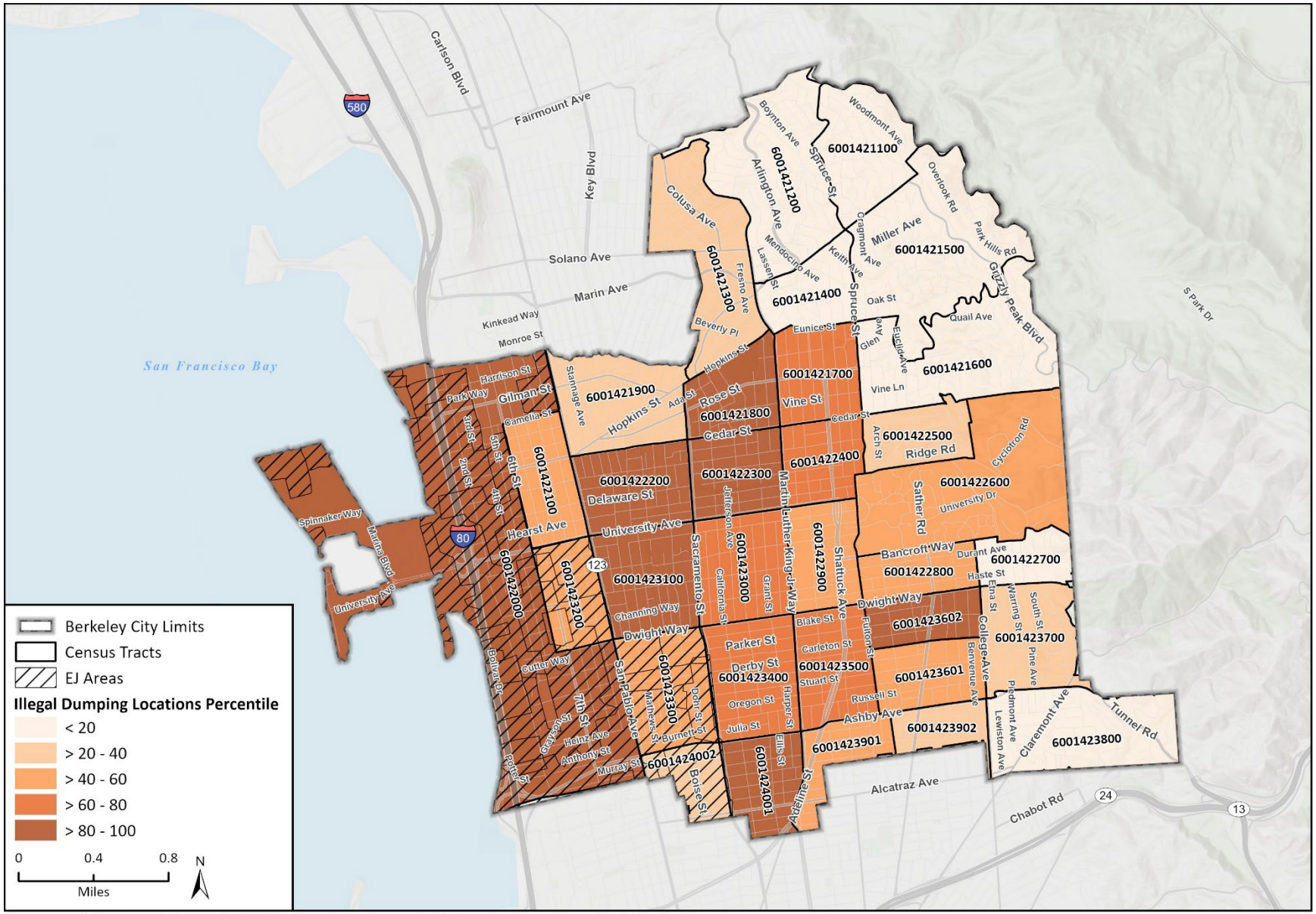
Additional data provided by CalEnviroScreen 4.0, 2021.

23-15392 EPS EJ
EJ - Berkeley

Figure 16 Illegal Dumping in Berkeley



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EJ Communities based on a Locally Specific Methodology provided by City of Berkeley, 2025.

23-15392 EPS EJ
Fig X Illegal Dumping Locations

Table 8 CalEnviroScreen Percentile Scores for Exposure Indicators

Census Tract	Diesel PM	Children's Lead Risk from Housing	Traffic	Toxic Releases from Facilities
6001421100	23.6	61.1	1.7	59.2
6001421200	34.0	68.2	3.0	60.0
6001421300	34.2	65.6	7.4	60.4
6001421400	28.3	65.6	1.7	61.2
6001421500	11.7	58.0	2.0	60.1
6001421600	12.3	58.3	2.6	61.3
6001421700	43.9	72.4	3.8	60.4
6001421800	45.1	73.3	7.7	59.8
6001421900	68.6	76.0	25.3	59.3
6001422000*	**94.4**	**54.9**	**94.2**	**58.8**
6001422100	77.5	61.6	31.2	58.1
6001422200	59.7	63.2	41.5	56.8
6001422300	63.7	63.8	39.4	57.5
6001422400	74.8	40.2	16.1	58.5
6001422500	41.7	72.0	9.00	59.0
6001422600	82.2	N/A	4.8	59.5
6001422700	34.5	52.1	0.03	59.8
6001422800	93.2	56.1	2.3	58.3
6001422900	61.6	17.6	12.3	58.2
6001423000	55.1	64.1	46.8	57.7
6001423100	64.1	65.9	53.9	56.8
6001423200*	**84.9**	**77.6**	**41.4**	**57.4**
6001423300*	**78.9**	**80.7**	**52.3**	**56.4**
6001423400	74.1	79.5	39.7	55.6
6001423500	74.2	81.1	28.8	57.1
6001423601	80.1	71.7	36.5	56.6
6001423602	92.9	49.0	5.7	57.2
6001423700	52.6	72.3	16.7	57.3
6001423800	71.1	62.9	40.6	59.2
6001423901	71.9	64.9	60.1	60.0
6001423902	77.6	63.4	32.6	60.4
6001424001	61.9	79.8	58.2	61.2
6001424002*	**73.8**	**77.6**	**49.4**	**60.1**

* = Contains EJ Areas.
Source: CalEnviroScreen 4.0 (accessed March 2025).

3.2.3 CalEnviroScreen Environmental Effects Indicators

Environmental effects indicators evaluate the locations of toxic chemicals in or near communities. Below is an overview of all five CalEnviroScreen environmental effects along with a description for how each impact Berkeley's EJ communities and Berkeley overall. For each of the five environmental effects indicators, there is at least one census tract in Berkeley that scores above the 75th percentile. The percentile scores for the following environmental effects are shown in ***Table 9***, below.

Cleanup Sites. Cleanup sites are areas that are contaminated with harmful chemicals and require remediation to remove the contaminants. Information from the Department of Toxic Substances Control (DTSC) and US EPA was used to assess exposure to cleanup sites. People living near cleanup sites may be more exposed to chemicals from the sites than residents living farther away. The average percentile score for impacts from cleanup sites in California score is about 34. In Berkeley, the average score is slightly higher than the state at 36. The concentration of cleanup sites vary greatly across the City, with some census tracts scoring below the 10th percentile and others scoring above the 90th percentile (see ***Figure 17***). Four census tracts within Berkeley score above the 75th percentile and all four of the tracts contain EJ areas (Census Tracts 2000, 3200, 3300, and 4002) including the neighborhoods of Berkeley Marina, Gilman, Northwest Berkeley, 4th Street, Southwest Berkeley, and South Berkeley. Additionally, all four tracts are located within the southwestern portion of the City. Areas along the western and southwestern edges of Berkeley contain a higher and denser concentration of cleanup sites compared to the rest of the City.

Groundwater Threats. Hazardous chemicals are commonly stored in containers, which are placed either at ground level or in underground storage tanks. Leaks from underground storage tanks can contaminate soil and groundwater. People who live near contaminated groundwater may be exposed to chemicals moving from the soil into the air inside their homes. Common groundwater pollutants include gasoline and diesel fuels at gas stations, as well as solvents, heavy metals and pesticides. Additionally, sea level rise can cause groundwater rise in shoreline areas like Berkeley because rising sea levels exert pressure on the groundwater table, pushing it upwards. Rising groundwater can mobilize contaminants at existing contaminated sites, dissolving them into the groundwater and transporting them with its flow, increasing the likelihood of contamination spreading and affecting larger areas.[5] The average percentile score for groundwater threats in California is about 38. In Berkeley, the average is significantly higher at 68. As shown in ***Figure 18,*** higher impacts relative to the rest of Berkeley occur in the western and central portions of the City. All but three census tracts containing EJ areas score above the 75th percentile. Of these, 10 tracts score above the 90th percentile. Census Tract 2000, which includes EJ areas, scored the highest across the state of

[5] For more information on groundwater rise in Berkeley, refer to the City of Berkeley Disaster Preparedness and Safety Existing Conditions Report.

California, in the 100th percentile. Census Tract 2000 includes the neighborhoods of Berkeley Marina, Gilman, parts of Northwest Berkeley, and Southwest Berkeley.

Impaired Waters. Streams, rivers, and lakes are used for recreational purposes and may provide water for drinking or agriculture. When water is contaminated by pollutants, the water bodies are designated as impaired. Water bodies classified as impaired due to pollutants like bacteria, heavy metals, or excess nutrients can harm aquatic ecosystems and restrict recreational access, disproportionately limiting safe water use for nearby historically marginalized populations. CalEnviroScreen uses a unique criterion for identifying the impacts of impaired water bodies on the surrounding community. This criterion involves identifying the State Water Resource Control Boards List of Impaired Water Bodies and calculating the number of pollutants listed in streams or rivers that fell within 1 kilometer (km) or 2 km respectively of a census tract's populated blocks. Each California census tract is then scored based on the sum of the number of individual pollutants found within or bordering it. The average percentile score in California is 32, while in Berkeley, the average is slightly higher at 39. Twelve census tracts score above the 75th percentile across Berkeley and four of the tracts contain EJ areas (see ***Figure 19***). The four tracts include Census Tracts 2000, 3200, 3300, and 4002 which are part of the Berkeley Marina, Gilman, Northwest Berkeley, 4th Street, Southwest Berkeley, and South Berkeley neighborhoods. Similar to other water threats, census tracts within the western portion of Berkeley score significantly higher than the central or eastern portions.

Hazardous Waste. Waste created by commercial or industrial activity can contain chemicals that may be dangerous or harmful to health. Only certain regulated facilities are allowed to treat, store, or dispose of this type of waste and are distinct from cleanup sites which correspond to contaminated sites. Hazardous waste includes a range of different types of regulated waste, including household compounds, such as automotive products, and waste materials produced by factories and businesses. The presence of hazardous waste facilities in or near residential areas raises health and safety concerns, with historically marginalized communities more likely to bear the burden of living near these high-risk operations. CalEnviroScreen measures hazardous waste impact scores based on a census tract's proximity to specific Large Quantity Hazardous Waste Generators.[6] Permitted hazardous waste facilities were selected from the DTSC database.[7] Hazardous waste generators were identified from the DTSC Hazardous Waste Tracking System for 2018 to 2020; only large quantity generators were included in the identification.

The average percentile score for hazardous waste impacts in California is 48. Berkeley census tracts score significantly higher than the State average – about 71. As shown in ***Figure 20***, scores are relatively higher in the western, central, and eastern portions of Berkeley and lower in the northern and southern areas. This disparity is likely due to the presence of hazardous

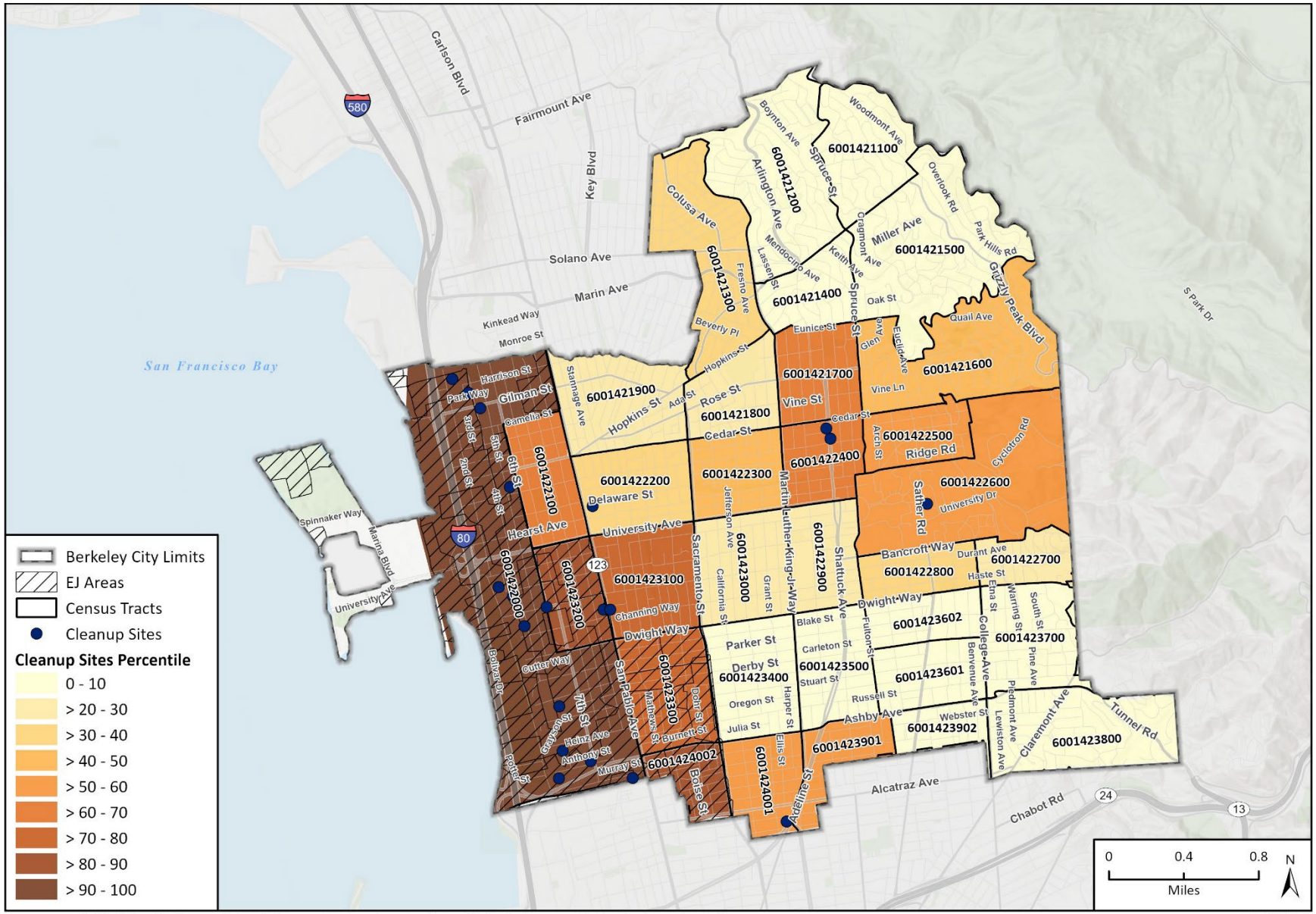
[6] Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste (Source: U.S. EPA, 2023).
[7] The DTSC maintains a record of known and potential hazardous substance release sites under its jurisdiction within the EnviroStor database.

waste generators, particularly in industrial areas along Interstate 80 and within Berkeley's downtown. These areas host a relatively high density of facilities that produce, store, or manage hazardous materials, contributing to elevated exposure risks. Of the census tracts in Berkeley, 18 score above the 75th percentile and four of the tracts contain EJ areas. The highest scoring census tract which also includes EJ areas is Census Tract 2000 scoring in the 100th percentile. Census Tract 2000 includes the neighborhoods Berkeley Marina, Gilman, Northwest Berkeley, 4th Street, and Southwest Berkeley.

Solid Waste Sites. Solid waste facilities are places where household garbage and other types of waste are collected, processed, or stored. Landfills, transfer stations, and composting facilities are considered solid waste sites. These facilities can release air pollutants and impact water quality if the compounds present in waste leach into soil. Solid waste landfills and transfer stations can emit odors, attract pests, and generate air and water pollution, often sited in or adjacent to low-income neighborhoods, compounding environmental stressors for residents. CalEnviroScreen measures impacts from solid waste sites by scoring solid waste facilities based on the type of facility, violations received, and how much waste it manages.

The average solid waste percentile score in California is 28. In Berkeley, the score is significantly lower than the State average – about 3. According to CalEnviroScreen, there are large disparities in the impacts of solid waste sites across Berkeley. Virtually all census tracts in Berkeley score at or below the 10th percentile. However, Census Tract 2000 scores in the 76th percentile due to the presence of the three solid waste sites (see ***Figure 21***). This tract is located along the western edge of Berkeley and contains EJ areas and the Berkeley Marina, Gilman, Northwest Berkeley, 4th Street, and Southwest Berkeley neighborhoods.

Figure 17 Cleanup Sites in Berkeley



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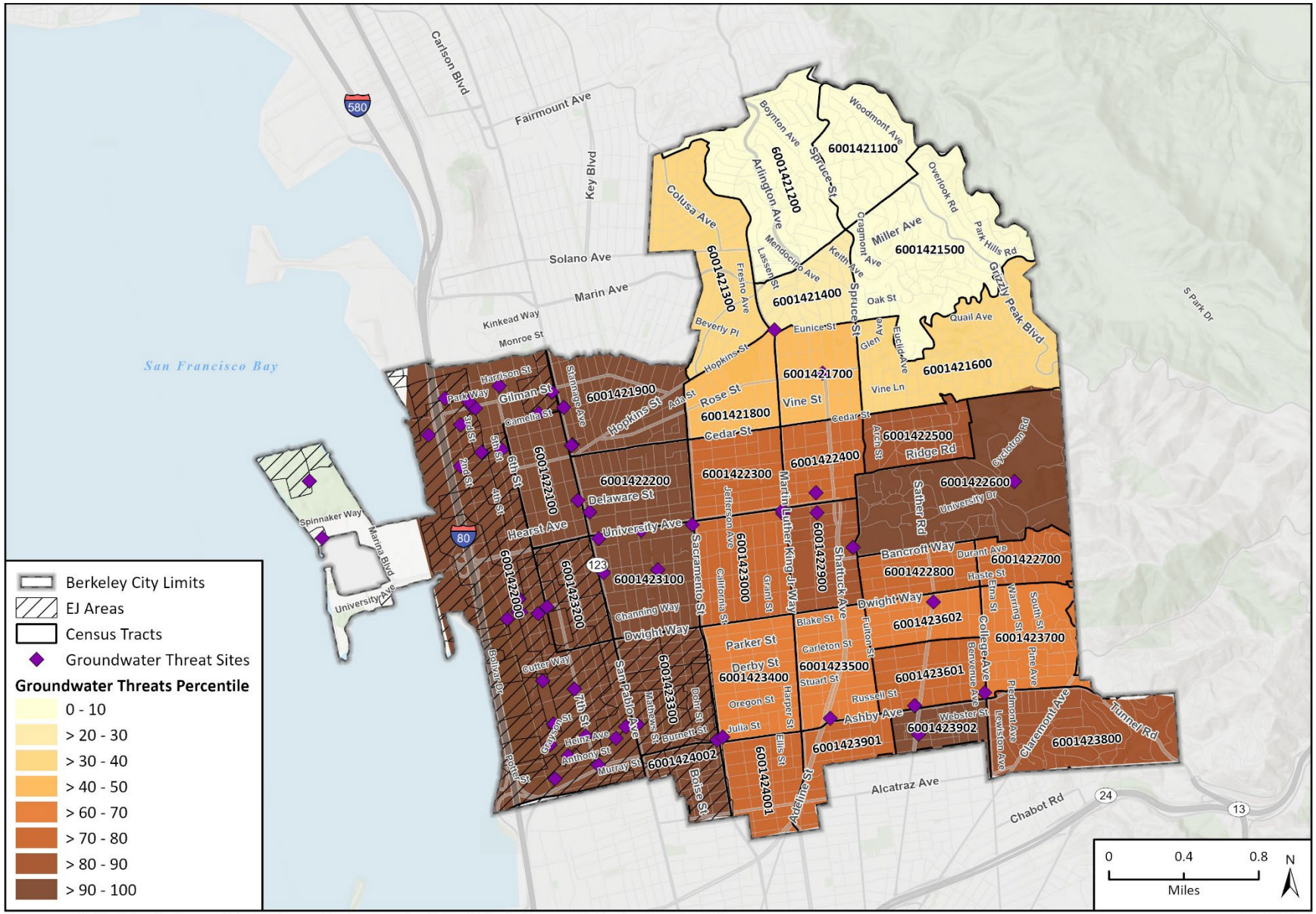
Additional data provided by CalEnviroScreen 4.0, 2021.

23-15392 EPS EJ
EJ - Berkeley

Figure 18 Groundwater Threats in Berkeley



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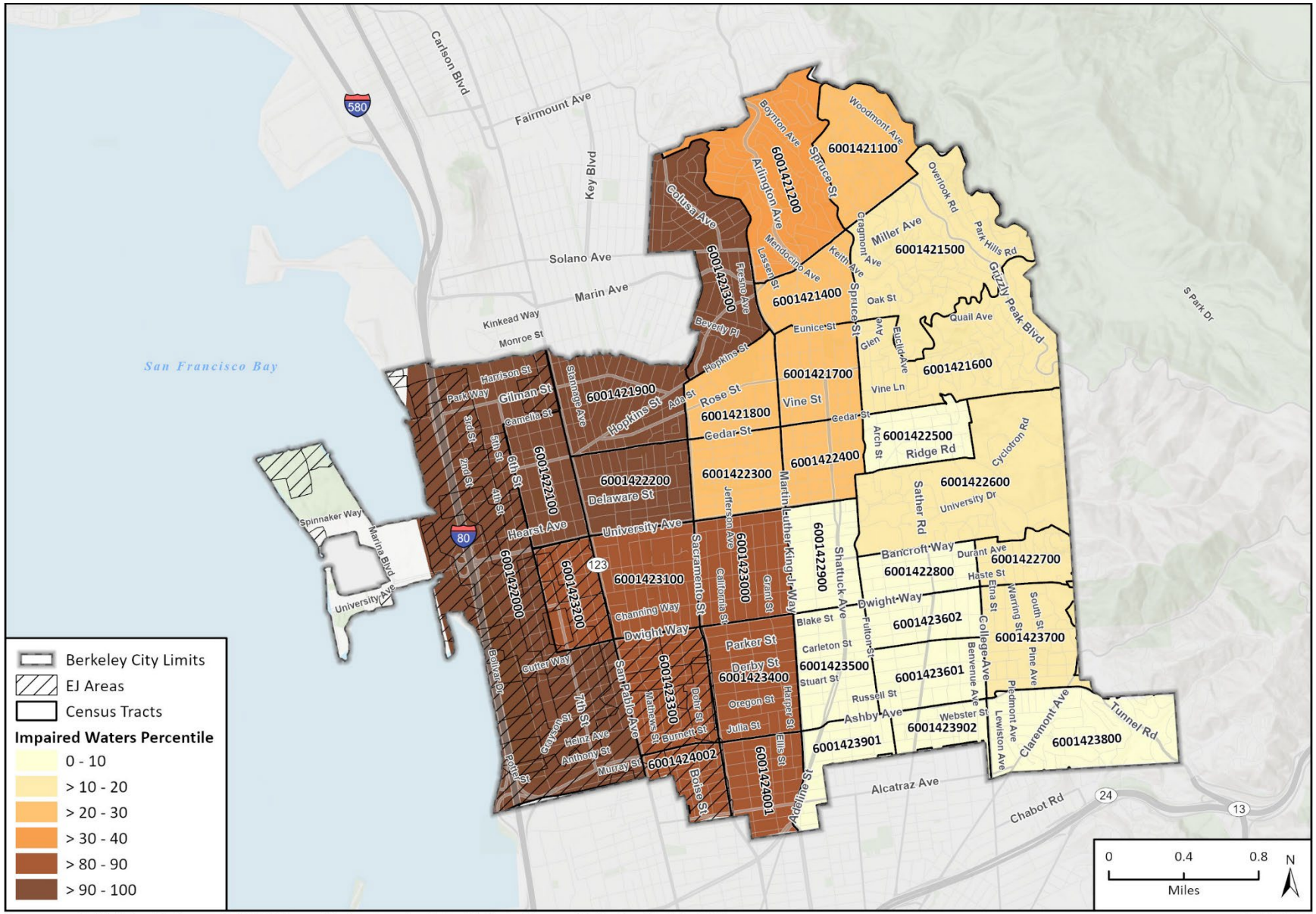
EJ - Berkeley

Figure 19 Impaired Waterbodies in Berkeley



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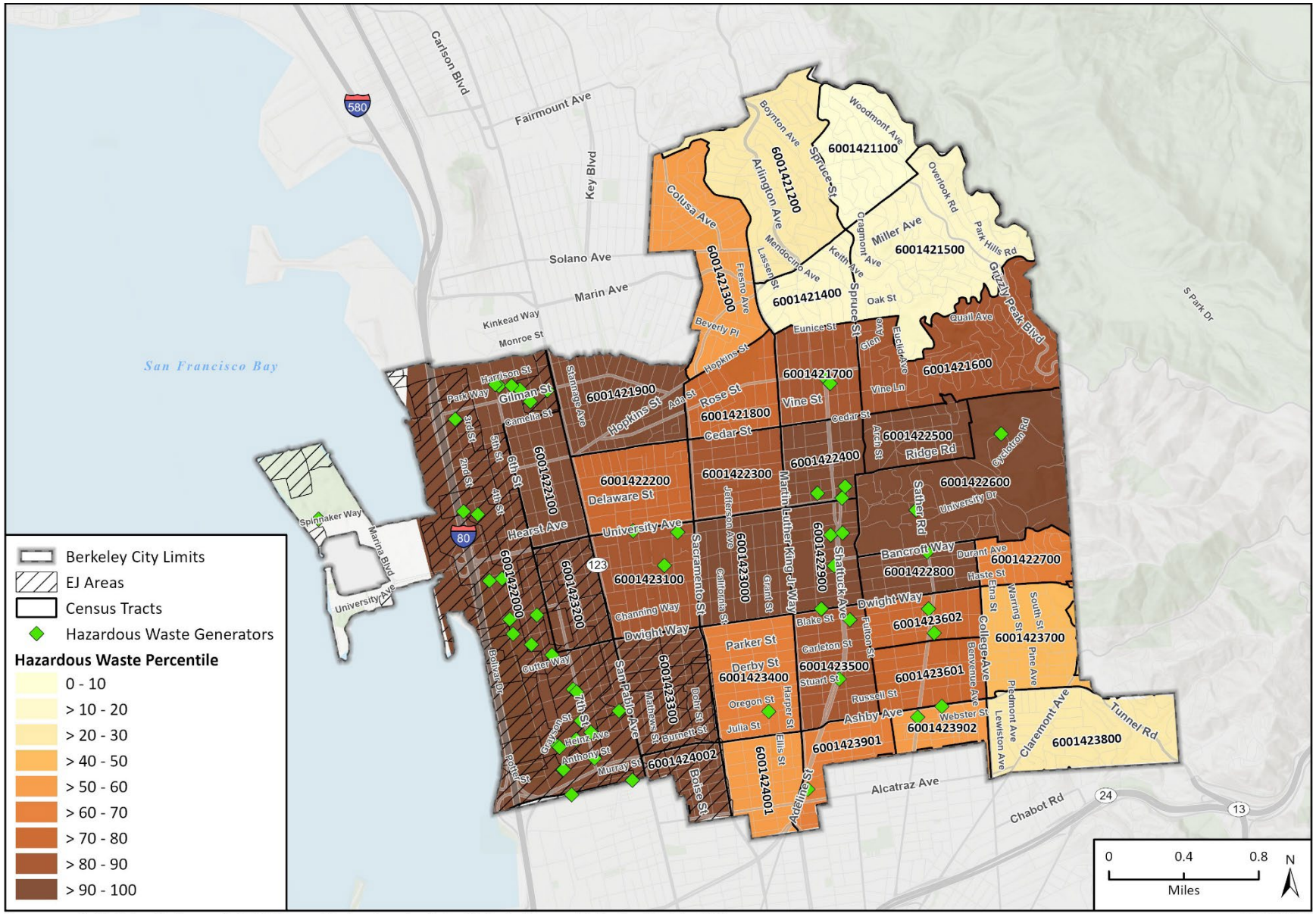
EJ - Berkeley

Figure 20 Hazardous Water Sites in Berkeley



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Additional data provided by CalEnviroScreen 4.0, 2021.

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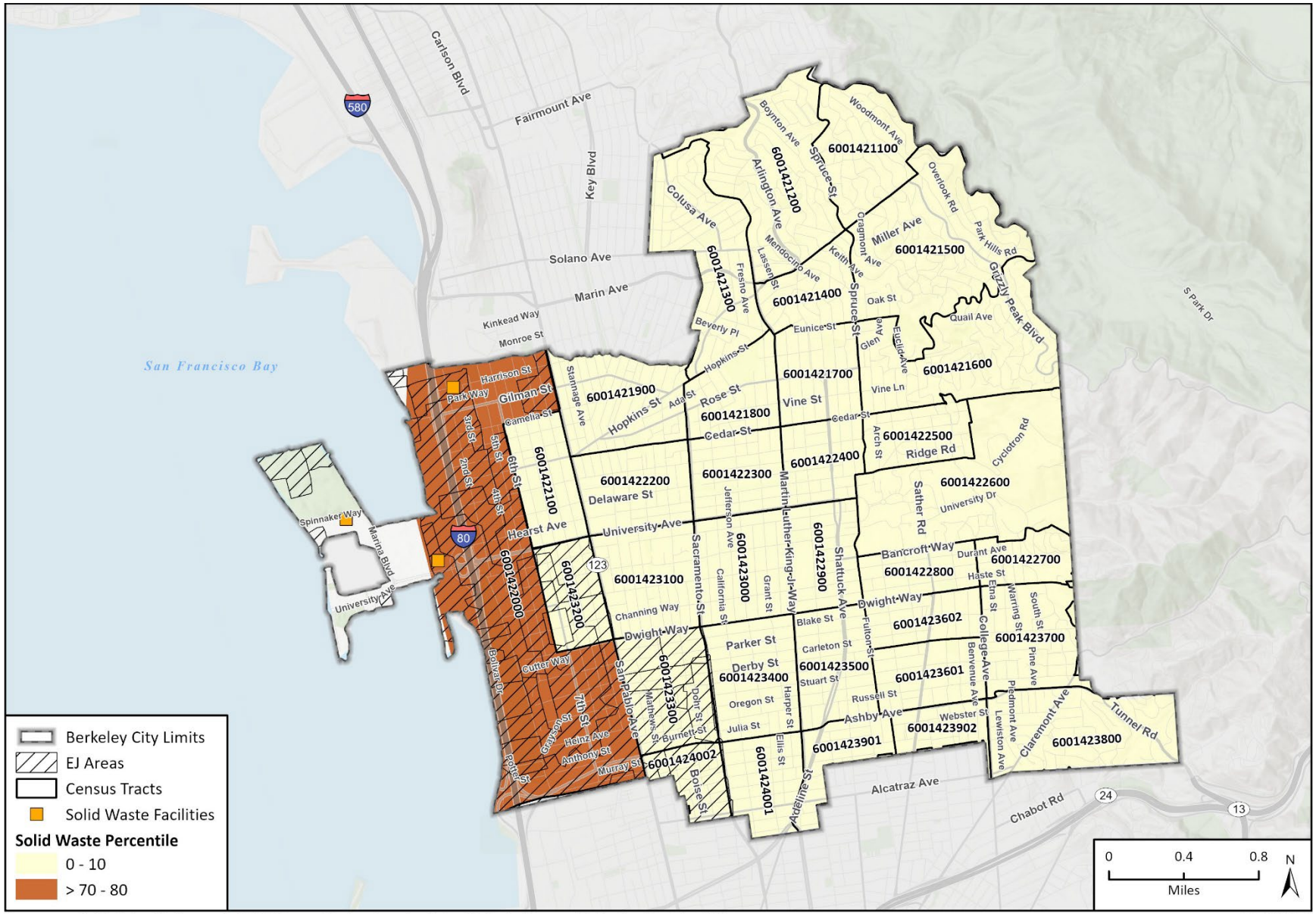
Figure 21 Solid Waste Sites in Berkeley



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Additional data provided by CalEnviroScreen 4.0, 2021.

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EJ - Berkeley

Table 9 CalEnviroScreen Percentile Scores for Environmental Effect Indicators

Census Tract	Cleanup Sites	Groundwater Threats	Hazardous Waste Sites	Impaired Water Bodies	Solid Waste Facilities
6001421100	0.0	0.0	0.0	23.9	0.0
6001421200	0.0	2.1	22.4	33.2	0.0
6001421300	31.2	31.5	51.7	90.1	0.0
6001421400	0.0	23.4	19.3	23.9	0.0
6001421500	0.0	4.4	16.6	12.5	0.0
6001421600	47.0	38.1	83.4	12.5	0.0
6001421700	63.7	47.9	81.9	23.9	0.0
6001421800	29.4	42.7	76.3	23.9	0.0
6001421900	20.7	91.8	91.1	90.1	0.0
6001422000*	**97.7**	**99.6**	**99.6**	**90.1**	**76.4**
6001422100	65.0	97.0	93.0	90.1	9.7
6001422200	32.3	93.1	73.8	90.1	0.0
6001422300	42.6	76.4	89.8	23.9	0.0
6001422400	64.9	77.5	94.9	23.9	0.0
6001422500	58.2	80.3	92.0	0.0	0.0
6001422600	58.2	91.3	95.9	12.5	0.0
6001422700	22.6	74.8	65.9	12.5	0.0
6001422800	33.9	71.7	90.6	0.0	0.0
6001422900	25.9	80.3	96.0	0.0	0.0
6001423000	25.6	77.5	90.9	83.0	0.0
6001423100	72.8	91.0	88.4	83.0	0.0
6001423200*	**83.4**	**94.8**	**95.0**	**83.0**	**9.7**
6001423300*	**75.3**	**92.2**	**95.8**	**83.0**	**0.0**
6001423400	9.6	69.7	65.9	83.0	0.0
6001423500	9.6	65.4	83.2	0.0	0.0
6001423601	0.0	72.9	71.1	0.0	0.0
6001423602	9.6	60.6	79.6	0.0	0.0
6001423700	0.0	66.5	43.3	12.5	0.0
6001423800	0.0	85.6	23.7	0.0	0.0
6001423901	50.3	78.9	64.8	0.0	0.0
6001423902	0.0	90.3	50.5	0.0	0.0
6001424001	55.0	78.4	54.0	83.0	0.0
6001424002*	**87.1**	**91.2**	**90.1**	**83.0**	**0.0**

* = Contains EJ Areas.
Source: CalEnviroScreen 4.0 (accessed March 2025).

3.3 Public Facilities

Access to public facilities and resources is an environmental determinant of health that is required to be addressed by jurisdictions under California Government Code Section 65302(h)(1)(A). As defined by State law, "public facilities" include, but are not limited to, public improvements, services, and community amenities. These facilities may include government buildings, schools, public transit, public open space, streets, and roads with safe and adequate infrastructure, as well as community and cultural centers. Low-income and minority (BIPOC) communities have historically had fewer public investments in their neighborhood and less access to critical public resources (OEHA 2021). The City has a wide range of policies that identify strategies for better connecting community members with necessary resources and facilities. However, some of these policies lack clear strategies, hindering effective implementation. Additionally, limited funding continues to be a barrier for successful policy implementation.

The following section provides an overview of a range of public facilities available in Berkeley, and evaluates community accessibility to these facilities:

- Schools, Libraries, and Community Centers
- Government Facilities
- Hospitals and Healthcare Centers

3.3.1 Schools, Libraries, and Community Centers

Schools

Schools ensure that communities receive the educational resources necessary for capacity building. Additionally, school facilities serve as a space for recreation and socialization that may contribute to improved health outcomes. There are a total of 21 public schools within the Berkeley Unified School District (BUSD), including 3 preschools, 11 elementary schools, 3 middle schools, a large comprehensive high school in Central Berkeley, a continuation school, an adult school, and Berkeley Independent Study, which is an alternative education program (BUSD 2025). As shown in ***Figure 22***, schools are evenly distributed throughout the City, although there are fewer schools in the westernmost and easternmost portions of the City.

The following is a list of public schools within Berkeley:

1. Franklin Preschool
2. Hopkins Early Childhood
3. King Child Development Center
4. Berkeley Arts Magnet at Whittier (BAM) School
5. Cragmont Elementary
6. Emerson Elementary
7. John Muir Elementary
8. Malcolm X Elementary
9. Oxford Elementary
10. Rosa Parks Elementary
11. Ruth Acty Elementary

12. Sylvia Mendez Elementary
13. Thousand Oaks Elementary
14. Washington Elementary
15. Longfellow Middle School
16. Martin Luther King Jr. Middle School
17. Willard Middle School
18. Berkeley High School
19. Berkeley Technology Academy
20. Berkeley Independent Study
21. Berkeley Adult School

Libraries

Libraries play a crucial role in communities by providing access to information, educational resources, and public services that empower individuals. Beyond their traditional function as book repositories, modern libraries serve as community hubs that offer digital access, literacy programs, and social services. They support lifelong learning and civic engagement, ensuring that individuals, regardless of socioeconomic status, have access to knowledge and opportunities.

In the context of environmental justice, libraries are particularly important because they provide free access to environmental information, helping communities, especially for communities disproportionately affected by pollution, climate change, and resource inequities, support in awareness, knowledge and understanding of environmental issues. Many historically marginalized communities, often composed of low-income and groups that face marginalization, can encounter barriers to accessing environmental data, policy discussions, and legal resources. Libraries help bridge this gap by offering books, research materials, workshops, and internet access that allow residents to educate themselves on local environmental hazards, advocacy strategies, and policy changes affecting their neighborhoods. Additionally, libraries serve as meeting spaces and organizing hubs for communities. By providing free, dependable, and inclusive access to environmental knowledge, libraries help equip underserved communities with the tools needed to advocate for healthier environments and equitable resource distribution.

Libraries also serve as resiliency hubs, often with access to running water, shade, seating, cooling or heating and access to restrooms. Access to libraries is universal, as anyone entering with or without a library card can use the services on site.

Libraries are shown in ***Figure 22***, below. The City of Berkeley maintains six libraries. Each library is open Monday through Saturday from 10 a.m. or 12 p.m. to 6 p.m. or 8 p.m. (Berkeley Public Library 2025), with opening and closing hours varying depending on the branch. The Tarea Hall Pittman South and North locations are open on Sundays from 10 a.m. to 6 p.m. The Berkeley Public Library system provides various services including computing and printing, adult literacy programs, accessibility services, library on wheels, and meeting rooms that can be reserved by members of the public (Berkeley Public Library 2025).

Community Centers

City-owned community centers play a vital role in fostering social cohesion, providing essential services, and enhancing the overall well-being of residents. These centers serve as accessible

gathering spaces where individuals and families can participate in educational programs, recreational activities, and civic engagement initiatives. By offering resources such as childcare, job training, health services, and cultural events, community centers help bridge socioeconomic gaps and ensure that all residents, regardless of income level, have access to opportunities for personal and community development.

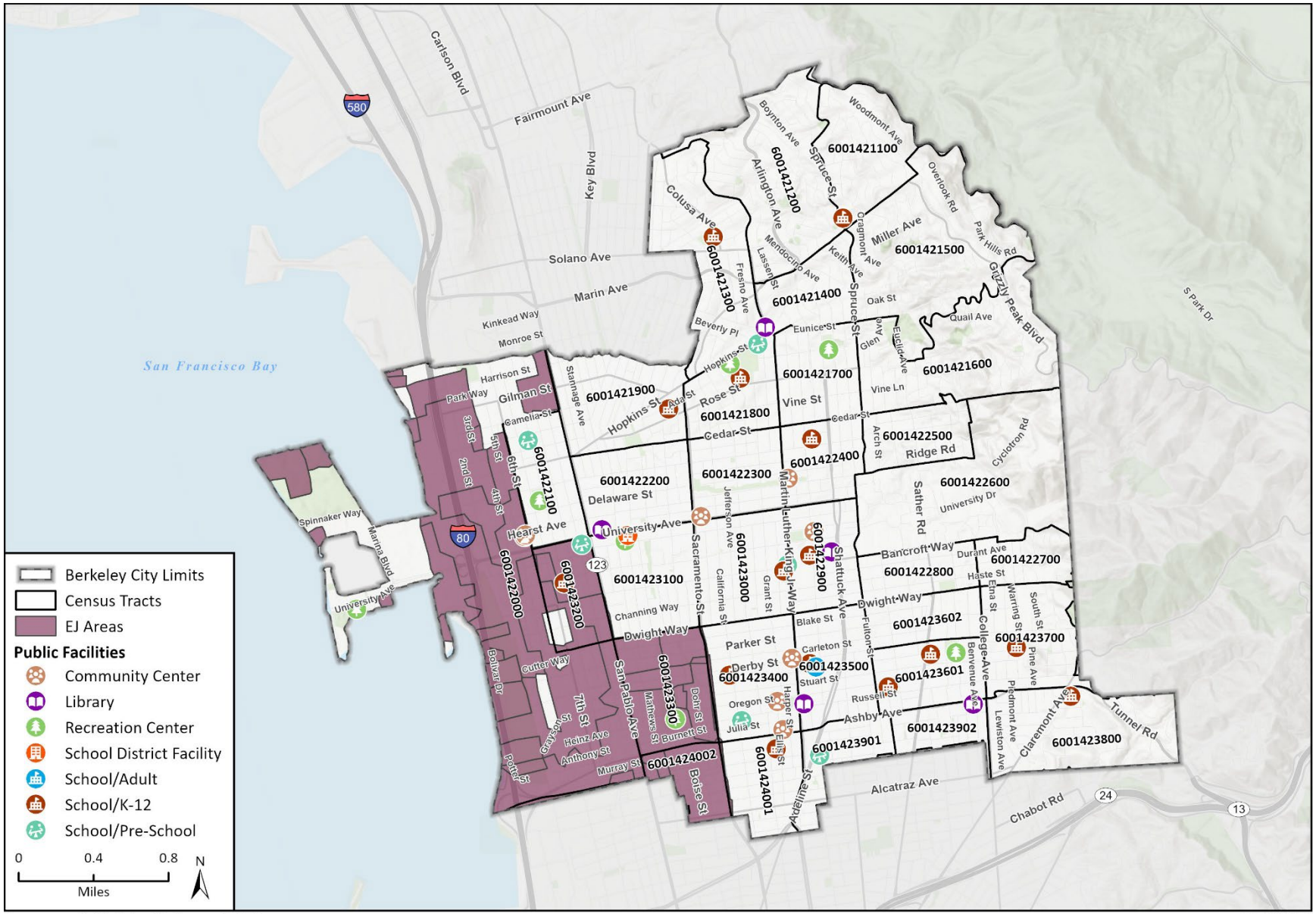
Community centers provide safe, climate-resilient spaces for residents who may be disproportionately impacted by environmental hazards. Many low-income and historically marginalized communities face higher exposure to pollution, extreme heat, poor air quality, and climate-related disasters, while also having fewer resources to cope with these challenges. Community centers can serve as cooling centers during heatwaves, air filtration sites during wildfires, and emergency shelters during natural disasters, offering essential relief and protection for populations that have been made vulnerable.

Berkeley has a wide range of community centers and supportive services for community members. This includes the Adult Mental Health Clinic, West Berkeley Service Center, MLK Jr. Youth Service Center, and other centers that provide supportive services to residents. Additionally, the City maintains several recreational centers for public access. This includes the Live Oak Community Center, Frances Albrier Community Center, King Pool, Shorebird Park Nature Center, Willard Park Center, West Campus Pool, and James Kenney Community Center. While community centers and recreational centers are spread throughout the City, the majority of these facilities are located in the south, central, and western portions of Berkeley with fewer community centers available in the northern and eastern areas (*see **Figure 22**, below*).

Senior centers provide essential services that promote the well-being, social engagement, and independence of older adults, particularly in areas where seniors may face isolation or economic hardship. These centers offer a range of programs, including health screenings, fitness classes, nutritional meals, and social activities, helping to improve physical and mental health while reducing loneliness. They also serve as resource hubs, connecting seniors with transportation assistance, legal aid, financial counseling, and government benefits that support aging in place. In EJ areas, senior centers are especially critical, as older adults in underserved areas may have limited access to healthcare, clean environments, and climate-adaptive resources. By providing safe, accessible, and supportive spaces, senior centers play a crucial role in fostering dignity, equity, and quality of life for aging populations.

Berkeley has two primary City-operated senior centers. The North Berkeley Senior Center Is located at 1901 Hearst Avenue and the Judge Henry Ramsey Jr. South Berkeley Senior Center is located at 2939 Ellis Street. The City’s senior centers offer a variety of enrichment activities and support services aimed at empowering Berkeley’s senior population, including transportation services, meals and groceries for seniors, and loans for seniors and disabled individuals to rehabilitate their homes (City of Berkeley 2025). The senior programs offered by the City include a variety of field trips, shopping trips, events and presentations, and educational and recreational classes.

Figure 22 Schools, Libraries, and Community Centers in Berkeley



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EJ Communities based on a Locally Specific Methodology provided by City of Berkeley, 2025.

23-15392 EPS EJ
Fig X Facilities

3.3.2 Government Facilities

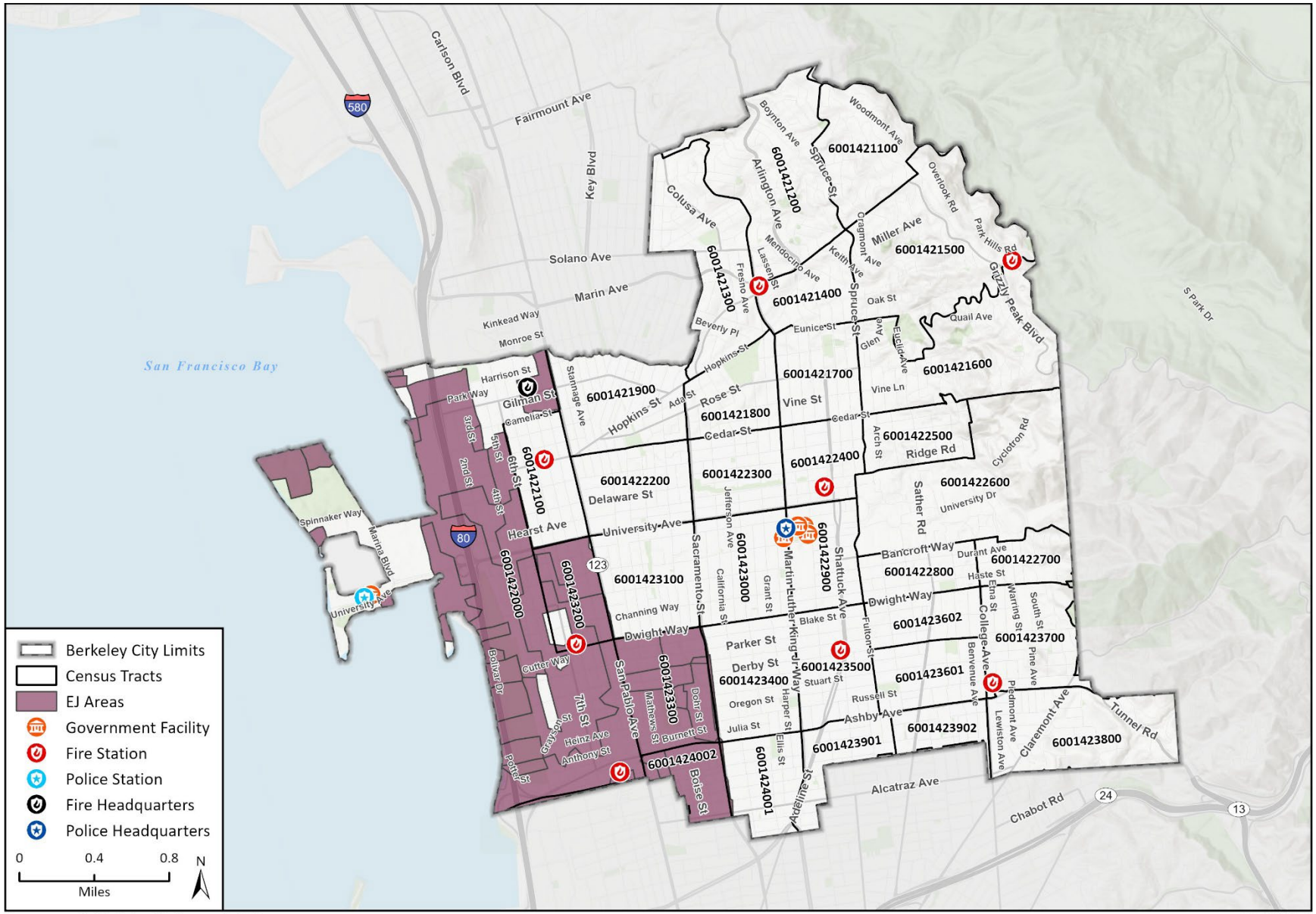
Government facilities are publicly owned buildings and spaces that provide essential services to communities, including city halls, courthouses, post offices, and social services facilities. Libraries and public health centers are also government facilities and have been described in ***Section 3.3.1 Schools, Libraries, and Community Centers*** and Section ***3.3.3 Hospitals and Healthcare Centers***. These facilities serve as critical hubs for civic engagement, social services, and education, ensuring that residents can access vital resources, information, and support programs. These facilities serve as critical hubs for civic engagement, social services, and education, ensuring that residents can access vital resources, information, and support programs.

Access to government facilities is particularly important for low-income and EJ communities, as these public spaces provide free or low-cost services such as legal aid, healthcare, job assistance, and educational programs. Providing equitable access ensures that all residents, regardless of income or background, can benefit from essential government functions, participate in decision-making processes, and receive critical support during emergencies. Well-maintained and geographically distributed government facilities help reduce disparities, promote social inclusion, and strengthen community resilience by ensuring that everyone has the resources they need to thrive.

Government buildings connect EJ communities with necessary services that contribute to the health, education, and safety of residents. As shown in ***Figure 23***, government buildings and facilities are in close proximity to the downtown area. Note that the points for the various government facilities overlap since many services are housed in the same buildings. All but one facility is located within Census Tract 2900 in Central Berkeley. Government facilities in Berkeley include:

- Berkeley Planning Department
- Finance Customer Service Center
- Berkeley Housing Authority
- Housing Code Inspection
- Office of Vital Statistics
- Permit Service Center
- City Hall
- Veteran’s Memorial Building
- Marina Offices (Berkeley Marina Dock K)
- Maudelle Shirek Building (Old City Hall)

Figure 23 Government Facilities in Berkeley



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EJ Communities based on a Locally Specific Methodology provided by City of Berkeley, 2025.

23-15392 EPS EJ
Fig X Facilities

3.3.3 Hospitals and Healthcare Centers

Hospitals and healthcare centers are essential for providing life-saving medical services, preventative care, and public health resources to communities. These facilities ensure that individuals have access to emergency care, specialized treatments, and routine check-ups that improve overall health outcomes. Beyond acute care, hospitals and clinics offer vaccination programs, maternal and child health services, mental health counseling, and chronic disease management, helping to prevent long-term health complications. They also serve as critical response centers during public health crises, such as pandemics and natural disasters, ensuring community members receive timely medical attention. Without adequate healthcare facilities, community members, especially those in low-income areas, face increased health risks due to delayed or inaccessible treatment.

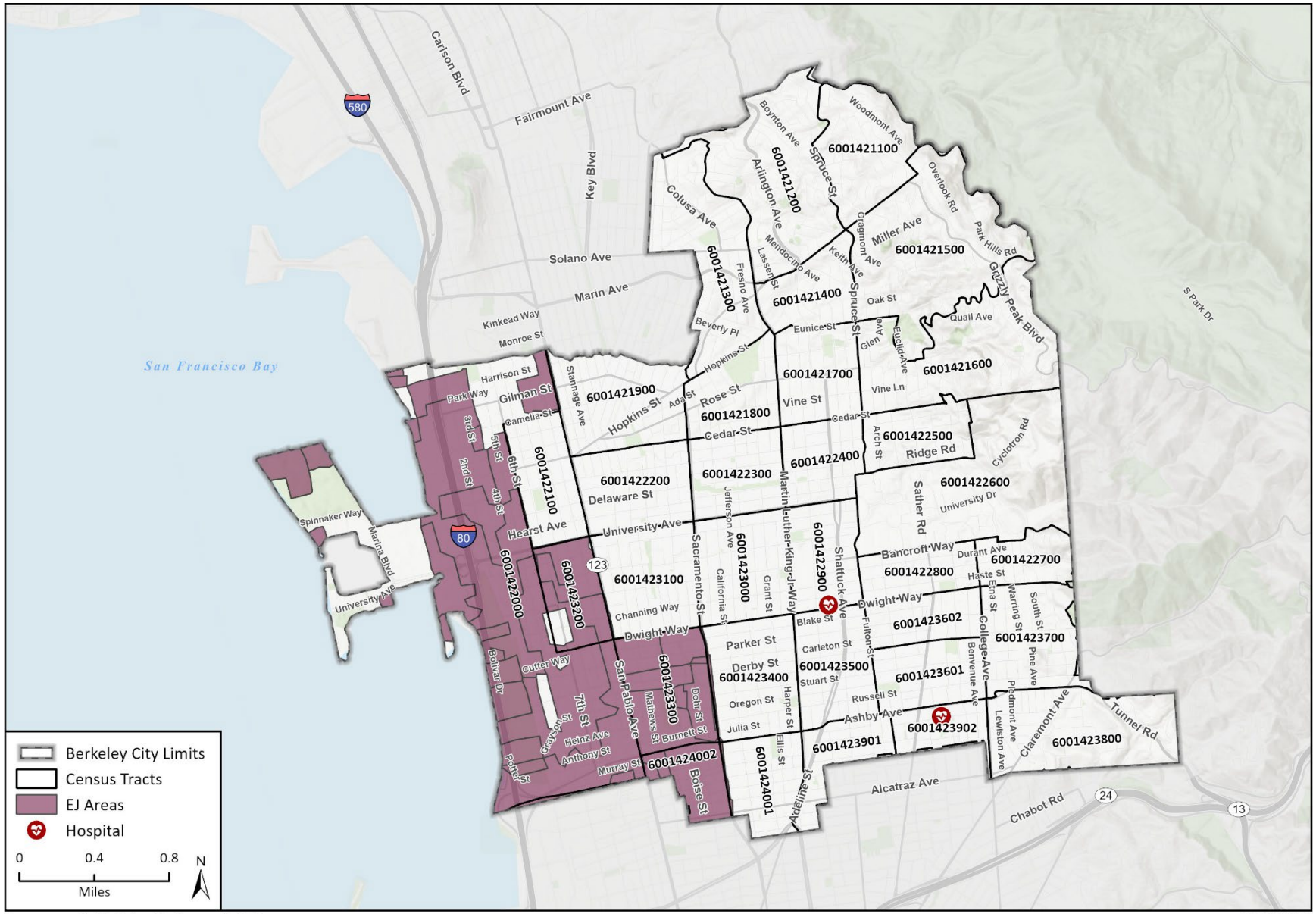
Equitable access to healthcare is particularly crucial for EJ communities, which often experience higher exposure to pollution, toxic waste, and climate-related health risks such as extreme heat and poor air quality. Many historically marginalized communities suffer from higher rates of respiratory illnesses, cardiovascular diseases, and other chronic conditions linked to environmental hazards. Ensuring that hospitals and healthcare centers are affordable, culturally competent, and geographically accessible helps address these disparities and reduces preventable health crises. Additionally, these facilities can provide environmental health education, screenings for pollution-related illnesses, and advocacy for healthier living conditions, empowering residents to fight for cleaner environments. By prioritizing equitable healthcare access, cities can help bridge the gap in health outcomes and create safer, healthier, and more resilient communities.

There are limited acute care hospital facilities but multiple community-based healthcare providers in Berkeley. These facilities provide essential medical services to residents, including emergency care, primary care, specialty treatments, and public health programs. The City's primary medical center is Alta Bates Summit Medical Center, a full-service hospital offering emergency services, maternity care, surgery, and specialized treatment for heart, cancer, and stroke patients (Sutter Health 2025). As shown in ***Figure 24***, the Alta Bates Summit Medical Center has two campuses, one located in Central Berkeley in Census Tract 2900 and the other located in Census 3902 in the Elmwood District. While Alta Bates provides critical healthcare, its planned closure of inpatient services has raised concerns about access to emergency and acute care, particularly for low-income and elderly residents who may need to travel farther for treatment. The closure of the Alta Bates Summit Medical Center, scheduled in 2030, is due to noncompliance with changing California building regulations regarding earthquake standards (Bryant 2016).

In addition to Alta Bates, Berkeley is served by several non-hospital healthcare providers that play a critical role in advancing health equity, particularly for low-income residents, uninsured individuals, seniors, and communities of color. These include Kaiser Permanente outpatient medical offices, which provide primary and specialty care to enrolled members; the Berkeley

Free Clinic, which offers free medical, dental, and mental health services; and LifeLong Medical Care clinics operated in partnership with the City, which provide primary care, behavioral health services, and supportive programs for seniors and vulnerable populations. While these facilities do not provide emergency or inpatient hospital services, they are essential components of Berkeley's healthcare safety net and are particularly important for addressing chronic disease management, preventative care, and barriers to access faced by EJ communities.

Figure 24 Hospitals in Berkeley



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EJ Communities based on a Locally Specific Methodology provided by City of Berkeley, 2025.

23-15392 EPS EJ
Fig X Facilities

3.4 Food Accessibility

Access to healthy food is a key determinant of positive health outcomes and quality of life. Adequate food access means that food is affordable, nutritious, and within an accessible distance from home. Limited access to healthy food options can lead to negative health outcomes, such as higher rates of obesity, diabetes, and other diet-related diseases. These health disparities are often more prevalent in marginalized communities, exacerbating existing inequalities. By providing equal access to healthy food, environmental justice aims to improve overall public health and reduce health disparities. Food accessibility can be measured by two indicators: food assistance and food access.

3.4.1 Food Assistance

The U.S. Department of Agriculture (USDA) defines food insecurity as a lack of consistent access to enough food for an active, healthy life. The food insecurity rate in California is 10 percent of the total population, with 72 percent of those food insecure people considered eligible for the Federal Supplemental Nutrition Assistance Program (SNAP) (Feeding America 2016). Poverty and unemployment are key drivers of food insecurity. According to Feeding America, the overall food insecurity rate in Alameda County was 9.6 percent as of 2022 with approximately 159,150 people considered food insecure, including 38,670 children (Feeding America 2016). The child food insecurity rate in Alameda County is slightly higher than the overall rate at 11.6 percent (Feeding America 2016). Approximately 48 percent of food insecure individuals are eligible for SNAP, otherwise known as CalFresh in California (Feeding America 2016).

There are a variety of individuals, companies, and organizations working towards a sustainable and equitable food distribution system in Berkeley. The Berkeley Food Pantry, Alameda County Community Food Bank, Mercy Brown Bag Program, and the Berkeley Food Network all provide supportive food services to those in need. Berkeley's Woman, Infant, and Children (WIC) program is available to qualifying low-income women who are pregnant or have children up to age 5. WIC provides food vouchers, nutritional information, breast feeding information and additional resources. The BUSD also offers free take-away breakfasts and lunches for school-aged children throughout the school year. For seniors, the Meals on Wheels program is available providing senior residents with home-delivered meals. The Berkeley Mutual Aid Network assists high risk individuals with emergency stop-gap funding for groceries, assists residents with navigating programs such as WIC and CalFresh, and can provide assistance with essential errands (City of Berkeley 2025).

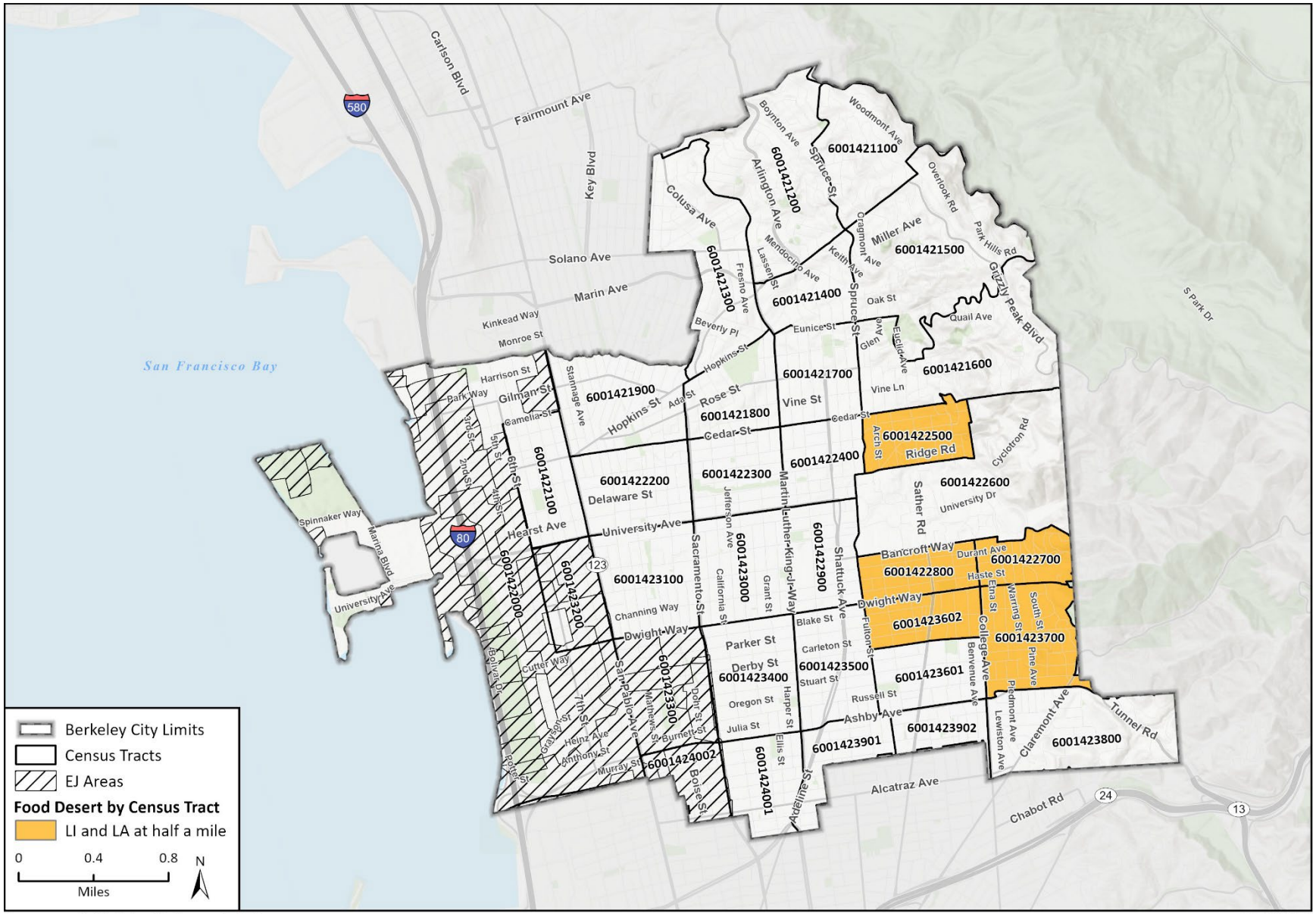
3.4.2 Food Access

The USDA maintains a Food Access Research Atlas that identifies areas with limited access to healthy food (referred to as "low-income and low-access") at the census tract level. The Food Access Research Atlas also considers household vehicle access in evaluating access to healthy food. Limited vehicle access can make it particularly challenging to reach healthy and affordable food retailers if the availability of those retailers are not within an appropriate walking distance. For the purposes of the Food Access Research Atlas, low-income and low-access are defined as the following:

- **Low-income (LI).** A census tract with a poverty rate of 20 percent or greater, or median family income at or below 80 percent of the statewide or metropolitan area median family income.
- **Low-access (LA).** A census tract with at least 500 people or 33 percent of the tract's population living more than 0.5 mile (urban areas) or more than 10 miles (rural areas) from the nearest supermarket or grocery store, as well as the number of housing units in the area without access to a vehicle and that are more than 0.5 mile from one of these stores.

The food access map highlights areas in Berkeley that are located more than 0.5 miles, but less than 1 mile, from the nearest food retailer. This analysis reflects local conditions within an urban context, where shorter distances are more appropriate for evaluating food access. No areas in Berkeley are more than 1 mile from a food retailer. Based on the definitions above, there are five census tracts that are low-income and low-access in Berkeley at 0.5 mile (Census Tracts 2500, 2700, 2800, 3602, and 3700). Those same five tracts are also identified as having low vehicle access. These census tracts include the Northside and Southside neighborhoods, located adjacent to UC Berkeley. Food access across Berkeley is shown in ***Figure 25,*** below.

Figure 25 Low-Access/Low-Income Areas in Berkeley



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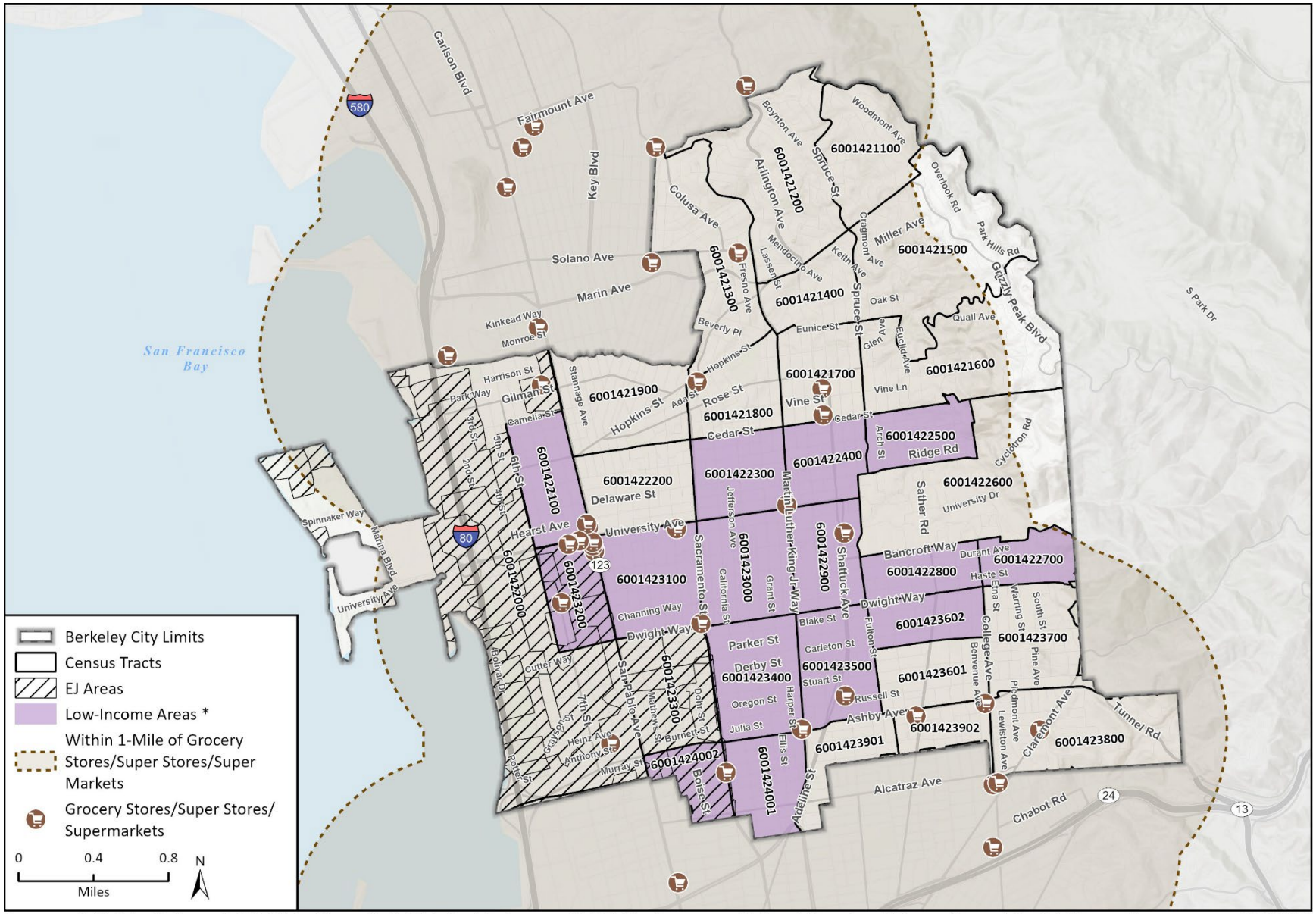
Additional data provided by CalEnviroScreen 4.0, 2021; USDA Food Access Reserach Atlas, 2024.

23-15392 EPS EJ
Fig X Food Desert

Additionally, census tracts in Berkeley were evaluated for proximity to grocery stores, farmers markets, and food gardens. The steps taken to determine this proximity included 1) identifying census tracts with at least 500 residents as low-income based on the Department of Housing and Urban Development definition of 80 percent of the City's median household income; and 2) establishing a one-mile buffer around each supermarket, super store, grocery store, community garden, or farmers market. ***Figure 26*** shows low-income census tract proximity to grocery stores, supermarkets, and super stores. As shown below, all census tracts in Berkeley are within one mile of the nearest grocery store. However, the eastern portions of Census Tracts 1500, 1600, and 2600 are farther than one mile from the nearest grocery store. ***Figure 27*** shows the proximity to community gardens and farmers markets. While most census tracts, including those identified as low-income, have access to a farmer's market or community garden, the low-income Census Tract 2700 is only partially captured. This area includes the far eastern portion of the Panoramic Hills neighborhood. ***Figure 28*** shows the overlap of areas within a mile of all food retail locations in Berkeley.

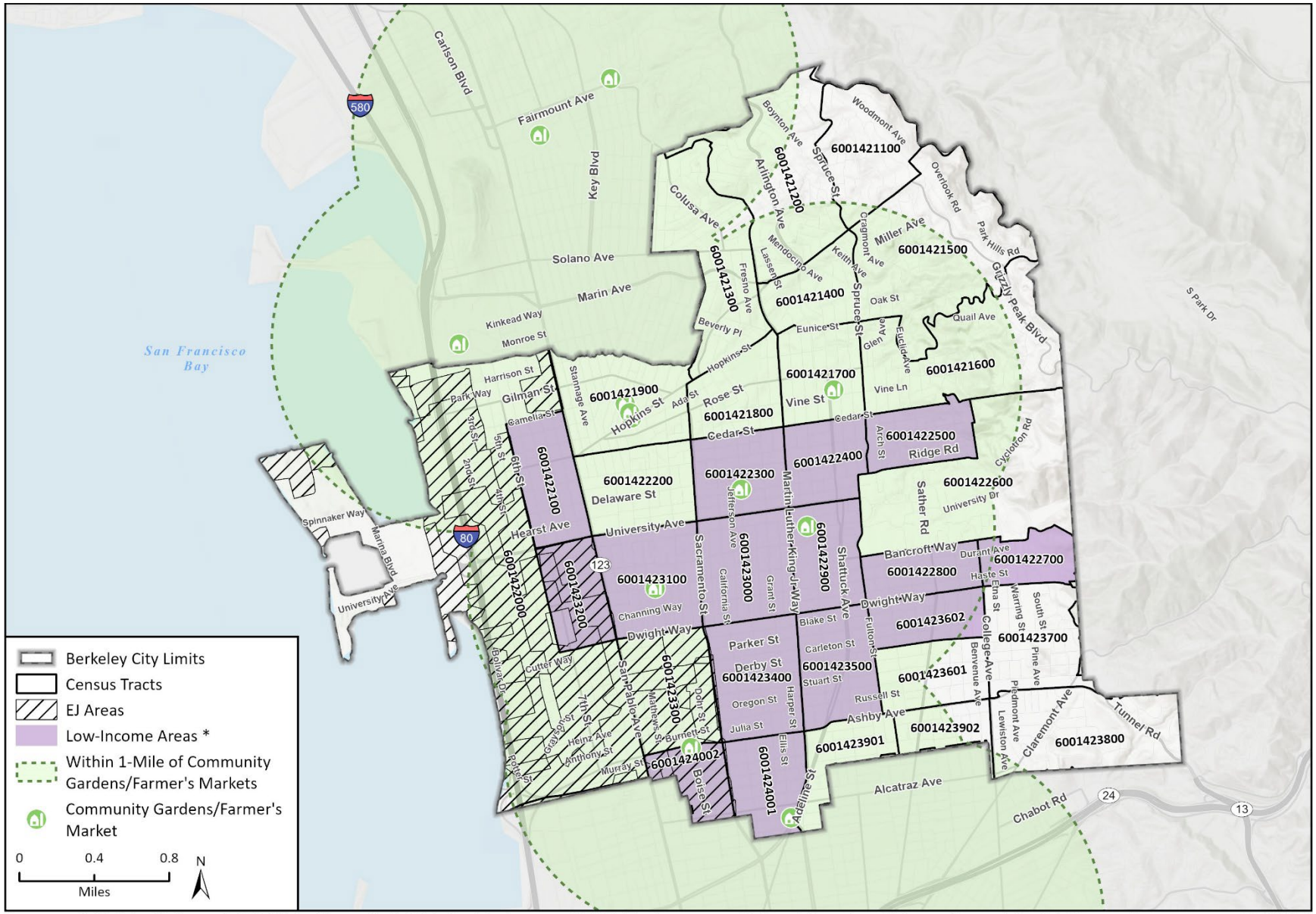
Figure 26 Proximity to Grocery Stores/Super Stores/Super Markets in Berkeley



*Basemap provided by Esri and its licensors © 2026. Additional data provided by Priority Population Investments 4.0, 2021. * Low-Income communities/households are those with incomes either at or below 80% of the statewide median or below a threshold designated as low-income by the Department of Housing and Community Development. These census tracts are considered EJ communities.*

23-15392 EPS EJ
Fig X Food Access

Figure 27 Proximity to Community Gardens and Farmers Markets in Berkeley



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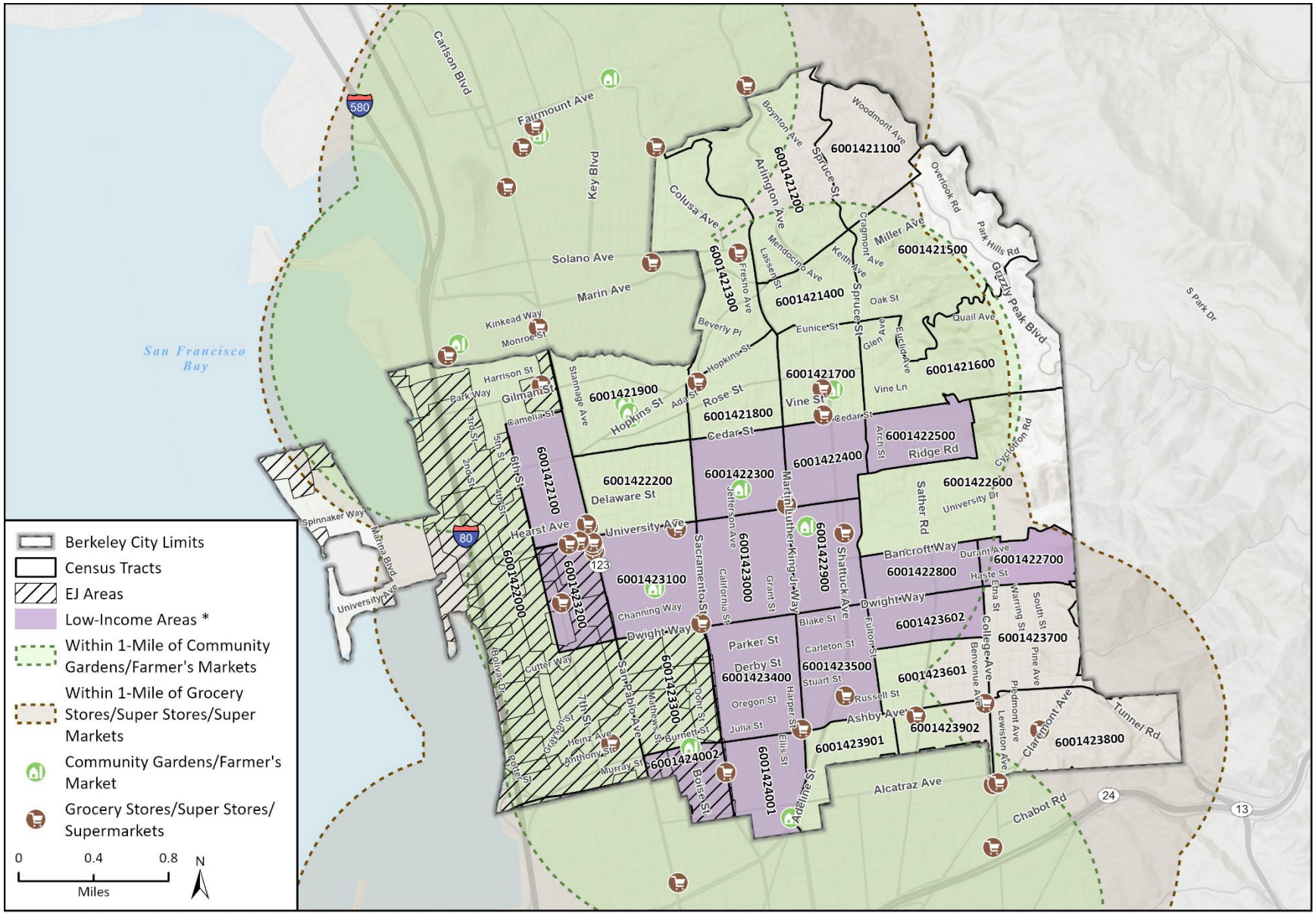
23-15392 EPS EJ
Fig X Food Access

Figure 28 Proximity to All Food Retail Locations in Berkeley



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23-15392 EPS EJ
Fig X Food Access

3.5 Safe, Sanitary, and Affordable Housing

Safe and sanitary homes contribute to the health and well-being of individuals and families. Adequate housing conditions, including access to proper sanitation and ventilation, reduce the risk of diseases and exposure to environmental hazards. Environmental justice recognizes that everyone, regardless of their socioeconomic status or background, deserves to live in a safe and healthy home.

Historically marginalized communities, often including low-income neighborhoods and minority communities, are more likely to experience substandard housing conditions. These communities may face challenges such as overcrowding, inadequate maintenance, limited access to sanitation facilities, pest infestations, lead-based paint, mold, and other indoor pollutants (Krieger et al. 2002). These unsafe housing conditions can have adverse health effects, exacerbating existing health disparities and environmental injustices.

The City has recently updated plans related to safe, sanitary, and affordable housing such as the City's 2023-2031 Housing Element, Climate Action Plan, and Consolidated Housing and Community Development Plan. Implementation of many of the policies contained in these plans is currently underway and success will be tracked as each policy is implemented.

3.5.1 Housing Cost Burden

Availability of safe, sanitary and affordable housing reduces vulnerability to climate related impacts and supports recovery. High housing costs can limit financial resources needed to prepare for and recover from climate-related impacts, while a lack of safe and secure housing can increase vulnerability to impacts and exposure to pollution and environmental hazards.

Factors including household income, market rents and home prices, available unit sizes, and household size can all contribute to cost burden. A household is considered to have a housing cost burden if it spends more than 30 percent of its gross income on housing expenses (rent or mortgage payments and utilities). A household is considered as having a severe cost burden if expenses make up more than 50 percent of gross income (City of Berkeley 2023).

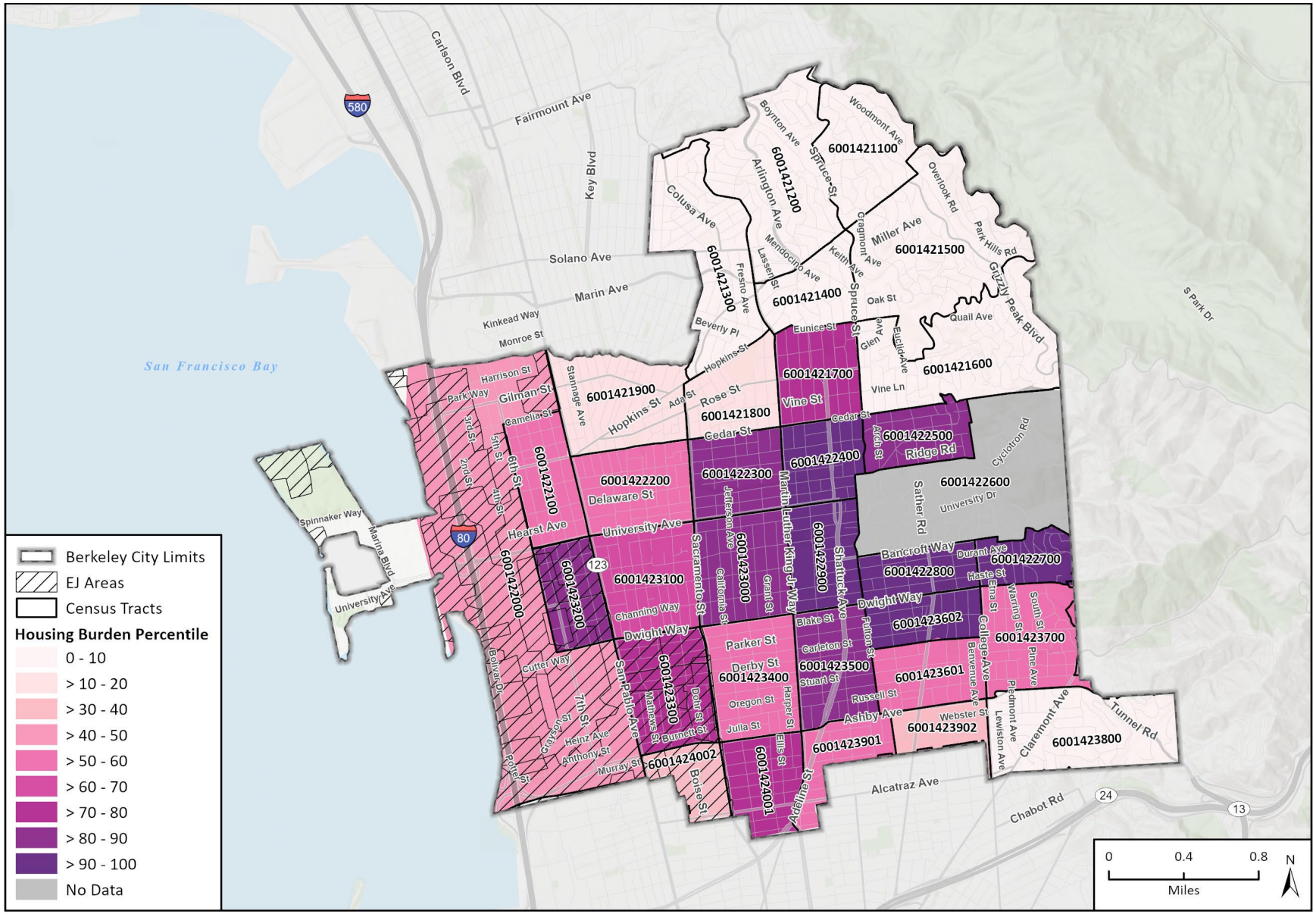
According to the City's 2023-2031 Housing Element, 23 percent of all Berkeley households are severely cost-burdened. Cost burden is more prevalent among renter households than among households who own their home (32 percent versus 12 percent) (City of Berkeley 2023).

CalEnviroScreen measures housing burden by identifying the percent of households that are experiencing both high housing cost burden (paying greater than 50 percent of their income to housing costs) and are low income (earning less than 80 percent of the Area Median Income). The average housing burden percentile score in Berkeley is about 54, which slightly higher than the average in California of about 50. Twelve census tracts within Berkeley scored above the 75th percentile (see ***Figure 29)***. Census Tract 2900 scored in the 99th percentile. Additionally, three census tracts scored in the 100th percentile (Census Tracts 2700, 2800, and 3602).

These tracts are located adjacent to and south of UC Berkeley. These three tracts include the Panoramic Hills, Southside, and parts of the Le Conte and Elmwood District neighborhoods.

While students are not the only group of people living in these areas of Berkeley, there is likely a higher density of students compared to the rest of the City because these areas are adjacent to the UC Berkeley campus. UC Berkeley students living in the neighborhoods surrounding UC Berkeley face a significant housing cost burden as high rental prices, driven by a persistent mismatch between limited housing supply and strong demand in the Bay Area, forcing many to spend more than 30 percent, and often over 50 percent, of their income on rent (Joint Center for Housing Studies 2023). This meets the federal definition of being cost-burdened or severely cost-burdened (Rainey 2016).

Figure 29 Housing Cost Burden in Berkeley



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3.5.2 Homelessness

Homelessness remains an important challenge in many communities across the state. Rising housing costs result in increased risk of community members experiencing homelessness. According to the City's 2023-2031 Housing Element, there were 1,057 individuals experiencing homelessness in 2022. The most recent Point-in-Time Count was completed in 2024. The 2024 Point-in-Time Count indicates that total number of unhoused individuals has decreased to 844 people (City of Berkeley 2024). Additionally, the proportion of unhoused individuals in Berkeley who are sheltered has increased from 24 percent to 47 percent (City of Berkeley 2024).

The primary causes for the loss of housing within Berkeley are job or income loss (39 percent), housing-related issues (33 percent), health-related issues (21 percent), and relationship breakup or other household loss (14 percent) (City of Berkeley 2024). While the total number of individuals identifying as men and women in Berkeley is relatively evenly split, individuals who identify as men experience homelessness at a significantly higher rate (68 percent) than individuals who identify as women (30 percent) (City of Berkeley 2024). Black and African American individuals are also experiencing homelessness at rate that is disproportionately higher than other ethnicities or races in Berkeley. Though Black and African American people make up approximately eight percent of the City's population, they represent nearly 44 percent of the City's unhoused population (City of Berkeley 2024).

Amongst people who are homeless in Berkeley, 43 percent are experiencing a serious mental illness, 42 percent are experiencing chronic homelessness, and 26 percent are experiencing a substance use disorder (City of Berkeley 2024). Eight percent of all unhoused individuals are survivors of domestic abuse, four percent are veterans, and three percent are fighting HIV and AIDS-related illnesses (City of Berkeley 2024).

3.6 Community Health

Marginalized communities facing environmental injustices often encounter barriers to accessing healthcare services. These barriers include limited availability of healthcare facilities, affordability issues, lack of health insurance, transportation challenges, and language barriers. Consequently, individuals in these communities may experience systemic challenges when seeking timely and appropriate healthcare, further compromising their health outcomes.

To date, the City has a number of plans that help to address physical health and fitness of Berkeley communities including the City's 2002 Environmental Health Element, 2020 Pedestrian Plan, 2017 Berkeley Bicycle Plan, and the 2019 Vision Zero Action Plan. However, the effectiveness of implementing the existing policies varies. Many policies are ongoing and some, such as those in the 2002 Environmental Management Element, may no longer fully reflect current priorities or best practices, despite their continued status. In addition, while the City has advanced public health-focused planning through documents such as the Community

Health Improvement Plan (CHIP) and Community Health Assessment (CHA), these considerations are not always consistently integrated across all Citywide planning documents, including the General Plan and Local Hazard Mitigation Plan. The Climate Action Plan includes discussion of asthma in the context of indoor air quality, but opportunities remain to more systematically reflect public health outcomes across the broader planning framework.

3.6.1 Park and Recreation Center Access

The availability of greenspace (parks, fields, open space) in proximity to housing can create opportunities for physical activity and social interaction (World Health Organization 2016). Both physical activity and social interaction have been linked to improved health outcomes. The availability of green space plays a vital role in enhancing quality of life and public health by providing physical, mental, social, and environmental benefits. Access to parks, trails, and natural areas encourages physical activity, helping to prevent obesity, heart disease, diabetes, and other chronic conditions by making it easier for people to walk, jog, bike, or play outdoors. Green spaces also serve as safe and accessible recreational areas for people of all ages, promoting active lifestyles and fostering a sense of community.

Beyond physical health, mental well-being is significantly improved through exposure to nature, as studies show that spending time in green spaces reduces stress, anxiety, and depression, while also improving cognitive function and overall happiness. In urban areas, parks and tree-lined streets offer aesthetic and psychological relief from dense, built environments, creating spaces for relaxation, meditation, and social interaction.

Environmental benefits of green space include better air quality, reduced urban heat island effects, and more effective stormwater management, resulting in more climate-resilient and livable cities. However, inequitable access to green space remains a major issue, particularly in low-income and EJ areas, where residents often have access to fewer parks, recreational areas can be poorly maintained, and there is a higher exposure to pollution. Expanding and maintaining equitable, high-quality green spaces is essential for creating healthier, more sustainable, and more inclusive communities for all.

Berkeley has over 50 parks, with various amenities including picnic areas, sports facilities, and more. Parks and recreational facilities within Berkeley include:

1. Aquatic Park
2. Bateman Mall Park
3. Bay Trail
4. Becky Tempko Tot Park
5. Berkeley Rose Garden Park
6. Berkeley Way Mini Park
7. Cedar Rose Park
8. César E. Chávez Park
9. Charlie Dorr Mini Park
10. Codornices Park
11. Contra Costa Rock Park
12. Cragmont Rock Park
13. Dorothy Bolte Park
14. Frederick Mini Park
15. Garber Park
16. George Florence Mini Park

17. Glendale La Loma Park
18. Great Stoneface Park
19. Greg Brown Park
20. Grizzly Peak Park
21. Grotto Rock Park
22. Grove Park
23. Halcyon Commons Park
24. Harrison Park
25. Haskell-Mabel Mini Park
26. Horseshoe Park
27. Indian Rock Park
28. James Kenney Park
29. John Hinkel Park
30. King School Park
31. Live Oak Park
32. Martin Luther King Jr. Civic Center Park
33. McLaughlin Eastshore State Park
34. Monkey Island
35. Mortar Rock Park
36. Oak Park
37. Ohlone Park
38. People's Park
39. Presentation Park
40. Prince Street Mini Park
41. Remillard Park
42. San Pablo Park
43. Shorebird Park
44. Sixty-Thid Street Mini Park
45. Solano-Peralta Park
46. Strawberry Creek Park
47. Terrace View Park
48. Tilden Nature Area
49. Thousand Oaks School Park
50. Virginia-McGee Totland
51. Willard Park

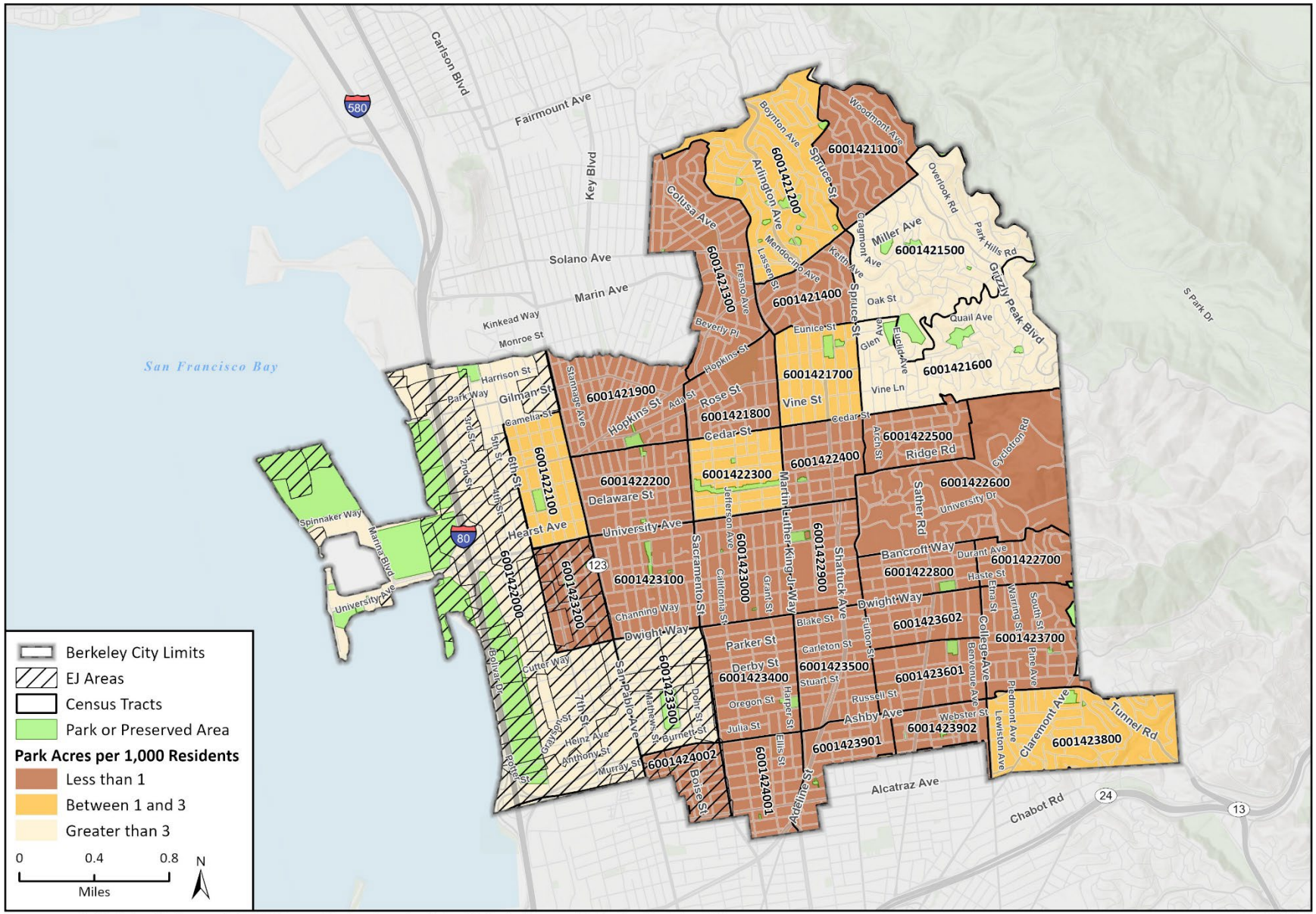
Tilden Regional Park is a 2,079-acre open space in the Berkeley Hills, offering sweeping views, redwood groves, meadows, and extensive trail networks. Though managed by the East Bay Regional Park District, it serves as a vital recreational and ecological resource for Berkeley residents. The park features popular amenities such as Lake Anza, the Tilden Merry-Go-Round, Redwood Valley Railway, Little Farm, and the 10-acre Regional Park Botanic Garden showcasing native California plants. Its accessibility and diverse offerings make it an essential part of the City's broader open space network.

The City of Berkeley's Open Space and Recreation Element of the Berkeley General Plan cites a goal in the City's 1977 Master Plan of providing two acres of parkland per 1,000 people. The California Department of Parks and Recreation defines "critically underserved" communities as communities having a ratio of less than three acres of parkland per 1,000 residents.[8] Recently adopted Senate Bill 1425 requires cities update their Open Space Element of the General Plan. When the City of Berkeley addresses this requirement, it will address the discrepancy between the 1977 Master Plan and the State's suggested provision of parkland.

[8] Public Resources Code Section 5642.

As shown in ***Figure 30***, the majority of census tracts within Berkeley have less than one acre of park space available per 1,000 residents. All but three census tracts containing EJ areas have less than one acre of park space per 1,000 residents. ***Figure 30*** show the ratio of parkland per 1,000 residents within the City boundaries only. Thus, although census tracts along the eastern boundary of the City abut Tilden Regional Park, the regional park was not included in the mapping assessment. While the park service ratios are low compared to the benchmark set by the State, 90 percent of Berkeley residents live within a 10-minute walk, or approximately one-half mile, of a park (Trust for Public Land 2025). As shown in ***Figure 31***, only one percent of Berkeley's population live beyond a 10-minute walk, or over one-half mile, from the nearest park. A portion of this area overlaps with Census Tract 2500 in the Northside neighborhood.

Figure 30 Park Access Per 1,000 Residents



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Additional data provided by CalEnviroScreen 4.0, 2021; California Department of Parks and Recreation, Park Access Tool, 2020.

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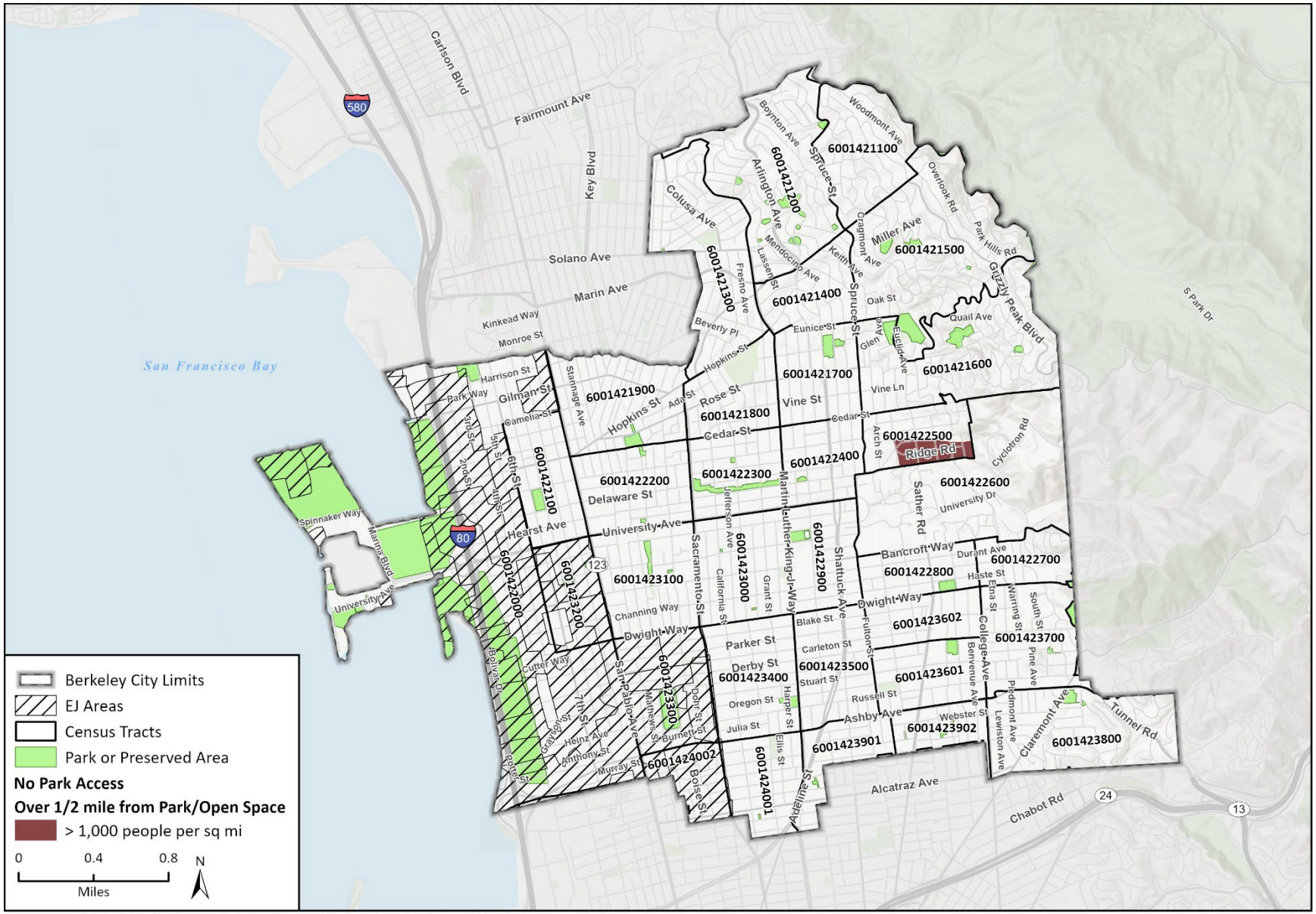
Fig X Park Access

Figure 31 No Park Access Over ½ Mile



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Additional data provided by CalEnviroScreen 4.0, 2021; California Department of Parks and Recreation, Park Access Tool, 2020.

23-15392 EPS EJ
Fig X Park Access

3.6.2 Transportation

The availability of transportation and active transportation options has a significant impact on public health. Reliable public transportation ensures that people, particularly residents in low-income and historically underserved communities, can access medical services, healthy food, jobs, and social support networks. Without adequate transit options, individuals may experience delayed medical care, limited economic opportunities, and social isolation, all of which contribute to poorer health outcomes. Additionally, transportation equity is a key issue in EJ areas, where residents often face longer commutes, higher exposure to traffic-related pollution, and unsafe walking or biking conditions.

Active transportation options, such as walking and biking, which integrate with public transit systems, play a crucial role in preventing chronic diseases like obesity, diabetes, and heart disease by promoting physical activity as part of daily life. Cities with well-designed sidewalks, bike lanes, and pedestrian-friendly infrastructure encourage movement while reducing reliance on cars, leading to lower traffic congestion and improved air quality. Poor air quality, often exacerbated by vehicle emissions, disproportionately affects low-income and minority communities, increasing rates of asthma and respiratory illnesses. Expanding access to safe, affordable, and sustainable transportation options not only enhances individual health but also contributes to environmental sustainability and community resilience, making cities healthier and more equitable for all residents.

Bicycle Accessibility

Safe bike lanes, trails, and bike-sharing programs help prevent chronic diseases, enhance mental well-being, and provide an affordable, independent mode of transportation for people without reliable access to cars or public transit. Investing in bike-friendly infrastructure also helps reduce vehicle emissions, improving air quality and lowering rates of asthma and respiratory illnesses in historically polluted communities. However, several EJ areas in Berkeley, such as parts of South and West Berkeley, lack safe and connected bike infrastructure, as identified in the City's Bicycle Plan. This highlights the need for equitable transportation planning to ensure all residents, particularly individuals in historically underserved neighborhoods, can access the health, environmental, and economic benefits of biking.

There are a total of approximately 51 miles of existing bikeways within Berkeley (City of Berkeley 2017). Bicycle lanes within Berkeley are assigned classifications based on their type. These classifications include:

- **Class I Multi-Use Paths** - Class I bikeways are multi-use or shared-use paths. They provide completely separate, exclusive right-of-way for bicycling, walking and other nonmotorized uses, as well as wheelchairs and disability-mobility vehicles.

- **Class II Bicycle Lanes** - Class II bicycle lanes are striped, preferential lanes for one-way bicycle travel on roadways. Some Class II bicycle lanes include striped buffers that add a few feet of separation between the bicycle lane and traffic lane or parking aisle. Caltrans requires a minimum of four feet of paved surface for Class II bikeways on roadways without gutters and five feet for roadways with gutters or adjacent to on-street parking.
- **Class III Bicycle Routes** - Class III bicycle routes are signed bicycle routes where people riding bicycles share a travel lane with people driving motor vehicles. Because they are mixed-flow facilities, Class III bicycle routes are only appropriate for low-volume streets with slow travel speeds.
- **Class IV Cycletrack** - A Class IV bikeway, also known as a cycletrack or separated/protected bikeway, is an on-street bicycle lane that is physically separated from motor vehicle traffic by a vertical element or barrier, such as a curb, bollards, or parking aisle.

Table 10 provides the total linear miles by bike classification of Berkeley's existing bicycle network. ***Figure 32*** displays the bike lanes that run throughout the City and shows that bike lanes are well distributed. All EJ areas and tracts within Berkeley include bike lanes accessible to the public. However, residents have various safety concerns which limit the use and activity of these lanes. Between 2001 and 2012, there were 1,773 total reported bicycle collisions in Berkeley (City of Berkeley 2017). Approximately 50 percent of reported collisions involved bicyclists aged 20 to 39, which is about 10 percent higher than the Census-reported proportion of residents in this age group (City of Berkeley 2017). The most common factors between bicyclists and drivers resulting in a bicycle-involved collision were a right-of-way violations, hazardous violations, unsafe speeds, and improper turning (City of Berkeley 2017).

Table 10 Existing Bicycle Network

Bikeway Type	Mileage
Class IA: Paved Paths	13.9 miles
Class IB: Unpaved Paths	5.3 miles
Class IIA: Standard Bicycle Lane	11.7 miles
Class IIB: Upgraded Bicycle Lane	0.3 miles
Class IID: Contraflow Bicycle Lane	0.4 miles
Class IIIA: Signage-only Bicycle Route	4.5 miles
Class IIIC: Standard Sharrows	2.7 miles
Class IIIE: Bicycle Boulevard	11.9 miles
Class IVA: One-way Cycle Track/Protected Bikeway	0.1 miles
Total	**50.8 miles**
Berkeley Bicycle Boulevard Network	15.8 miles
Source: City of Berkeley. 2017. Berkeley Bicycle Plan.	

Figure 32 Bicycle Lanes in Berkeley

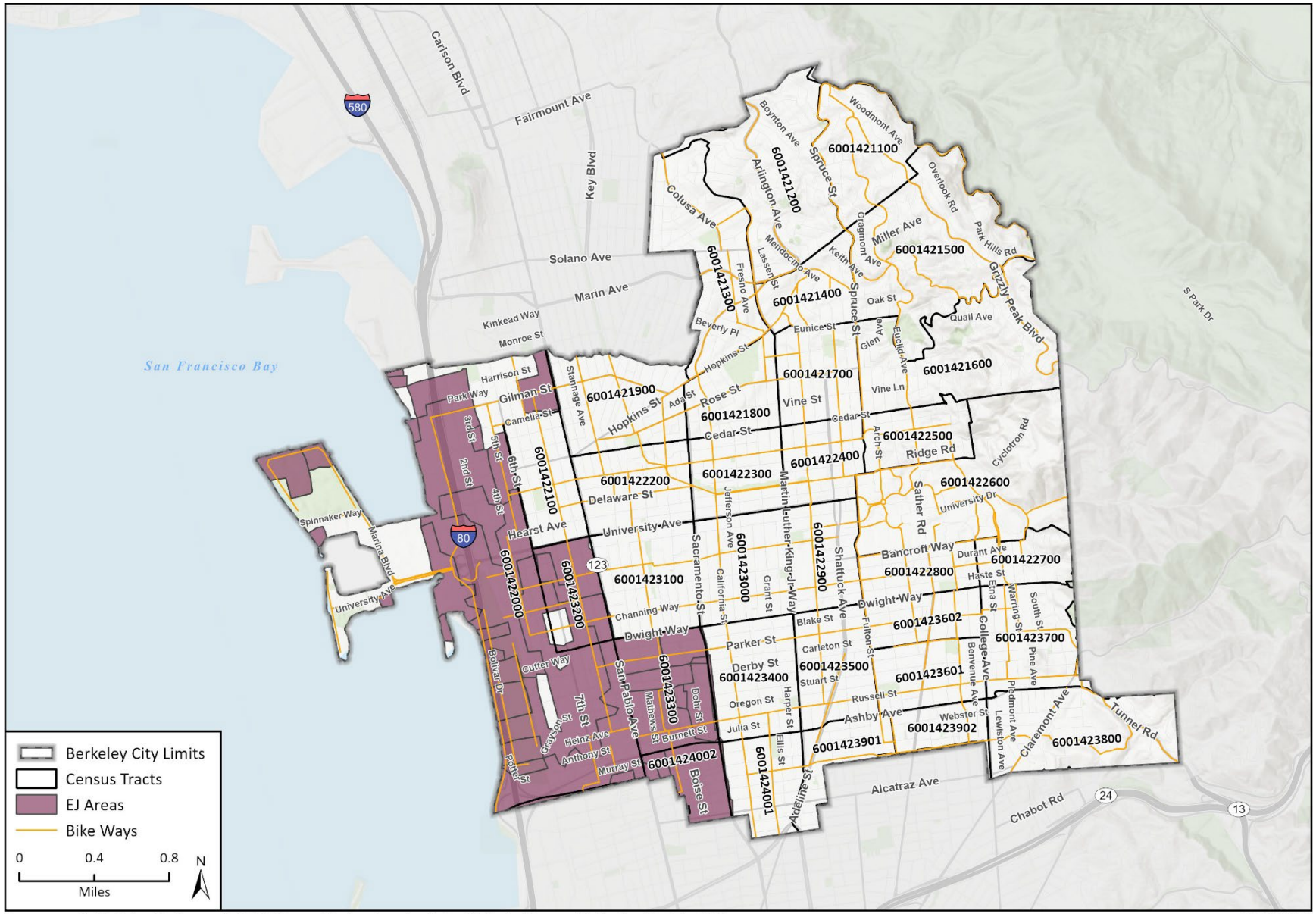

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Fig X Bike Ways

Pedestrian Accessibility

Pedestrian infrastructure is essential for public health, safety, and environmental sustainability. It is a critical component of the City's efforts to meet diverse travel needs and improve mobility for everyone who is walking and/or traveling with an assistive device in Berkeley. Well-designed sidewalks, crosswalks, pedestrian-friendly streets, and traffic calming measures encourage physical activity, reducing the risk of obesity, heart disease, and diabetes while also improving mental well-being. Safe pedestrian infrastructure helps prevent traffic-related injuries and fatalities, especially in underserved areas where poorly maintained or nonexistent sidewalks and unsafe crossings put residents at greater risk. Additionally, investing in walkable communities reduces car dependency, lowers air pollution, and improves access to jobs, healthcare, and essential services, ensuring that all residents, regardless of income, can move safely and efficiently through their neighborhoods.

The majority of roads in Berkeley have sidewalks that are five feet or wider. Approximately 11 percent of Berkeley's road miles have no sidewalks at all, with these gaps primarily located in the hillside neighborhoods and parts of the City's western industrial areas[9] (City of Berkeley 2020). Of these, only the sidewalk gaps in West Berkeley overlap with designated EJ areas. An additional 6 percent of road miles have sidewalks that are less than five feet wide. In total, 17 percent of Berkeley's road miles either lack sidewalks entirely or have sidewalks that are narrower than five feet (City of Berkeley 2020).

According to the City's Pedestrian Plan, the Statewide Integrated Traffic Record System database reported 1,071 collisions involving a pedestrian from 2008 to 2017 (City of Berkeley 2020). The majority of collisions took place at or within 250 feet of an intersection. The majority of pedestrian collisions in Berkeley occurred when a driver failed to yield the right of way to a pedestrian. The California Office of Traffic Safety collects collision data for each city and county in California and ranks cities of similar sizes (based on population) along collision parameters. The most recent year of data is from 2015, when Berkeley had 119,997 residents (City of Berkeley 2020). Of the 57 cities with 100,000 to 250,000 residents, Berkeley was:

- First in total collisions involving pedestrians (116 collisions)
- First in total collisions involving bicyclists (173 collisions)
- Second in total collisions involving pedestrians over the age of 65 (18 collisions)
- Eighth in total collisions that were speed related (218 collisions)

Berkeley has the highest rate of commute trips by walking of any city in California so the likelihood of collisions involving pedestrians is higher than that of other cities (City of Berkeley 2020). However, these rankings also prompt urgency to further analyze and reduce pedestrian collisions through the City's Pedestrian Plan recommendations and other pedestrian safety efforts, consistent with Vision Zero.

[9] Excluding roads from the UC Berkeley campus and I-80 overpasses and interchanges.

Public Transit

Public transit is essential for public health, equity, and environmental sustainability, particularly in low-income and EJ areas where many residents may lack access to personal vehicles. Reliable and affordable transit systems connect people to healthcare, jobs, education, and essential services, reducing disparities in economic and social mobility. Public transit also encourages active transportation, as walking or biking to transit stops increases physical activity, helping to prevent chronic diseases like obesity and heart disease. Additionally, investing in clean, efficient transit options reduces traffic congestion, air pollution, and greenhouse gas emissions, lowering rates of asthma and respiratory illnesses in communities disproportionately affected by vehicle emissions. Ensuring equitable transit access through expanded routes, frequent service, and affordability measures is critical to promoting healthier, more connected, and environmentally resilient communities.

Alameda County Transit (AC Transit) is the primary bus provider in Berkeley. Fares for AC Transit lines vary depending on fare type. AC Transit offers local single ride passes for $2.25, transbay single ride passes for $6.00, local to transbay upgrade passes for $3.75, day passes for $5.00, seven-day passes for $22.50, 31-day local passes for $81.00, and 31-day transbay passes for $216.00 (AC Transit 2024). AC Transit offers discounts for youth aged five through 18, senior and disabled riders, low-income riders, and allows children under the age of five to ride free. AC Transit also offer discounts through various programs such as their Regional Transit Connection Discount ID Card program, Clipper START program, Student Transit Pass Program, and AC Transit EasyPass program (AC Transit 2024).

Bay Area Rapid Transit (BART) has provided reliable transportation for Bay Area residents and visitors alike. BART service currently operates in five counties (San Francisco, San Mateo, Alameda, Contra Costa, and Santa Clara) with 131 miles of track and 50 stations, including three in Berkeley located on the Richmond Line: Ashby, Downtown and North Berkeley, each just a couple of minutes apart.

BART fares are calculated by distance so fares could vary depending on the starting location of each visitor (BART 2024). Weekly and monthly passes are not available for BART use. Children under the age of four ride for free but all other riders must have a Clipper card in order to ride BART. BART does offer a variety of discounts for riders through the Clipper START program, youth clipper card program, senior clipper card program, Regional Transit Connection Discount ID program, high-value discount program, Muni + BART monthly “A” Fast Pass program, and group fares for educational programs at a discounted price (BART 2024).

Public transit coverage in Berkeley is strong around UC Berkeley and on major transportation corridors. Berkeley is served by BART, with stations in Downtown Berkeley, North Berkeley, and Ashby, providing access to Oakland, San Francisco, and beyond. However, West Berkeley lacks access to a BART station within walking distance, requiring an additional bus or bike trip to access one of the three stations. AC Transit provides bus service, including high frequency routes such as the 51B on University Avenue, the 18 on Shattuck Avenue, the 6 on Telegraph

Avenue, the 72/M/R on San Pablo Avenue along with transbay service to San Francisco. UC Berkeley also operates Bear Transit shuttles for students and faculty. The existing bicycle and pedestrian network in Berkeley provide connections to these public transit facilities. Although Berkeley is served by public transit, some areas, particularly West Berkeley, have fewer transit options, and late-night service is limited.

Despite this overall network, gaps remain in parts of the City. West Berkeley has fewer direct transit options and limited walkability to regional rail. Southwest Berkeley experiences similar challenges, including infrequent bus service and limited late-night coverage. In North Berkeley, while the BART station provides regional access, areas farther from the station and uphill toward the residential neighborhoods may face barriers to reliable first/last-mile transit connectivity. Although multiple transit providers serve Berkeley, these geographic gaps highlight the need for targeted improvements to address transit equity across all neighborhoods.

3.6.3 Health Outcomes

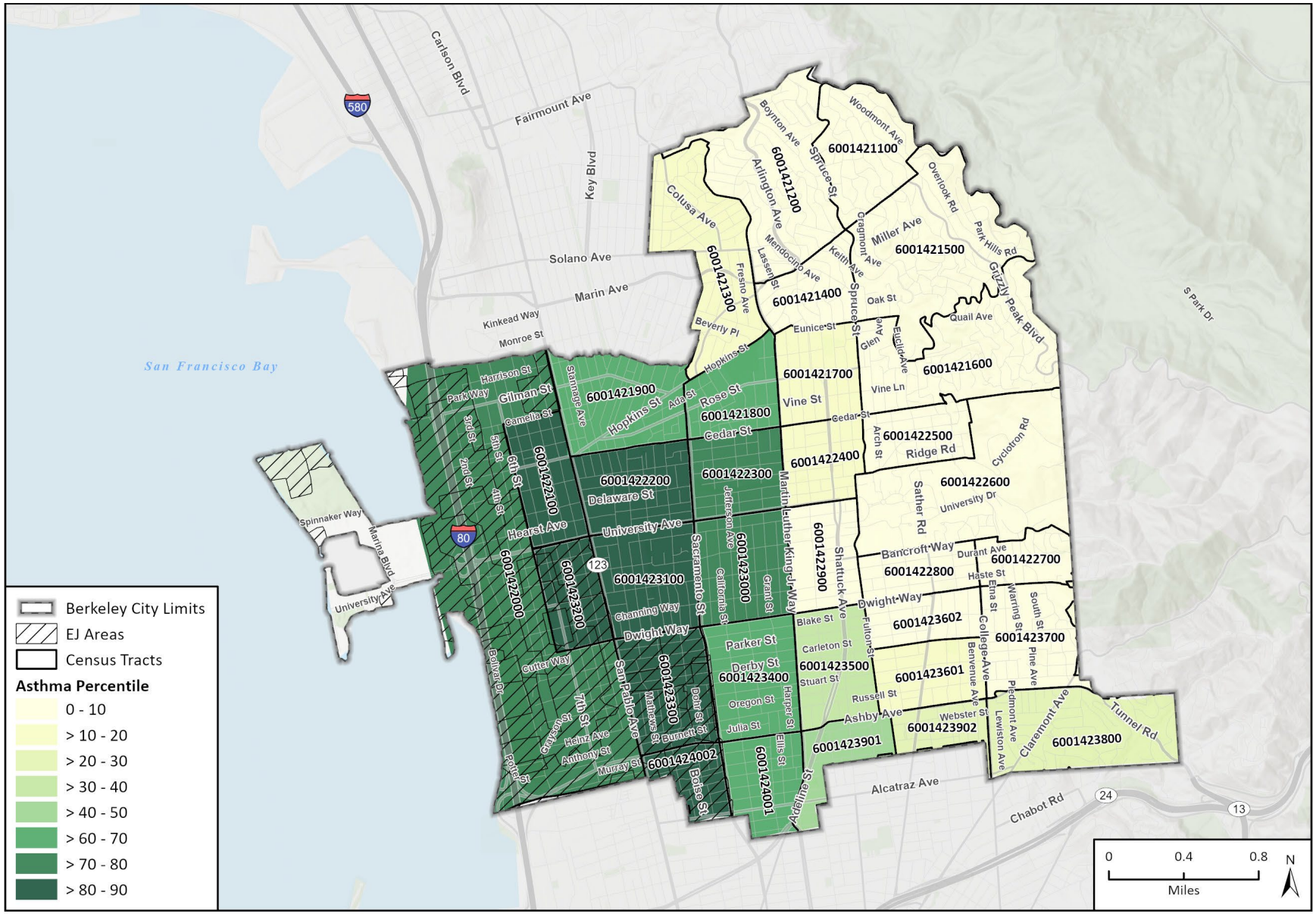
In order to understand the impacts of exposure to pollution, access to healthcare, and social determinants of public health, the following sections examine the prevalence and distribution of the following health outcomes in Berkeley: asthma, low birth weight, and depression. These health conditions are examined because they have been found to be the most prevalent in Berkeley, and are influenced by various environmental and socioeconomic factors, which contribute to the overall vulnerability of different communities.

Asthma

Asthma is a chronic lung condition that creates breathing difficulties. It is caused by swelling in the airways that can lead to symptoms such as wheezing, coughing, shortness of breath and chest tightness. People with asthma can be especially susceptible to pneumonia, flu, and other illnesses. Throughout California, asthma rates have significantly increased in the last three decades (CDPH 2022). As of 2020, asthma is present amongst 15.1 percent of California's population. The prevalence of asthma within Alameda County is slightly lower at 14.9 percent (CDPH 2022).

In Berkeley, the average CalEnviroScreen percentile score of asthma-related emergency department visits is about 37. As shown in ***Figure 33***, there is clear disparity in the rates of asthma-related emergencies between the eastern and western portions of the City, with percentile scores being significantly lower in the eastern portion of the City. Seven census tracts within Berkeley score above the 75th percentile for asthma-related emergencies. Of these census tracts, three are home to EJ areas (Census Tracts 3200, 3300, and 4002). These include the neighborhoods of South Berkeley and Southwest Berkeley.

Figure 33 Asthma Percentiles in Berkeley



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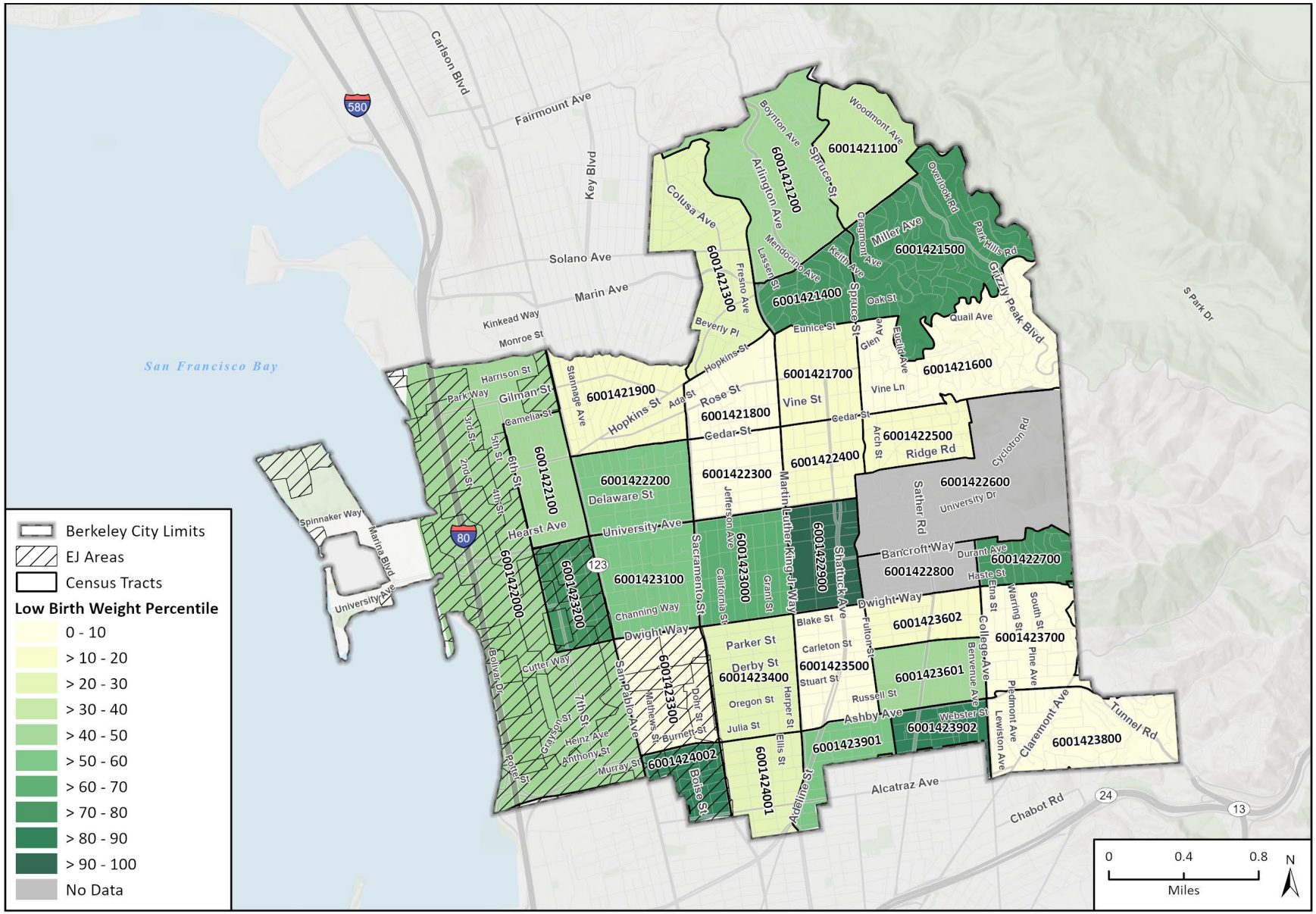
Low Birth Weight

Infants who weigh less than five and a half pounds at birth are considered to have a low birth weight. Low birth weight can be caused by poor nutrition, maternal stress, lack of prenatal care, pollution exposure, and smoking (Stanford Medicine Children's Health 2023). Environmental factors play a significant role in influencing infant birth weights, with exposure to air pollution, toxic chemicals, poor water quality, and extreme heat increasing the risk of low birth weight and associated health complications. Air pollution, particularly from PM2.5, ozone, and traffic emissions, has been linked to intrauterine growth restriction, as pollutants can cross the placenta, reduce oxygen supply, and cause inflammation or oxidative stress that impairs fetal development. Pregnant individuals exposed to high levels of industrial emissions, wildfire smoke, and vehicle exhaust face a greater risk of delivering babies with low birth weight, which can lead to higher infant mortality, developmental delays, and chronic health issues later in life.

According to the CalEPA, low birth-weight infants may face a greater risk of developing asthma or other chronic diseases later in life. The average percentile score for low birth weight in California is 50. In Berkeley, the score is about 38 which is lower than the state. As shown in ***Figure 34***, five census tracts within Berkeley score above the 75th percentile, with the highest scoring census tract (Census Tract 2900) being within the 90th percentile. One of the five census tracts (Census Tract 4002) also contains EJ areas in the South Berkeley neighborhood. There is no clear geographic trend relating to low birth weights as higher scoring tracts are spread throughout the City.

Figure 34 Low Birth Weights in Berkeley



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EJ - Berkeley

3.6.4 Mental Health

Mental health disparities are a significant concern among historically marginalized communities, including Black, Indigenous, Latinx, Asian American, Pacific Islander, immigrant, and LGBTQ+ populations. These communities often face disproportionate exposure to chronic stressors such as poverty, housing instability, environmental hazards, discrimination, and intergenerational trauma – all of which contribute to increased risk of depression, anxiety, and other mental health conditions. Despite these elevated risks, systemic barriers such as limited access to culturally competent care, underinsurance, stigma, and language barriers often prevent individuals from receiving timely and effective treatment. Addressing mental health in marginalized communities requires not only expanding access to services but also advancing policies that reduce structural inequities and promote community-based, trauma-informed, and culturally affirming approaches to care.

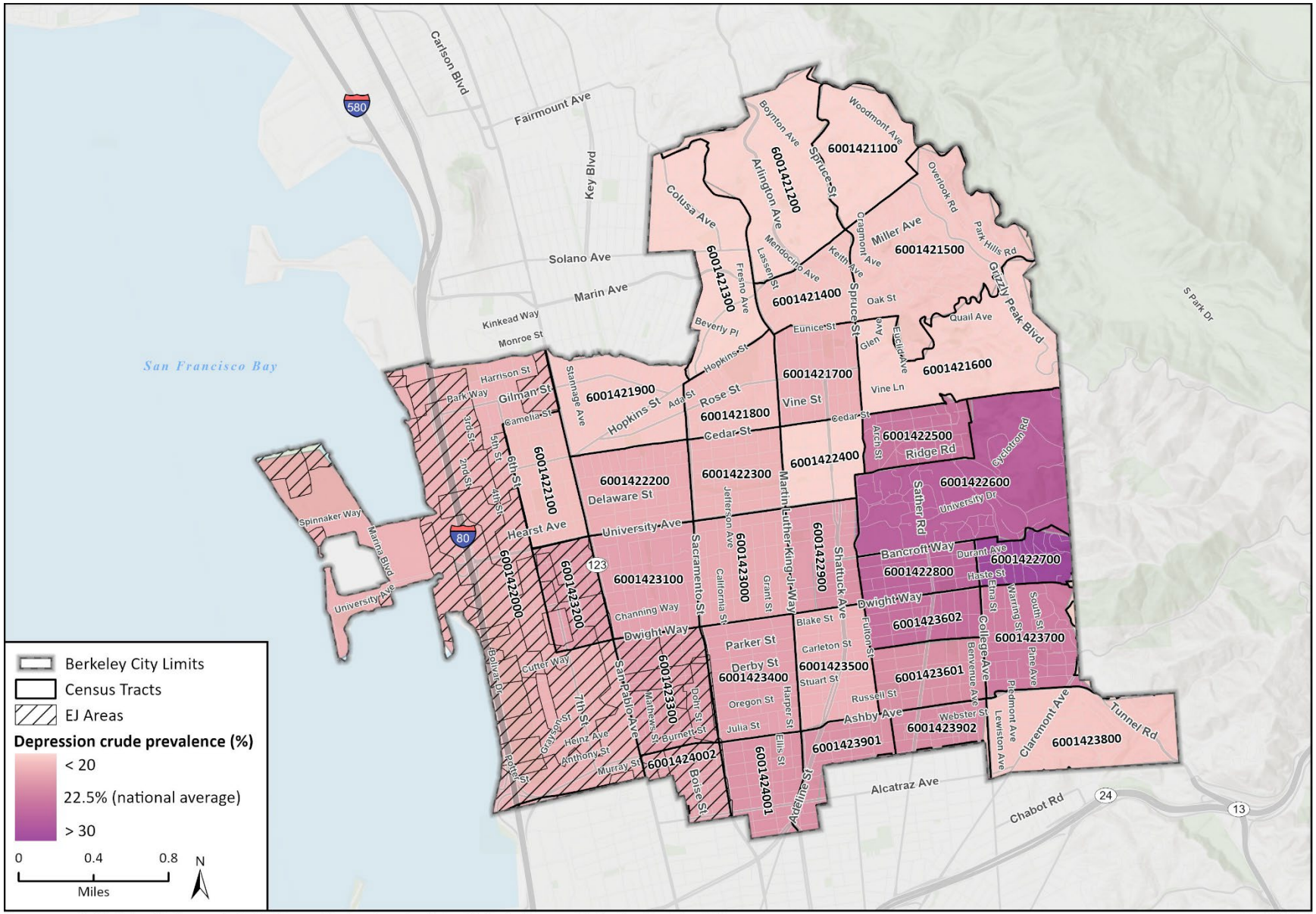
Depression

Depression is a serious and widespread mental health condition that affects millions of people impacting their emotional well-being, physical health, and daily functioning. It is linked to chronic stress, trauma, economic hardship, and social isolation, and can increase the risk of substance abuse, suicide, and other health complications. Access to comprehensive depression care, including therapy, medication, and community support, is crucial for improving quality of life and preventing severe outcomes. However, barriers such as stigma, lack of affordable mental health services, and disparities in healthcare access often prevent people, particularly in low-income and marginalized communities, from receiving the care they need.

Despite its prevalence, significant gaps exist in depression data reporting, making it difficult to fully understand its scope and impact. Many cases go undiagnosed or unreported, particularly among communities of color, uninsured individuals, and people experiencing homelessness, due to limited healthcare access, cultural stigma, and underfunded mental health programs. Additionally, traditional healthcare data may not capture mild or moderate cases where individuals do not seek formal treatment. Addressing these data gaps requires improved mental health screenings, culturally competent care, and better integration of mental health services into primary care settings, ensuring that depression is recognized, treated, and accurately documented for everyone.

As shown in ***Figure 35,*** reported rates of depression collected from the Centers for Disease Control and Prevention are highest in the eastern part of the City, particularly at and around UC Berkeley. Two census tracts scored having above average rates of depression (Census Tracts 2500 and 2800). These census tracts include the Northside and Southside neighborhoods. As noted above, the rates of depression are based on what is reported and due to gaps in healthcare, misdiagnoses, and other factors such as various forms of medical discrimination, a portion of this data may be missing. The map also indicates that higher rates of depression are being reported by UC Berkeley students, as the highest-scoring census tract includes the UC Berkeley campus and its on-campus residents.

Figure 35 Prevalence of Depression in Berkeley



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Additional data provided by CDC, 2022.

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Fig X Prevalence of Depression

3.7 Civic Engagement

Administering an equitable planning process requires support for community engagement methods that create opportunities, reduce barriers, and actively encourage all residents to participate in the process. SB 1000 affirms that public agencies should develop community engagement programs in a manner that meaningfully involves EJ communities and other historically underrepresented groups. By involving and engaging these groups in the local decision-making process, policymakers, including planners, can develop solutions that more effectively address issues that impact the health and well-being of these communities.

Historically marginalized or underrepresented groups often experience accessibility barriers to participation in local decision-making processes. For example, language needs and a lack of time or resources (e.g., childcare, financial resources, transportation). Successful outreach and engagement methods to reach these groups include those that reduce accessibility barriers, thereby improving opportunities for meaningful participation. The City has several existing plans that aim to reduce these barriers, thus facilitating effective and culturally-responsible engagement with communities. These plans including the Age Friendly Berkeley Action Plan and the Citizen Participation Element of the General Plan. However, clearer objectives, additional funding, and well-planned strategies are needed in order to continually meet the outreach and engagement needs of Berkeley residents.

3.7.1 Historically Marginalized Groups

Historically marginalized groups have been and continue to be underrepresented in public decision-making processes, largely due to systemic inequities that create physical, social, and financial barriers to participation. Governmental and institutional systems often fail to account for diverse and intersectional identities and lived experiences across race, ethnicity, religion, gender, sexual orientation, disability, socioeconomic background, and citizenship status.

EJ communities face disproportionate pollution, environmental burdens, and socioeconomic stress due to historic underrepresentation in planning and policy decisions. The EJ communities identified and referenced throughout this report are not separate from the historically marginalized groups listed below; they may include individuals who identify with one or more of these population groups.

People who have historically been underrepresented in government planning processes or marginalized include the following:

- **Tribal communities.** Across the United States, tribal communities have historically been marginalized and excluded from government processes. Berkeley has traditionally been the xučyun, the ancestral and unceded land of the Chochenyo-speaking Ohlone people, the ancestors and descendants of the sovereign Verona Band of Alameda County. The City aims to recognize the history of the City's land and works to engage the Ohlone

people that are present members of Berkeley and other East Bay communities (City of Berkeley 2024).

- **Individuals with disabilities.** Individuals with disabilities are often excluded from local government engagement due to lack of accessibility. Approximately 10 percent of residents within Berkeley are individuals with access and functional needs (physical and mental) (U.S. Census Bureau 2022).
- **Single-parent led households.** Single-parent households often encounter high levels of work-life conflict and financial hardship, making it more challenging to engage in traditional decision-making processes. In Berkeley, approximately nine percent of households are led by a single person. Females make up over two-thirds of this group (U.S. Census Bureau 2022).
- **LGBTQIA2S+ community members.** Individuals identifying as belonging to the LGBTQIA2S+ community may face barriers to participation that include discrimination, political marginalization, and unequal access to resources.
- **Low-wage workers.** Many low-wage workers experience long hours on the job, work multiple jobs, and lack paid time off, making it difficult to engage in local decision-making processes.
- **People of color.** Being a Black, Indigenous, Latinx, Asian American, Pacific Islander, Middle Eastern, and North African person can impact the ability to engage in local decision-making processes due to associated systemic barriers, historical disenfranchisement, and socio-economic disparities. Many Black, Indigenous, Latinx, Asian American, Pacific Islander, Middle Eastern, and North African people face voter suppression tactics, language barriers, underrepresentation in government, and distrust in political systems due to past and ongoing discrimination. Additionally, economic challenges and work demands can limit time for attending civic meetings. Approximately 45 percent of Berkeley residents identify as a person of color (U.S. Census Bureau 2022).
- **Households without access to a computer.** Households without access to a computer face significant barriers to civic engagement, as many aspects of modern political and community participation, such as voter registration, accessing government services, virtual town halls, and online advocacy, rely heavily on digital access. Without a computer, individuals may struggle to stay informed about elections, policy changes, and local issues, limiting their ability to participate in decision-making processes. This digital divide disproportionately affects low-income families, rural communities, and seniors, further marginalizing voices that are already underrepresented. Approximately five percent of Berkeley households lack access to a computer (U.S. Census Bureau 2022).

3.7.2 Population by Age

Understanding the age demographics within a community is essential to the development of an engagement strategy that reaches all residents. Different approaches to outreach and community interaction should be explored depending on the distribution of age across a population. For example, older residents may be less proficient in using online engagement tools or less able to attend evening civic meetings than younger residents. Conversely, younger populations may have less capacity to engage through traditional outreach methods (phone calls, newspaper advertisements, etc.) or midday meetings due to work or school commitments. Public agencies should assess the age demographics in their community to determine what approaches and tools would best meet community needs and thus develop an appropriate engagement strategy.

The median age in Berkeley is about 40. As shown in ***Table 11***, the majority of residents are between the ages of 10 and 64. However, 30 percent or more of people living in five census tracts (Census Tracts 1100, 1200, 1300, 1400, and 3800) are elderly (65 and over), which is much higher relative to the rest of the City. These census tracts are located in the Berkeley Hills, Thousand Oaks, Cragmont, and Claremont neighborhoods. While these tracts do not contain EJ areas, elderly community members face unique barriers to civic engagement, including limited mobility, digital literacy, and accessibility issues at polling places and public meetings. Many rely on mail-in voting, in-person assistance, and accessible transportation to participate in elections and civic activities. Ensuring that engagement opportunities reduce these barriers, such as by providing accessible polling places, outreach materials and communication formats, and accessible participation methods, is essential to ensuring their participation in decision-making processes that impact their lives and communities.

Table 11 Population Age Demographics

Census Tract	Children < 10 (Percent of Population)	10-64 Years (Percent of Population	Elderly > 64 (Percent of Population)
6001421100	8.5	58.3	33.3
6001421200	10.6	56.5	32.9
6001421300	10.9	59.7	29.4
6001421400	8.2	60.5	31.3
6001421500	8.1	65.3	26.6
6001421600	10.6	62.8	26.6
6001421700	9.1	71.9	19.1
6001421800	7.6	70.7	22.0
6001421900	12.7	70.2	17.1
6001422000*	**11.6**	**78.1**	**10.3**
6001422100	8.1	79.1	12.8
6001422200	8.7	75.8	15.5
6001422300	9.4	74.3	16.3
6001422400	4.3	85.0	10.7

Census Tract	Children < 10 (Percent of Population)	10-64 Years (Percent of Population	Elderly > 64 (Percent of Population)
6001422500	4.1	88.4	7.5
6001422600	0.0	99.2	0.8
6001422700	0.4	97.0	2.5
6001422800	0.0	99.1	0.9
6001422900	0.5	93.4	6.1
6001423000	8.4	78.2	13.3
6001423100	8.5	76.5	15.0
6001423200*	**10.2**	**82.5**	**7.3**
6001423300*	**14.0**	**67.5**	**18.4**
6001423400	6.4	82.4	11.2
6001423500	10.1	70.2	19.6
6001423601	5.4	75.7	18.9
6001423602	1.3	93.2	5.5
6001423700	3.5	82.1	14.4
6001423800	7.3	62.9	29.9
6001423901	5.0	82.9	12.1
6001423902	9.4	73.5	17.1
6001424001	10.3	80.1	9.6
6001424002*	**12.9**	**75.0**	**12.0**

*EJ Areas.
Source: CalEnviroScreen 4.0.

3.7.3 Limited or Non-English Speakers

Limited English proficiency may prevent or limit understanding of emergency warnings preventing protective behaviors during extreme weather events or disasters. Studies have shown that people who live in limited or non-English speaking households are more likely to dial 911 for heat-related calls during extreme heat events (CDPH 2016).

According to the 2022 American Community Survey (ACS) 5-Year Estimates, about 4 percent of households (or about 1,740 households) in Berkeley are considered 'Limited English-Speaking Households', meaning that no member 14 years old and over (1) speaks only English or (2) speaks a non-English language and speaks English 'very well.' About 1.3 percent of limited-English speaking households speak Chinese (including Mandarin and Cantonese), about 0.7 percent speak an Indo-European language (French, German, Hindi, and Persian), and another 0.7 percent speak an Asian and Pacific Island language (Chinese, Japanese, Telugu, and Hawaiian). About 0.3 percent speak Spanish (U.S. Census Bureau 2022).

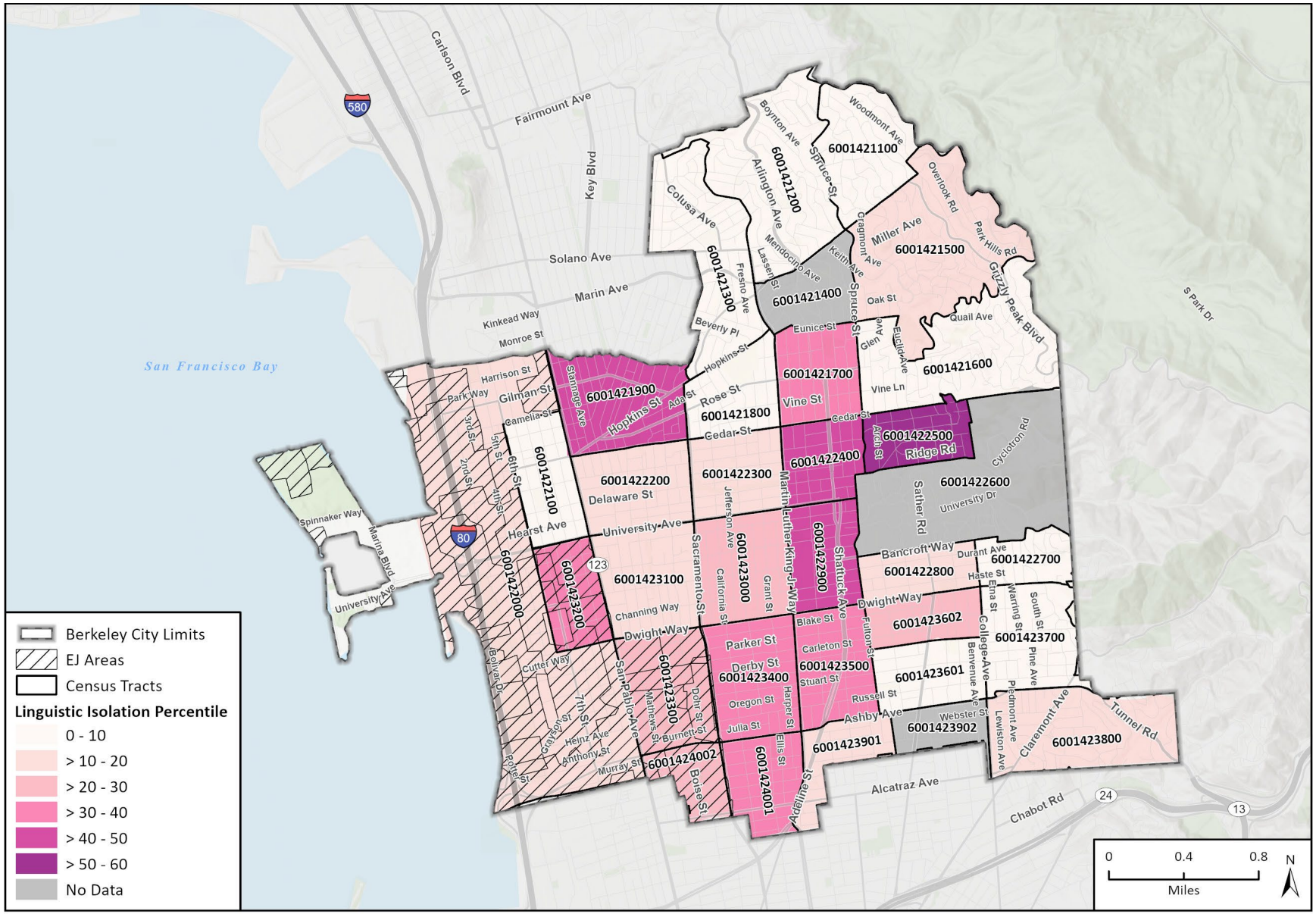
As shown in ***Table 12*** and ***Figure 36***, no census tract within Berkeley scores above the CalEnviroScreen 75th percentile. However, Census Tract 2500 scores higher compared to other census tracts within the city. Census Tract 2500 has a percentile score of 54 and includes the Northside neighborhood.

Table 12 Limited or Non-English Speaking Communities in Berkeley

Census Tract	Limited or Non-English Speakers Percentile
6001421100	3.7
6001421200	1.8
6001421300	0.0
6001421400	N/A
6001421500	15.6
6001421600	3.7
6001421700	37.7
6001421800	0.0
6001421900	41.4
6001422000*	**13.3**
6001422100	6.3
6001422200	16.4
6001422300	10.5
6001422400	42.81
6001422500	53.9
6001422600	N/A
6001422700	7.4
6001422800	18.9
6001422900	42.8
6001423000	23.8
6001423100	18.1
6001423200*	**38.1**
6001423300*	**25.6**
6001423400	33.9
6001423500	31.3
6001423601	4.6
6001423602	23.8
6001423700	7.4
6001423800	19.9
6001423901	11.3
6001423902	N/A
6001424001	32.0
6001424002*	**20.6**

*EJ Areas.
Source: CalEnviroScreen 4.0.

Figure 36 Limited or Non-English Speaking Communities in Berkeley



Basemap provided by Esri and its licensors © 2026. EJ Communities based on a Locally Specific Methodology provided by City of Berkeley, 2025.
Additional data provided by CalEnviroScreen 4.0, 2021.

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EJ - Berkeley

4 Plans and Policies Addressing Environmental Justice

Berkeley is working to address environmental justice through several plans and policies aimed at reducing environmental disparities in communities that have been historically underserved. This section describes the current plans and policies that address environmental justice.

General Plan Environmental Management Element

This element of Berkeley's General Plan focuses on protecting and enhancing the City's natural environment by addressing air and water quality, waste management, and energy use. It emphasizes sustainable development practices, climate resilience, and the reduction of environmental hazards, particularly in historically marginalized communities. The plan also promotes green infrastructure, biodiversity, and long-term resource conservation to ensure a healthier urban ecosystem.

General Plan 2023-2031 Housing Element

The City's 2023-2031 Housing Element outlines strategies to increase the availability of affordable and sustainable housing in Berkeley while preventing displacement and ensuring equitable development. It includes policies that encourage transit-oriented development, energy-efficient housing, and protections for low-income and other residents that have been made vulnerable. Additionally, it aims to meet Berkeley's future housing needs while preserving community character and promoting inclusive growth.

General Plan Citizen Participation Element

This element ensures that all residents, particularly communities that have been historically underrepresented, have a voice in shaping Berkeley's policies and development projects. It supports public engagement through transparent decision-making processes, community workshops, and accessible forums for discussion. The plan strengthens Berkeley's commitment to participatory democracy by fostering collaboration between residents, businesses, and local government.

Climate Action Plan

The Climate Action Plan (CAP) outlines Berkeley's long-term vision for reducing greenhouse gas emissions and preparing for climate change impacts such as extreme heat and sea-level rise. It includes initiatives such as expanding renewable energy use, improving building efficiency, and promoting sustainable transportation options. Every year, staff provides updates to City Council and the community on how the Berkeley community as a whole is doing in meeting its climate and resilience goals, including how implementation. The

Resilience Staff Update ensures that climate adaptation efforts prioritize populations that have been made vulnerable, including low-income and historically marginalized communities.

The Berkeley Wellness Blueprint

The Berkeley Wellness Blueprint project, led by the Health, Housing, and Community Services Department, is currently underway. The goal of this project is to identify health and equity challenges faced by Berkeleyans and recommend ways to improve outcomes. It includes a Community Health Assessment (CHA), which looks at the current state of health and equity in Berkeley. The assessment is based on data collected from a steering committee of diverse community members, census and other health data, interviews and focus groups with local community members, and a survey shared with the Berkeley community. The disparities identified in CHA will inform the Community Health Improvement Plan (CHIP), which will include actions for the City of Berkeley to implement to meaningfully improve health outcomes for the community.

Berkeley Strategic Transportation (BeST) Plan

This plan sets a roadmap for improving mobility, reducing congestion, and creating a more sustainable transportation network in Berkeley. It prioritizes equity by enhancing transportation options for underserved communities and ensuring accessibility for people of all abilities. The plan also integrates climate goals by promoting low-emission transportation modes such as public transit, biking, and walking.

Berkeley Electric Mobility Roadmap (April 2020)

The Electric Mobility Roadmap identifies goals, strategies, and actions to create a fossil fuel-free transportation system that integrates with and supports the City's ongoing efforts to increase walking, biking, and public transportation, and ensures equitable access to the benefits of clean transportation. Roadmap centers equity by acknowledging and addressing the inequalities of our current transportation system. Early engagement of community-based organizations and nonprofits helped to identify important mobility gaps for low-income constituents, renters, communities of color, people with disabilities, and other priority stakeholders.

City of Berkeley Bicycle Plan, Pedestrian Plan and Vision Zero Action Plan

These plans are briefly summarized below. The Plans identify an "Equity Priority Area" in order to guide priorities. The City also considers the Metropolitan Transportation Commission's (MTC) Equity Priorities Communities when prioritizing projects for grant applications or transit coordination.

- **City of Berkeley Bicycle Plan:** The Bicycle Plan aims to make Berkeley one of the most bike-friendly cities by expanding and improving bike lanes, parking facilities, and safety measures. It prioritizes protected bike lanes, neighborhood greenways, and educational programs to encourage more people to choose cycling as a primary mode of transportation. By promoting safe and accessible cycling infrastructure, the plan supports the City's broader environmental and public health goals.
- **City of Berkeley Pedestrian Plan:** This plan is designed to enhance pedestrian safety and accessibility by improving sidewalks, crossings, and walkable public spaces. It prioritizes traffic-calming measures, better street lighting, and Americans with Disabilities Act (ADA)-compliant pathways to make walking safer for all residents, including seniors and people with disabilities. Additionally, it supports active transportation as a key strategy to reduce emissions and promote healthier lifestyles.
- **Berkeley Vision Zero Action Plan:** The Vision Zero Action Plan commits to eliminating traffic-related fatalities and severe injuries in Berkeley through a data-driven and equity-focused approach. It emphasizes speed reduction, safer street design, and increased enforcement of traffic safety laws. Community engagement and collaboration with transportation agencies play a key role in ensuring that safety improvements benefit all neighborhoods, especially neighborhoods with higher crash rates.

Transit-First

The Transit-First policy and Transit-First Policy Implementation Plan prioritizes public transportation, walking, and biking over car travel to reduce congestion, lower greenhouse gas emissions, and improve mobility for all residents. It includes measures such as bus rapid transit improvements, transit-priority traffic signals, and enhanced pedestrian infrastructure. By encouraging sustainable transportation choices, the policy and Plan aim to create a more livable and environmentally friendly City.

Age-Friendly Berkeley Action Plan

This plan ensures that Berkeley remains a livable City for older adults by improving housing, transportation, and social inclusion initiatives. It includes strategies such as expanding senior housing options, enhancing accessibility in public spaces, and increasing services that support aging in place. The plan also fosters intergenerational engagement to strengthen community ties and promote well-being for residents of all ages.

Office of Diversity, Equity and Inclusion

In 2020, the City of Berkeley embarked on an extensive initiative to ***Reimagine Public Safety*** (RPS). The goal of the RPS initiative is to foster an equitable, holistic, and community-centered approach to safety, transforming traditional public safety models to prioritize health, wellness, and security for all residents. Through a collaborative, multidisciplinary strategy, the RPS initiative seeks to reshape the scope of a traditional police-centered model, address systemic

inequities, and enhance community trust and wellbeing. The multi-year initiative includes a comprehensive and inclusive process that unfolds in three main phases from 2020 to 2026. (City of Berkeley 2024(b)).

As part of Phase 2 implementation, the Diversity, Equity and Inclusion (DEI) Officer position was established. The DEI Officer leads the Diversity, Equity and Inclusion Division within the City Manager's Office. The primary vision guiding the DEI Division is to centralize and embed equity and justice practices within the City's infrastructure. By adopting this approach, the City aspires to not only address present disparities but also to cultivate strong alliances with community organizations. The overarching goal is for City Departments to continue to evolve into entities that are both responsive and truly accountable to the diverse communities they serve.

5 Summary

This section presents the key findings from the analysis of EJ communities in Berkeley. The findings reveal significant disparities in environmental conditions across different areas of the City, highlighting unequal exposure to pollution, unequal access to public resources, and health outcomes that result from these inequities. By identifying these challenges, this report aims to inform policy recommendations and initiatives that promote environmental justice and sustainability.

Community Characteristics

- **Population Characteristics:** Higher vulnerability scores are found in central, western, and southern Berkeley. Census Tracts 2000, 3200, 3300, and 4002 are identified as EJ areas, indicating significant social and health-related vulnerabilities.
- **Populations that have been made Vulnerable to Pollution Related Health Impacts:** Factors such as limited English proficiency and socioeconomic disadvantages contribute to higher vulnerability to pollution-related health impacts in central, western, and southern portions of Berkeley.
- **Racial and Ethnic Diversity:** Nearly half (48 percent) of Berkeley's population identifies as a person of color (including Black or African American, Hispanic or Latinx, Asian, American Indian or Alaska Native, Native Hawaiian or Pacific Islander, or multiple races) with significant immigrant communities and over 6 percent of the population having limited English proficiency.

Pollution Burden and Air Quality

- **Pollution Exposure:** Census Tract 2000 scores in the 90th percentile for pollution burden, indicating severe localized pollution impacts. This tract includes the Berkeley Marina, Gilman, Northwest Berkeley, 4th Street, and Southwest Berkeley neighborhoods.
- **Air Quality:** PM2.5 and diesel particulate matter (DPM) are significant concerns. Census Tract 2000 scores in the 94th percentile for DPM impacts. High-traffic corridors like San Pablo Avenue, University Avenue, Ashby Avenue, and Telegraph Avenue are pollution hotspots.
- **Traffic Impacts:** Berkeley has a lower average traffic impact percentile score compared to the state (about 26 compared to 50). However, Census Tract 2000 scores significantly higher than other tracts in Berkeley – within the 94th percentile.
- **Groundwater Threats:** Impacts from groundwater threats are relatively high across all areas of the City, with higher impacts occurring in the western and central portions of the City. All but three census tracts containing EJ areas score above the 75th percentile. Census Tract 2000, which includes EJ areas, has the highest score across the state, in the 100th percentile.

- **Hazardous Waste:** Scores are relatively high in the western, central, and eastern portions of Berkeley and lower in the northern and southern portions. This is likely due to the extensive amount of hazardous waste generators located in industrial areas along Interstate 80 and within Berkeley's downtown. Census Tract 2000, which includes EJ areas, has the highest score across the state, in the 100th percentile.
- **Children's Lead Risk from Housing:** Berkeley has a higher average children's lead risk from housing percentile score compared to the state (about 65 compared to50). Seven census tracts score above the 75th percentile, with Census Tract 3500 scoring in the 81st percentile.
- **Trash and Illegal Dumping:** Illegal dumping occurs at the highest frequency in the western, central, and southern census tracts in Berkeley, particularly in Census Tracts 2000 which contains EJ areas.
- **Policy Gaps:** The City has implemented various existing policies addressing pollution burden in the City's 2002 Environmental Management Element of the General Plan. While these policies have had success, additional funding, clear objectives, and responsible agencies should be identified for continued effective implementation.

Public Facilities

- **Schools, Libraries, and Community Centers:** There are gaps in access to senior care and mental health facilities. For example, community centers are concentrated in central and western Berkeley, with fewer facilities in northern and eastern census tracts.
- **Government Facilities:** Most government facilities are located in central Berkeley (Census Tract 2900), which is also home to EJ areas.
- **Hospitals and Healthcare Centers:** Alta Bates Summit Medical Center's planned closure raises concerns about access to emergency and acute care, particularly for low-income and elderly residents in Census Tracts 2900 and 3902.
- **Policy Gaps:** The City has a wide range of policies that identify routes for better connecting community members with necessary resources and facilities. However, some of these policies lack clear strategies. Additionally, limited funding continues to be a barrier for successful policy implementation.

Food Accessibility

- **Food Assistance:** Programs such as the Berkeley Food Pantry and Alameda County Community Food Bank support food-insecure residents. The food insecurity rate in Alameda County is 9.6 percent (or 159,150 people). The child food insecurity rate is slightly higher at 11.6 percent (or38,670 children).
- **Food Access:** Census Tracts 2500 and 2800 are identified as low-income and low-access areas, indicating gaps in the food network in the Northside and Southside neighborhoods. Farmers' market prices are often higher than those at grocery stores,

making it difficult for low-income residents to afford fresh produce. Additionally, food assistance programs are not well-publicized, which can hinder access to these resources.

Safe, Sanitary, and Affordable Housing

- **Housing Cost Burden:** Housing cost burden is high in areas surrounding UC Berkeley. Census Tracts 2700, 2800, and 3602 score in the 100th percentile for housing burden, indicating severe cost burdens in the Panoramic Hills, Southside, and parts of the Le Conte and Elmwood District neighborhoods.
- **Homelessness:** There were 1,057 individuals experiencing homelessness in 2022, which decreased to 844 in 2024. Black and African American individuals and men are disproportionately represented in the unhoused community. Primary causes of homelessness include job or income loss (39 percent), housing-related issues (33 percent), health-related issues (21 percent), and breakup or other household loss (14 percent).
- **Policy Gaps:** The City has recently updated plans related to safe, sanitary, and affordable housing such as the City's 2023-2031 Housing Element, Climate Action Plan and Resilience Staff Update, and Consolidated Housing and Community Development Plan. Implementation of many of the policies contained in these plans is currently underway and success will be tracked as each action develops.

Community Health

- **Park and Recreation Center Access:** Most census tracts have less than one acre of city park space per 1,000 residents, not inclusive of Tilden Regional Park which abuts census tracts along the eastern boundary of the city. Census Tract 2500 in the Northside neighborhood lacks adequate park access.
- **Transportation:** Many sidewalks are cracked and uneven, making them unsafe for pedestrians. Bike infrastructure is inconsistent, and transit gaps exist in North and Southwest Berkeley.
- **Health Outcomes:** Higher rates of asthma and low birth weight infants occur in west Berkeley. Census Tracts 2100, 3100, 3200, 3300, and 4002 score above the 75th percentile for asthma-related emergencies. Census Tracts 2900 and 4002 score above the 75th percentile for low birth weight infants.
- **Mental Health:** In Berkeley, the highest reported rates of depression are concentrated in the eastern part of the city, particularly around the UC Berkeley campus. Census Tracts 2500 and 2800, which include the Northside and Southside neighborhoods, show above-average depression rates, with data indicating that UC Berkeley students may be especially affected. However, these figures likely underestimate the true prevalence due to underreporting, limited healthcare access, and potential medical discrimination.

- **Policy Gaps:** To date, the City has a number of plans that help to address physical health and fitness of Berkeley communities including the 2020 Pedestrian Plan, Berkeley Bicycle Plan, and the Vision Zero Action Plan. However, the effectiveness of the existing policies is variable. Many policies are ongoing in their implementation and some, such as those in the 2002 Environmental Health Element, are outdated despite their ongoing status. Some policies also do not align with the City's current goals. In addition, policy topics covered in the City's existing plans do not cover public health, such as chronic illness, asthma, or cardiovascular disease.

Civic Engagement

- **Historically Marginalized Groups:** Tribal communities, individuals with disabilities, single-parent households, LGBTQIA2S+ community members, low-wage workers, and Black, Indigenous, Latinx, Asian American, Pacific Islander, Middle Eastern, and North African people face barriers to participation.
- **Population by Age:** Elderly populations are concentrated in the Berkeley Hills and Thousand Oaks neighborhoods. Providing appropriate engagement opportunities that reduce barriers is essential to ensure participation in local decision-making processes for this group.
- **Limited or Non-English Speakers:** Census Tract 2500 scores within the 54th percentile for limited English proficiency, indicating significant language access barriers in the Northside neighborhood.
- **Policy Gaps:** The City has several existing plans that aid in facilitating effective and culturally-responsible engagement with communities including the Age Friendly Berkeley Action Plan and the Citizen Participation Element of the General Plan. However, clearer objectives, additional funding, and well-planned strategies are needed in order to continually meet the outreach and engagement needs of Berkeley's diverse communities.

These findings highlight the need for robust EJ policies to address the diverse challenges posed by environmental justice issues in Berkeley.

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Appendix A

Environmental Justice Areas Methodology

Environmental Justice Areas Methodology

Background

State Law and Policy Guidance

Senate Bill (SB) 1000

Senate Bill 1000 (SB 1000)[1] requires jurisdictions that have Disadvantaged Communities (DAC's), referred to in the report as Environmental Justice (EJ) Communities, to incorporate environmental justice into their General Plans upon the next revision of two or more elements. SB 1000 defines EJ communities as:

> "An area identified by the California Environmental Protection Agency (CalEPA) pursuant to Section 39711 of the Health and Safety Code or;

An area that is a low-income area that is disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation."

Following this definition, SB 1000 provides for two approaches to identify EJ communities: 1) CalEnviroScreen, a statewide mapping tool produced by CalEPA; or 2) Custom analysis that identifies areas that are considered low-income and experience disproportionate exposure to environmental burdens. Many jurisdictions use a combination of both approaches as recommended by the Governor's Office of Land Use and Climate Innovation (LCI).

SB 1000 defines a low-income area as:

"A census tract with household incomes at or below 80 percent of the statewide median income *or* household incomes at or below the threshold designated as low income by the Department of Housing and Community Development's list of state income limits adopted pursuant to Section 50093 of the Government Code."

[1] Government Code Section 65302

Following this definition, SB 1000 establishes two approaches to identify a low-income area:

1. Median household income is at or below 80 percent of the statewide median household income ($96,334);[2] or
2. Median household income at or below the amount designated as "low-income" by the California Department of Housing and Community Development pursuant to Section 50093 ($96,650).[3]

Unlike identifying low-income areas, SB 1000 does not specify a method or threshold for identifying areas that are "disproportionately affected by environmental pollution and other hazards," but it is important to broadly analyze possible disproportionate burdens to further the intent of the law to reduce health risks in EJ areas. The Governor's Office of LCI provides guidance on this topic, which is described below.

State Guidance

In 2020, the Governor's Office of LCI, the coordinating agency for environmental justice programs, released guidelines for addressing environmental justice in general plans in alignment with SB 1000.4 In 2023, the California Department of Justice released Best Practices for Implementing SB 1000. This document provides additional context on community engagement methods and best practices for policies in each SB 1000 topic area.

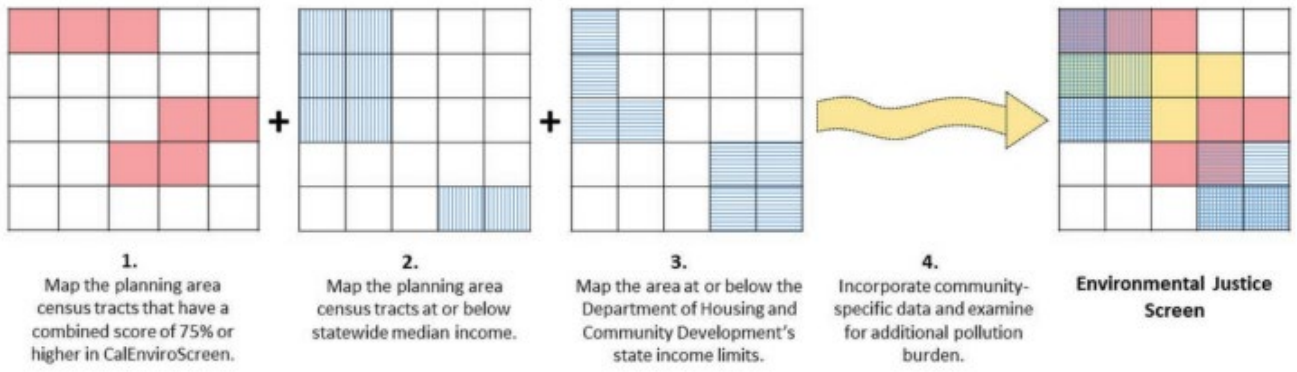
LCI recommends the following four-step screening process to identify EJ areas (*see **Figure 1** below*):

- **Step 1**: Map the census tracts that have a score in the 75th percentile or higher on the CalEnviroScreen 4.0 index.[5]
- **Step 2**: Map the census tracts that are at or below the statewide median income.
- **Step 3**: Map the census tracts that are at or below the Department of Housing and Community Development's state income limits.

[2] U.S Census Bureau, American Community Survey, 5-Year Estimates, 2019-2023 https://www.census.gov/quickfacts/fact/table/CA/INC110222#INC110222
[3] California Department of Housing and Community Development, 2024 State Income Limits, Alameda County 2-person households, https://www.hcd.ca.gov/sites/default/files/docs/grants-and-funding/income-limits-2024.pdf.
[4] General Plan Guidelines. Chapter 4: Required Elements, Section 4.8 Environmental Justice Element. https://lci.ca.gov/docs/20200706-GPG_Chapter_4_EJ.pdf
[5] The 75th percentile is used as a standardized threshold to identify communities experiencing comparatively higher environmental and socioeconomic burdens relative to the broader population.

- **Step 4**: Incorporate community-specific data and examine for additional health risk factors and disproportionate burden from pollution or other hazards that can also lead to negative health effects, exposure, or environmental degradation.

Figure 1 LCI's Recommended Screening Process for Identifying EJ Areas



Once the Citywide EJ Areas Map is created, LCI recommends conducting community engagement, particularly with low-income communities, communities of color, sensitive populations, and tribal governments, as well as organizations focused on public health and environmental justice. Community engagement helps ensure that the location of EJ areas, as well as the nature of their exposure to environmental burdens, concerns and needs are accurately identified.

Berkeley EJ Areas Identification Methodology

Background

The City had numerous goals in developing the Citywide EJ Areas Map:

- Align with the required and recommended process as described in SB1000 and State guidance.
- Use community-specific data to ensure that all EJ areas are recognized.
- Identify areas where policies and programs could be focused to promote public health.
- Reflect community input on areas of high need.

In order to achieve these goals, the City considered a range of data sets and indicator maps for potential inclusion in the Citywide EJ Areas Map. This included maps that provide an index or composite of other data, for example the Equity Priority Communities Map (Metropolitan

Transportation Commission)[6] and the Community Vulnerability Map (Bay Conservation and Development Commission).[7] Also, recognizing that local knowledge and context is critical to identifying EJ areas which might or might not be reflected in statewide data sets, the City considered community-specific data based on feedback from the project Community Advisory Committee (CAC) before conducting the analysis. This local context included regional cost of living, Berkeley's relatively small land area and population diversity within that area, and recently published research on air pollution exposure by the UC Berkeley School of Public Health (see ***Table 1*** below).

After review of the data available and listening to community feedback related to Berkeley-specific issues, the City used the following data sets for the Citywide EJ Areas Map. Note that is analysis is for local purposes only, and is meant to provide a more robust analysis of EJ in Berkeley using additional data beyond CalEnviroScreen. The weights assigned to each of the four layers are intended to prioritize CalEnviroScreen, avoid duplication of income-related indicators, and supplement indicators of air pollution exposure with more fine-grained information.

After receiving further community feedback and input during the development of the General Plan EJ Element, this methodology and the resulting map will be refined to create a final map to be included in the final EJ Element for recommendation and adoption by City Council.

Table 1 EJ Areas Map Datasets and Weights

Dataset and Weight	Indicators
CalEnviroScreen– 60% *Source: CalEPA*	Pollution exposure: • Ozone • PM2.5 • Diesel particulate matter • Pesticide use • Toxic release from facilities • Cleanup sites • Hazardous waste generators and facilities • Solid waste sites and facilities • Drinking water contaminants • Traffic density Population characteristics: • Educational attainment • Linguistic isolation

[6] Metropolitan Transportation Commission, Equity Priority Communities https://mtc.ca.gov/planning/transportation/access-equity-mobility/equity-priority-communities
[7] San Francisco Bay Conservation and Development Commission, Community Vulnerability Mapping, https://bcdc.ca.gov/resources/maps-and-data/community-vulnerability-mapping/

Dataset and Weight	Indicators
	• Poverty • Unemployment • Housing burdened low-income household • Asthma • Cardiovascular disease • Low birthweight infants
Areas of Social Vulnerability – 10% *Source: American Community Survey 5-Year Estimates (2018-2022)*	• Tenure • Poverty • Rent Burden (renter households) • Persons of color • Youth • Seniors • High school or less • Limited English proficiency households • Households with Disabilities • Non-citizen voting age population • Single-parent families
CA Department of Housing and Community Development (HCD) Housing Income Limits – median household income for two-person household – 10% *Source: American Community Survey 5-Year Estimates (2018-2022)*	Area Median household income below $96,650 (Berkeley threshold for very low-income, two-person household)
Air Pollution Exposure Zone – 20% *Source: UC Berkeley School of Public Health, Science Advances Examining air pollution exposure dynamics in disadvantaged communities through high-resolution mapping (2024)*	100-meter scale daily air pollution levels, fine particulate matter ($PM_{2.5}$)

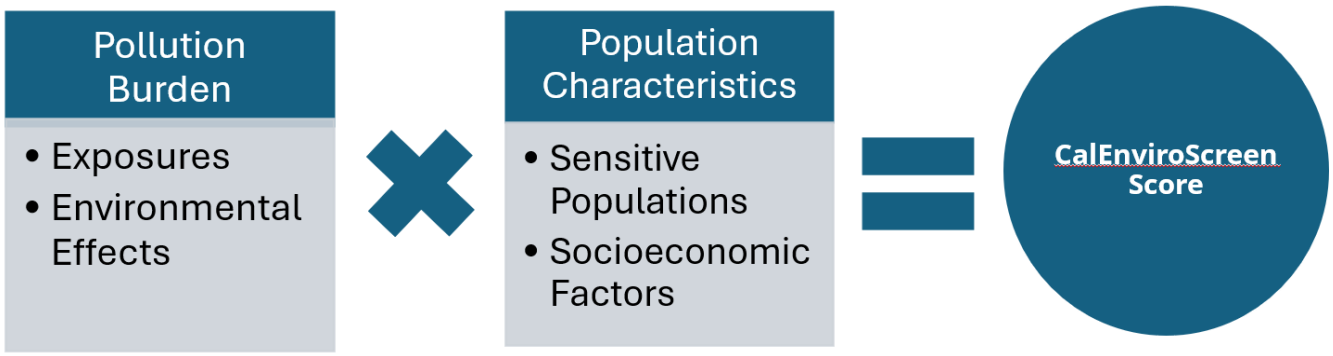
Datasets

This section provides more detailed information about the four datasets included in the Citywide EJ Areas Map.

Dataset 1: CalEnviroScreen (60%)

CalEPA's CalEnviroScreen 4.0 identifies Census tracts that score at or above the 75th percentile across the state as "disadvantaged," using 21 pollution, health and socioeconomic indicators (*see **Figure 2** below*). The CalEnviroScreen score reflects the extent of pollution burden and the specific population characteristics that increase vulnerability to that burden, compared to the rest of the state. The Berkeley Citywide EJ Areas Map includes all of the CalEnviroScreen indicators, and assigns a weight of 60 percent of the total score.

Figure 2 CalEnviroScreen Score



Dataset 2: Areas of Social Vulnerability (10%)

CalEnviroScreen includes five socioeconomic factors that may increase vulnerability to pollutants:

- Educational Attainment
- Housing-Burdened Low-Income Households
- Linguistic Isolation
- Poverty
- Unemployment

This local, Berkeley-specific methodology adds six additional factors (totaling 11) to more fully reflect Berkeley's demographics:

- Renters
- People under the age of 5
- Non-U.S. citizens
- Zero-vehicle households
- People with a disability
- Single-parent families
- Communities of color
- People 65 years of age or older who are living alone.

These additional social vulnerability factors are pulled from the Safety Element Social Vulnerability Analysis to give a more complete picture of social vulnerability within the Citywide EJ Areas Map. These indicators were developed by the Bay Conservation and Development Commission through a robust process to address environmental justice in the

San Francisco Bay Plan[8], and reflect professional experience, local knowledge, and the latest research regarding which factors contribute to vulnerability to hazards.[9] These factors are weighted at 10 percent of the total score. See the Social Vulnerability Analysis Methodology (***Appendix A*** *of the* Disaster Preparedness and Safety Existing Conditions Report) for more detailed information about the process and results.

Dataset 3: Median Household Income (10%)

Following State guidance, the Citywide EJ Areas Map includes median household income data. CalEnviroScreen includes income data as an indicator within the population characteristics category (*see* ***Figure 2*** *above*). Specifically, CalEnviroScreen uses the percent of the population living below two times the federal poverty level, which accounts for the fact that California's cost of living is higher than many other parts of the country.[10] Based on community feedback and to account for the higher cost of living in the Bay Area compared to other parts of the state, the Citywide EJ Areas Map includes household income for a two-person household that is at or below the Department of Housing and Community Development's state income limits for Alameda County. The map assigns a weight of 10 percent of the total score.

Dataset 4: Air Pollution Exposure Zone (20%)

To assess exposure to air pollution, CalEnviroScreen measures the annual average concentration of fine particulate matter pollution (PM2.5). Of the six types of air pollutants measured, PM 2.5 poses one of the most significant health threats. Concentrations are measured annually by monitoring stations and provided for each 1 km grid across the city. New research published in August 2024 provides a more fine-grained analysis of PM 2.5 pollution at a nearly block-by-block level.[11] Given that Berkeley is a small city geographically speaking, this new data set provides a more complete picture of exposure to air pollution. The map assigns a weight of 20 percent of the total score.

[8] https://bcdc.ca.gov/resources/plans/san-francisco-bay-plan/
[9]Adapting to Rising Tides Community Vulnerability Data User Guide – 2023 Update. https://www.adaptingtorisingtides.org/wp-content/uploads/2024/01/CommunityVulnerability_Data_UserGuide_BCDC_2023_Final.pdf
[10] CalEnviroScreen 4.0 Report, page 187. https://oehha.ca.gov/media/downloads/calenviroscreen/report/calenviroscreen40reportf2021.pdf
[11] Examining air pollution exposure dynamics in disadvantaged communities through high-resolution mapping. Science Advances, Volume 10, Issue 32, August 2024. https://www.science.org/doi/epdf/10.1126/sciadv.adm9986

Map Analysis and Symbology

While CalEnviroScreen uses data from the Census at the census tract level, the Citywide EJ Areas Map uses data at the block group level – in other words, at a smaller scale than the census tract level - to account for Berkeley's small geographic size, helping the City to better understand where to focus resources within vulnerable communities.

The Citywide EJ Areas Map was created using a raster analysis in ArcGIS that combined the datasets listed in ***Table 1*** above into a final raster map. A raster analysis is a type of spatial and quantitative analysis that places two or more thematic maps on top of one another toform a new map. In a raster analysis, geographic areas are broken up into individual cells or pixels, and each cell is assigned a numerical value. The values were computed as a weighted average of the datasets listed in ***Table 1***.

The map symbology groups the raster analysis results into categories and assigned a color ramp that was modeled on CalEnviroScreen. Green indicates the lowest cumulative environmental burden, and red indicates the highest environmental burden. The map symbology reflects 20 classifications, or levels of burden, which standardized the values across all of the indicators to enable a comparison. The classifications are grouped in four categories, arranged from least to highest cumulative environmental burden (low, moderate, high and highest). The highest category represents the block groups scoring in the 75th percentile or above, and are designated as EJ areas in Berkeley.

Community Input and Ground-Truthing

Staff and community have worked together to refine the methodology to ensure that the final Citywide EJ Areas Map included in the adopted EJ Element reflects community lived experience. To date, this Citywide EJ Areas Map includes feedback received from the project CAC, facilitated by the Ecology Center, and from a community-wide workshop held on February 1, 2025. Additionally, the CAC members suggested the analysis be conducted at the Census Block Group-level, rather than the Census Tract-level. By analyzing each indicator at a smaller scale than originally envisioned, the final map provides a more fine-grained, nuanced picture of EJ in the city. The existing conditions memo provides a more detailed summary of feedback received.

Community Assets Identified Through Engagement

A key goal of this project is to incorporate equitable outcomes by co-creating climate adaptation and resiliency policies and programs with vulnerable communities. To help achieve this goal, both members of the CAC and the broader community provided input on community-based assets (See the Summary of Community Engagement Activities).

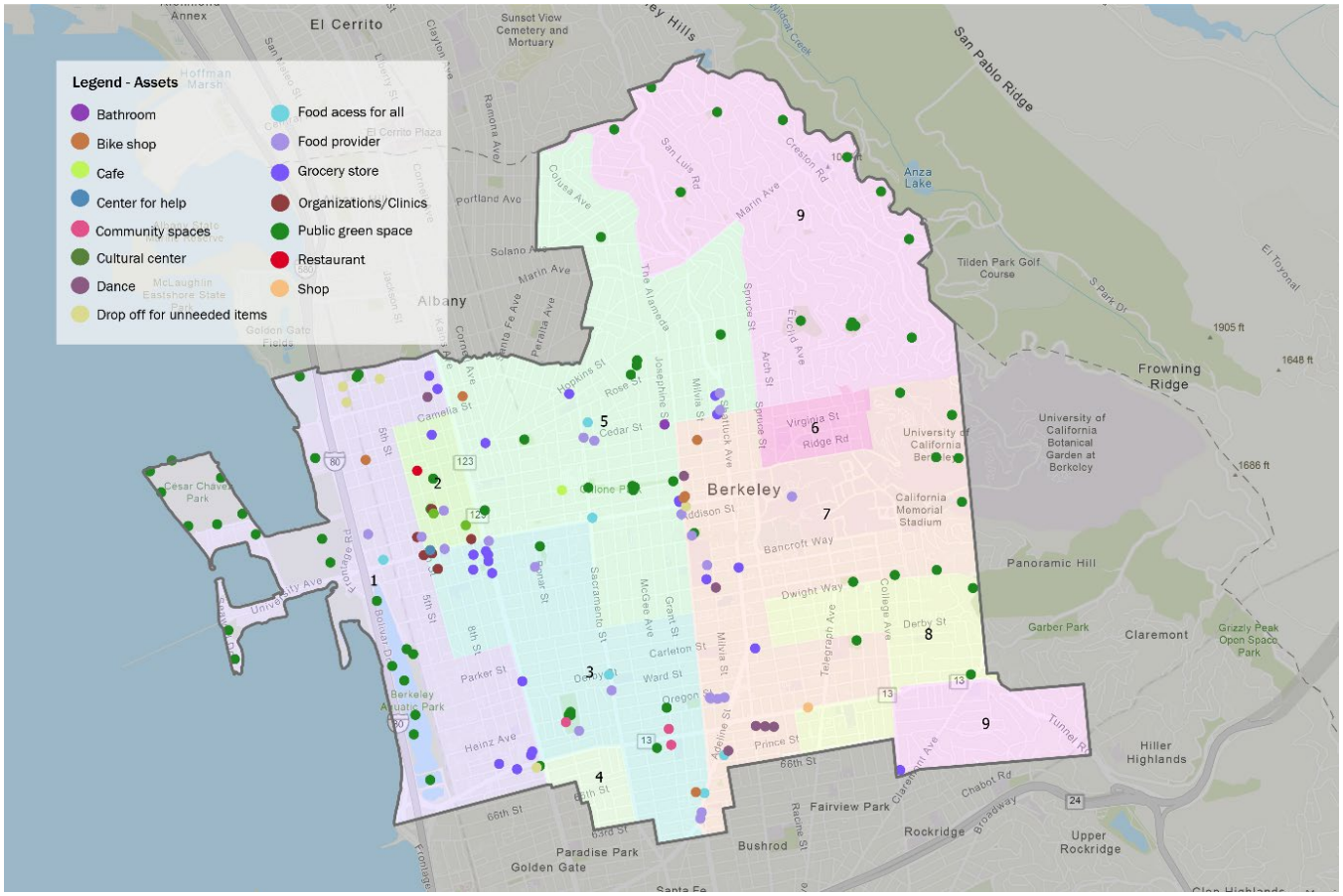
Feedback from the Community Advisory Committee

Members of the CAC completed a participatory asset mapping exercise in which they were presented with maps of Berkeley and asked to identify places in Berkeley they serve and feel served by, and resources addressing EJ-related challenges faced by community. The responses, shown in ***Table 2*** and ***Figure 3*** below, provide an insight into the existing community-based assets and strengths that can be leveraged to implement equitable strategies for reducing environmental burden among EJ communities, in turn promoting neighborhood resilience.

Table 2 CAC Participatory Mapping Exercise – Community-Based Assets

Category	Topic	Indicator
Built Environment	Healthy Food Access	• Café • Food Access for All • Food Provider • Grocery store • Restaurant
	Safe and Sanitary Housing	N/A
	Physical Activity	• Bike shops • Dance
	Access to public facilities, services, community amenities	• Bathrooms • Community spaces • Cultural Centers • Help Centers • Organizations/Clinics • Shops

Figure 3 CAC Participatory Mapping Exercise – Community-Based Assets



Feedback from the Broad Berkeley Community (Workshop 1)

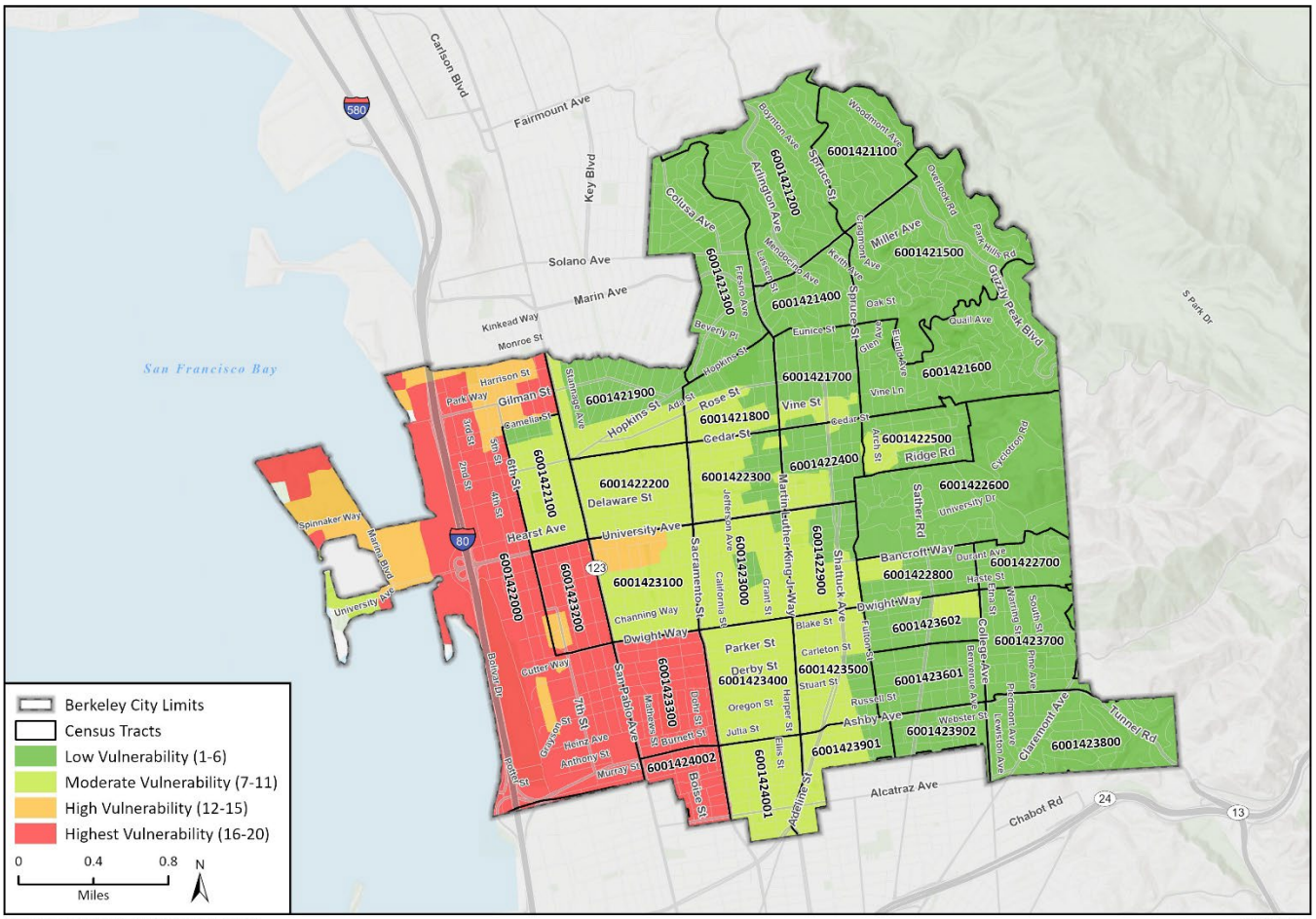
During a community workshop on February 1, 2025, participants completed a mapping activity adapted from the CAC activity described above. The purpose was to gather community input on environmental justice, safety, and resilience across Berkeley. Participants visited five large maps at different stations, marking locations they identified as assets in relation to air quality, housing, fresh food access, public facilities, and physical activity. Please refer to the Summary of Community Engagement.

Environmental Justice Communities Results

The result of this analysis is a Citywide EJ Areas Map (see ***Figure 4*** and ***Table 3*** below). The map identifies the top quarter, or 75th percentile and above, of areas within Berkeley experiencing environmental burden, or vulnerability (areas in red). Therefore, these areas are designated as "EJ Areas" in Berkeley: Gilman, Northwest Berkeley, 4th Street, Southwest Berkeley, some of South Berkeley, and Berkeley Marina.

The purpose of the EJ Element is to reduce health risks and promote public health, safety and resilience. The EJ areas identified through this process will be the focus of new goals, objectives and policies that achieve these goals.

Figure 4 EJ Areas (Citywide)



Basemap provided by Esri and its licensors © 2026.
EJ Communities based on a Locally Specific Methodology provided by City of Berkeley, 2025.

Table 3 Citywide EJ Areas by Block Group

Census Block Group Number
060014240021
060014240022
060014220002
060014220001
060014232001
060014232002
060014233001
060014233002
060014233003