

Discussion Group Input

WHAT DO YOU SEE AS THE CRITICAL ISSUES RELATED TO AIR QUALITY AND POLLUTION EXPOSURE IN SACRAMENTO?

WHAT POLICIES ARE NEEDED AT THE CITYWIDE LEVEL TO ADDRESS AIR QUALITY AND POLLUTION EXPSOURE ISSUES?

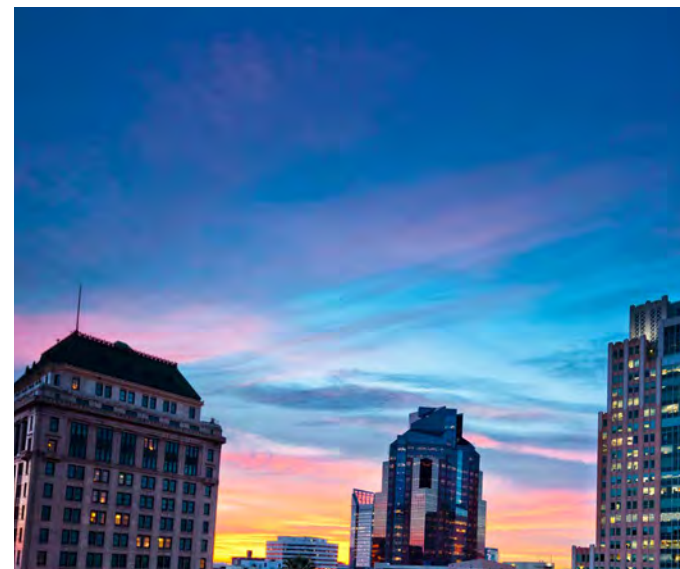
WHAT POLICIES ARE NEEDED AT THE NEIGHBORHOOD LEVEL TO ADDRESS SPECIFIC LOCAL ISSUES?



sacramento | 2040

Environmental Justice Factbook: Air Quality and Pollution Exposure

December 2020



Introduction

What is Environmental Justice?

The City of Sacramento envisions a place where everyone can live a long, healthy, and opportunity-filled life, no matter who they are or where they come from. People’s health and opportunity are shaped by multiple factors, including their environment. Environment doesn’t just mean “nature”—it includes all components of our daily lives, including the *social* environment.

However, not all people has the chance to live their healthiest lives because of **environmental injustice**, which means that certain geographies and groups of people unfairly and disproportionately experience **higher exposure to pollution, greater health impacts, and less access** to things that keep people happy and healthy, like parks to play in, safe and affordable places to live, good jobs, schools, and stores that meet basic needs.

Environmental justice is a movement to come to terms with and remedy a history of unjust actions and outcomes. It is about taking concerted action to remedy the inequitable conditions that have led to economic and health disparities. Environmental justice addresses the long standing, disproportionate impact of environmental pollution on vulnerable populations as well as their lack of power in the development, implementation, and enforcement of environmental laws. Ultimately, **environmental justice means the fair treatment and meaningful involvement of all groups so that everyone, regardless of their identities, has the chance to live in a healthy environment.**

Environmental Justice in the 2040 General Plan

To achieve Sacramento’s vision of becoming a national model of sustainable, equitable growth and community development, we must address equity and environmental justice in our City’s comprehensive General Plan. Under California law (SB 1000), cities and other local jurisdictions must address environmental justice by developing policies for issues that affect *disadvantaged communities*, which are communities that experience high levels of pollution, socioeconomic stress, historic disinvestment, and negative health outcomes.

This factbook takes a deeper look at different environmental justice issues that impact both the entire city and the disadvantaged communities that are more vulnerable to their negative effects. Environmental justice is a complex, multifaceted topic: the factbooks provide a summary of some of the issue highlights but are not intended to be a comprehensive or definitive resource.

The factbooks use maps and infographics to examine a few aspects of each issue and to identify who is most affected. It then highlights existing City efforts and resources, and outlines potential policy concepts to include in the General Plan. This factbook uses data at the *census tract* level. A census tract is a geographic boundary that is usually either the smallest or most complete geographic scale for which data is available and has an average population of 4,000 residents, though it can range from 1,200 to 8,000 people. Census tract boundaries and neighborhood boundaries are not the same—while a neighborhood may fall in the boundaries of a single census tract, others may overlap multiple tracts. To help you understand the maps, some general neighborhood names are identified in comment boxes.

What is Equity?

“Regardless of one’s identities, equity is when all people have fair, just treatment, access to the opportunities necessary to satisfy their essential needs, advance their well-being and achieve their full potential, while identifying and eliminating barriers that have prevented the full participation of some groups.”

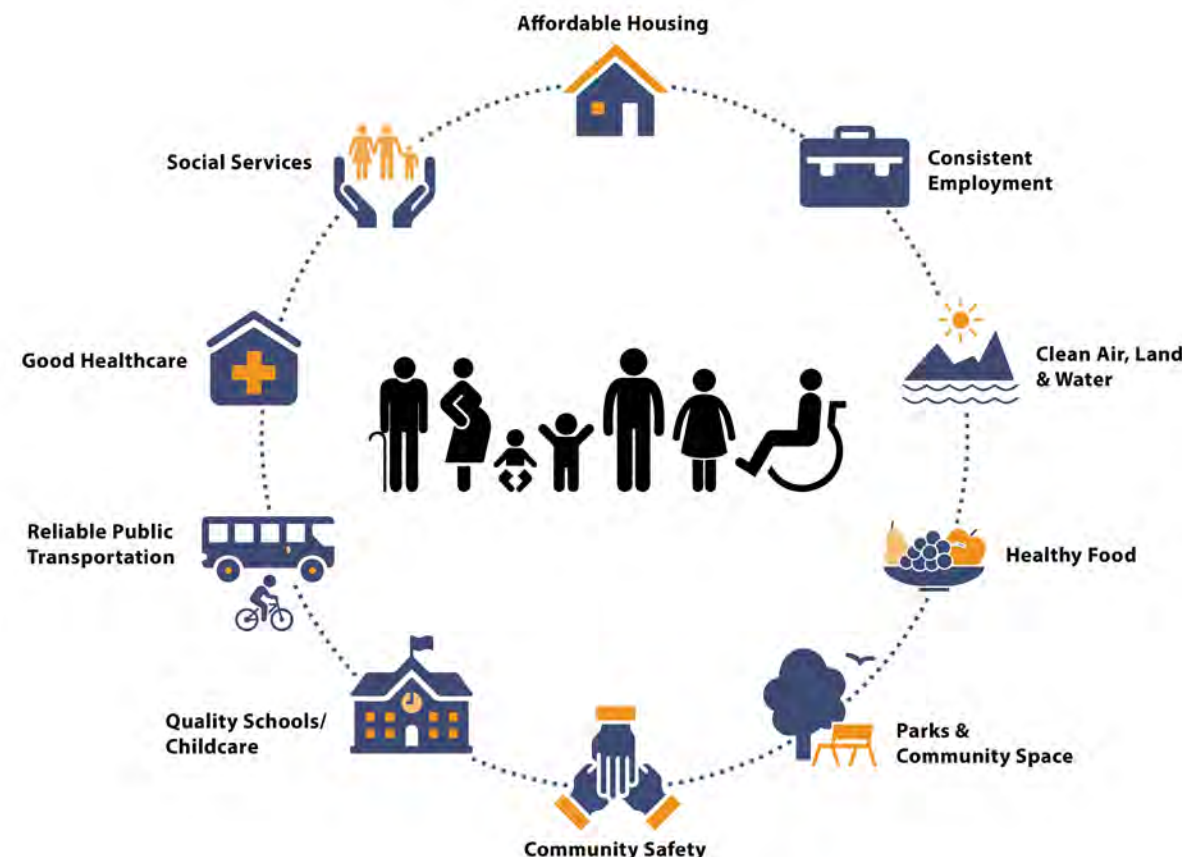
ENVIRONMENTAL JUSTICE TOPIC AREAS



Air Quality and Pollution Exposure: Why It's Important

Pollution exposure occurs daily in virtually every community when people come into direct contact with air, food, water, and soil contaminants—Sacramento is no exception. These exposures are often the result of the proximity of people to incompatible land use, polluting facilities, heavily traveled roads, or other sources of exposure. Exposure to pollution can cause or worsen negative health outcomes and make people too sick to work, go to school, or even go outside. Poor air quality can lead to an increase in: school absences, medication use, visits to doctors, emergency rooms and number of hospital admissions. A livable Sacramento means a physical environment that supports everyone’s good health and quality of life.

A HEALTHY, EQUITABLE ENVIRONMENT



Pollution In Sacramento

Based on data from CalEPA's CalEnviroScreen 3.0 (2018), Sacramento ranks in the 38th percentile statewide for pollution burden. This means that Sacramento experiences higher levels of air, water, and soil pollution than 38 percent of all California communities. In Sacramento, air pollution and groundwater quality issues affect most parts of the city; however, lower income residents tend to feel the effects more acutely. Additionally, some areas of the city are more impacted by hazardous materials and contamination than others. Sacramento's pattern of pollution burden is based on its history, geography, and the way the city has developed over time.

CalEnviroScreen is a mapping tool that helps identify California communities most affected by multiple sources of pollution, as well as the location of people who are especially vulnerable to pollution's effects. Tracts that score in the top 25th percentile for pollution impacts and vulnerabilities are known as "disadvantaged communities," shown in red hatch.

The map on the right shows a combined score of the 12 pollution indicators shown below. Among these 12 indicators, Sacramento is most affected by air quality issues, hazardous materials, impaired waters, and threats to groundwater. Certain socioeconomic issues, like poverty, and health conditions like asthma, make some communities that experience medium to high levels of pollution even more vulnerable to worsening health conditions, as observed through the median household income and asthma prevalence rates shown on the map to the right. For comparison, a tract's percentage of people of color is also shown.

Compared to other cities of similar size, Sacramento's overall pollution burden ranking is greater than Oakland, but lower than Long Beach. Within the city, the sub-areas of the Central City Community Plan Area (CPA) is most burdened by these pollution sources. Parts of Arden Arcade and the Fruitridge/Broadway CPAs also experience significant pollution burden.

SACRAMENTO POLLUTION INDICATORS

POLLUTION ISSUE	DESCRIPTION	MEDIAN PERCENTILE RANGE: STATEWIDE RANK*
PM 2.5	Particulate matter of 2.5 microns or less; caused by emissions from cars, wood burning, and other activities that can harm health.	40-45th
Diesel PM	Exhaust from trucks/diesel engines.	45-50th
Ozone	Main ingredient in smog. Sources are vehicles and some businesses.	60-65th
Traffic	High density traffic means more exhaust from vehicles.	55-60th
Drinking Water Issues	Contaminants in drinking water can harm health.	25-30th
Impaired Waters	Water bodies used for recreation or drinking water can be contaminated.	45-50th
Groundwater Threats	Harmful chemicals stored underground could leak and contaminate soil and groundwater.	0-45th
Pesticides	Some chemicals used to treat crops and prevent pests can harm human health.	0-5th
Toxic Releases	Facilities that make or use toxic chemicals can release them into the air.	30-35th
Cleanups	Places contaminated with hazardous chemicals that require cleanup.	25-30th
Hazardous Waste	Sites that contain chemicals harmful to health.	15-20th
Solid Waste	Places where garbage and waste are processed.	0-5th

POLLUTION BURDEN RANKING: SACRAMENTO AND PEER CITIES



Sacramento

Population: 508,517
Overall statewide pollution burden ranking: **38th Percentile**



Oakland

Population: 429,114
Overall statewide pollution burden ranking: **30th Percentile**

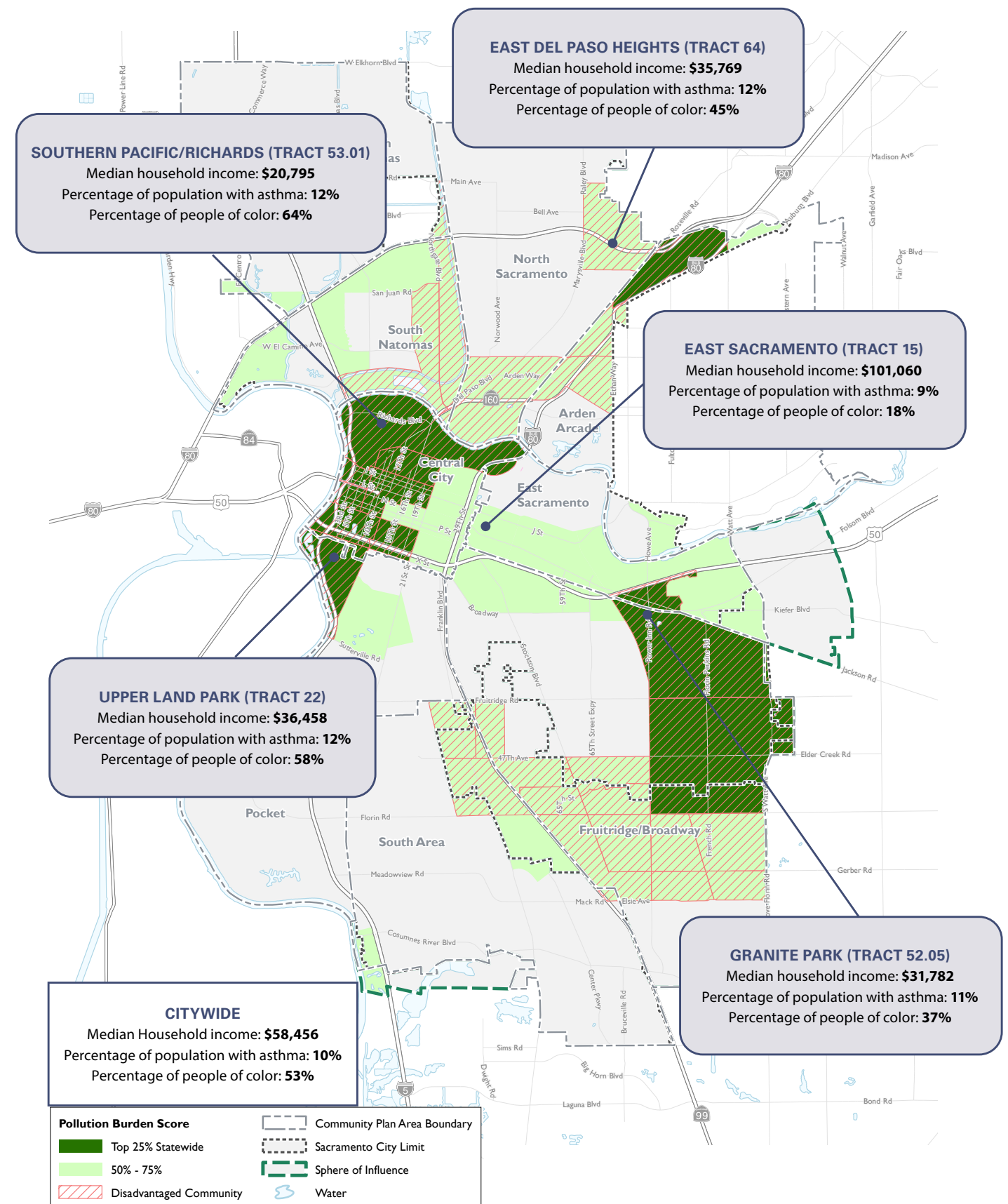


Long Beach

Population: 467,353
Overall statewide pollution burden ranking: **72th Percentile**

Source: American Community Survey, 2018; CalEPA CalEnviroScreen 3.0, 2018.

Pollution Burden



Source: American Community Survey, 2014-2018; 500 Cities Project, 2016; CalEnviroScreen 3.0, 2018; Dyett & Bhatia, 2020.

* Represents how Sacramento's middle-ranked tract burden compares to all other tracts in CA. On a scale of 0th percentile to the 100th percentile, the 100th percentile is most burdened.

Air Quality

Air quality is one of the most pressing environmental issues in the city. Sacramento's unhealthy air quality is largely the result of vehicle exhaust, the most significant single source of air pollution in the area. Three quarters of all Sacramento workers drive alone to work. Daily vehicle emissions are often made worse by geography and meteorology of the Sacramento Valley, which can cause pollutants to recirculate and become trapped. Poor air quality can cause or worsen respiratory conditions such as asthma, emphysema and chronic bronchitis; increase the risk of cardiovascular problems such as heart attacks and strokes.

State law (AB 617) requires the California Air Resources Board (CARB) to identify and select underserved communities with the highest air pollution burden to develop a local air monitoring plan and/or community emission reduction plan. Considerations in determining priority communities include exposure to air pollution; location of sensitive receptors such as schools, parks and day care centers; socioeconomic factors, such as poverty, unemployment, housing burden; and health indicators. CARB selected the South Sacramento-Florin community in 2018 (shown in purple hatch on the map to the right) to be one of the first 10 communities in California to develop and implement a community air monitoring plan that will help determine the local impacts from air pollution in the community. In 2020, the Sacramento Metropolitan Air Quality Management District (District) updated its analysis methodology and recommended three additional general community areas for the State's Community Air Protection Program: North Sacramento, Oak Park/Fruitridge, and Meadowview. More information on this effort can be found at the District's website at www.airquality.org under Community Air Protection.

Air Quality Findings

- 1 High citywide burden.** Air quality in Sacramento is a citywide issue, influenced primarily by vehicle emissions and geography. The Sacramento Metro Area ranks 5th in the nation for worst ozone pollution, but ranks slightly better for particle matter pollution compared to other metro areas.
- 2 Areas affected.** Significantly burdened areas can be found throughout Sacramento. The three highest AB 617 prioritized areas include North Sacramento, Oak Park/Fruitridge, and Meadowview areas.
- 3 Populations affected.** AB 617 methodology includes consideration of emission sources, "sensitive receptors", and socioeconomic indicators, such as poverty and unemployment rates, and health impacts, like cancer and asthma rates.

WORST AIR POLLUTION NATIONWIDE, 2020: SACRAMENTO METRO AREA AND PEER METRO AREAS

Sacramento-Roseville



San Jose-San Francisco-Oakland



Los Angeles-Long Beach



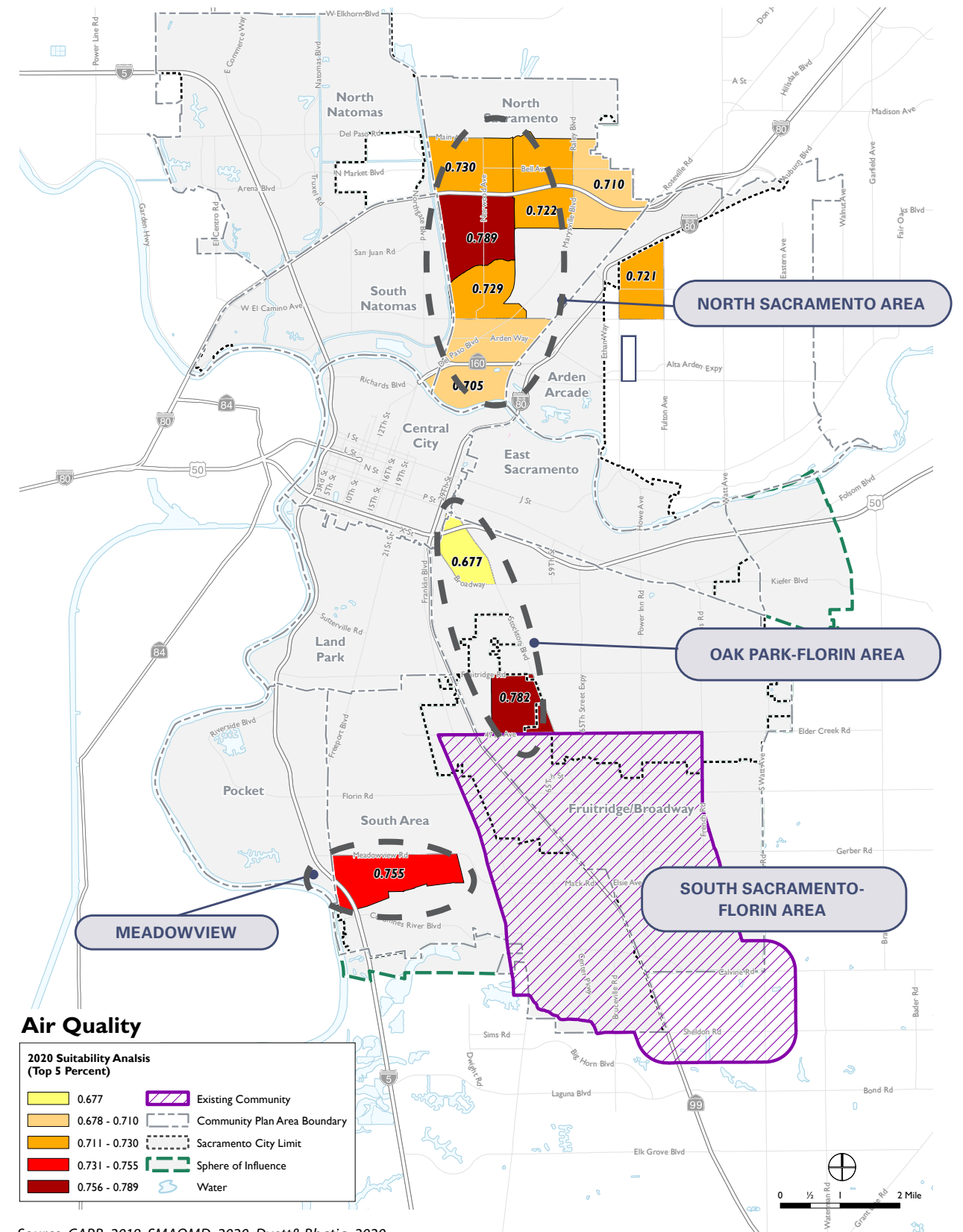
Ozone: main ingredient in smog that can irritate lungs. Children, older people, and people who work outside are most affected.

Short-Term Particle Pollution: Particle pollution can be harmful even if it is inhaled over just a few hours or days. "Short-term levels" refers to just such spikes, or levels averaged over a 24-hour period.

Year-Round Particle Pollution: Breathing high levels of particle pollution day in and day out can also be deadly and has serious negative health effects. "Year-round" represents levels averaged over a year.

Source: American Lung Association, Spare the Air Rankings, 2020

Communities Identified for Community Air Monitoring Plans (AB 617)



Source: CARB, 2018; SMAQMD, 2020; Dyett & Bhatia, 2020

Hazardous Materials

Environmental hazards can include landfills, factories or facilities that release toxic chemicals, sites that have been contaminated in the past, pesticides, or other sources of pollution. The map to the right shows tracts in Sacramento that are most affected by four indicators: toxic releases, cleanup sites, hazardous waste, and solid waste. Clusters of hazardous materials sites, including solid waste sites, cleanup sites, and hazardous waste generators can be found in areas of past industrial activity, including downtown near the Railyards. Sites recognized by the US EPA as having hazardous substances, pollutants, or contaminants present or potentially present are known as "brownfield" sites. Exposure to hazardous materials can result in lung damage, cancer, cardiovascular disease, low birth weight infants, and other negative health outcomes that lower life expectancy.

The California Department of Toxic Substances Control (DTSC) and the Environmental Protection Agency have identified numerous soil and groundwater contaminants on and near the Railyards, and remediation (or cleanup) has continued since the 1980s. This area will see significant redevelopment and remediation in the coming years.

Hazardous Materials Findings

- 1 Industrial past.** Much of Sacramento's current exposure to hazardous materials is shaped by past industrial uses, though some pockets of industrial uses—and hazardous materials that some may use—remain.
- 2 Areas affected.** Beyond Downtown, other areas highly affected by hazardous materials include Upper Land Park, Old North Sacramento/Norlto, and Granite Park. Many of these areas coincide with industrial uses.
- 3 Populations affected.** With the exception of East Sacramento, populations that live in census tracts with an oversaturation of environmental hazards are also more likely to be lower income and have lower average life expectancies.

HAZARDOUS MATERIALS MEDIAN PERCENTILE RANKING: SACRAMENTO AND PEER CITIES

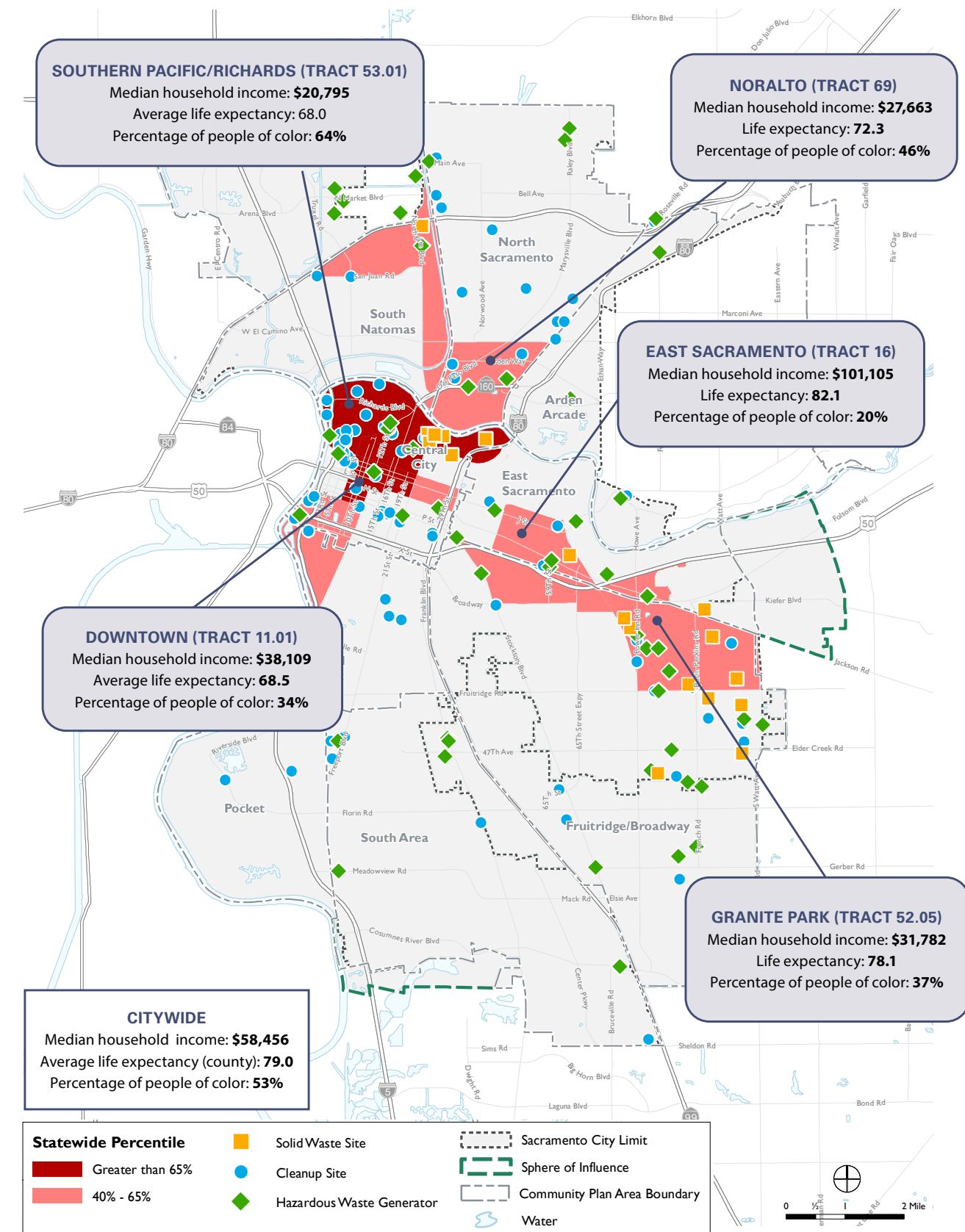
City	Toxic Releases	Cleanup Sites	Hazardous Waste	Solid Waste
Sacramento, CA	58 TH PCTL.	29 TH PCTL.	16 TH PCTL.	<1 ST PCTL.
Oakland, CA	45 TH PCTL.	37 TH PCTL.	31 ST PCTL.	<1 ST PCTL.
Long Beach, CA	91 ST PCTL.	27 TH PCTL.	54 TH PCTL.	23 RD PCTL.

Source: CES 3.0



Sacramento Railyards site.

Hazardous Materials



Source: American Community Survey, 2014-2018; Centers for Disease Control, 2020; CalEnviroScreen 3.0, 2018; Dyett & Bhatia, 2020.

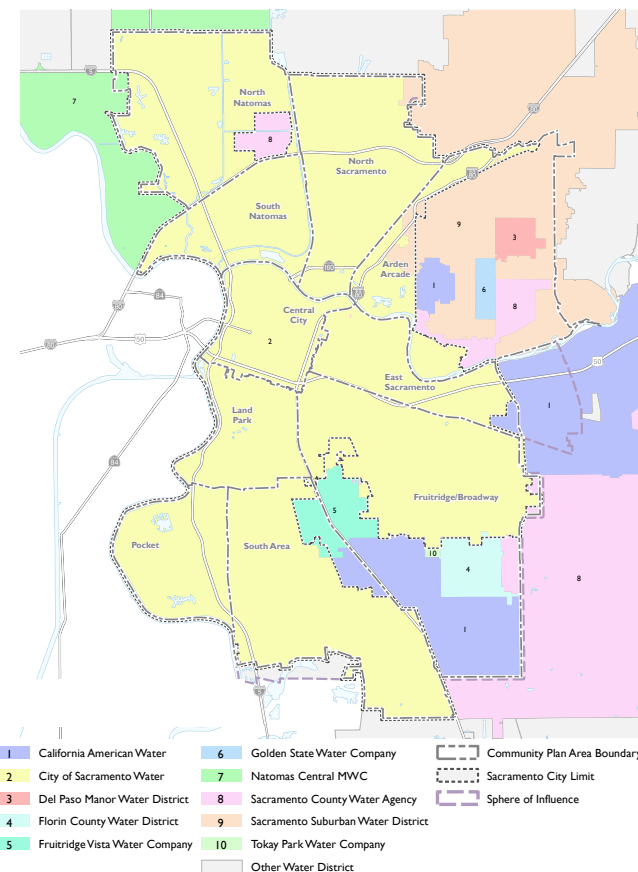
Drinking Water Quality

Within the City of Sacramento, drinking water quality is generally high, although there are some areas to the southeast where water quality is impacted by contamination from past industrial activities. Most of the City's drinking water is supplied through a centralized system, with seven reservoirs that blend treated surface water from the American and Sacramento rivers (80% of the total supply) and groundwater (20% of the total supply). Therefore, in general, most of the City's service area is not susceptible to groundwater contamination issues.

However, it is a different story in unincorporated areas adjacent to the city. Some census tracts in these areas are among the most impacted in the state for drinking water contaminants. Water supply in these areas comes from different sources than in the City. One common contaminant, arsenic, occurs naturally in some rocks and soil and is often found in groundwater in California. Nitrate from fertilizer or manure can leach into groundwater and contaminate wells. The dark blue Fruitridge Florin area, an area that is outside of existing City Limits, is served by the Fruitridge Vista Water Company and California American Water District with essentially 100% groundwater. Many groundwater-reliant areas with poor drinking water quality are also areas that have groundwater threats or are in proximity to hazardous sites. Nine out of the ten tracts that score in the top 90th percentile for drinking water hazards are disadvantaged communities as designated by the state.

SACRAMENTO WATER DISTRICTS

WATER DISTRICT	WATER SOURCE	
	Ground-water	Surface Water
1. California American Water	X	X
2. City of Sacramento Water	X	X
3. Del Paso Manor Water District	X	
4. Florin County Water District	X	
5. Fruitridge Vista Water Company	X	
6. Golden State Water Company	X	X
7. Natomas Central MWC	X	X
8. Sacramento County Water Agency	X	X
9. Sacramento Suburban Water District	X	X
10. Tokay Park Water Company	X	



Source: 2018 American River Basin Integrated Regional Water Management Plan Update

DRINKING WATER CONTAMINANTS, 2016: SACRAMENTO AND PEER CITIES MEDIAN STATEWIDE PERCENTILE

28TH

Sacramento, CA

4TH

Oakland, CA

18TH

Long Beach, CA

0th Percentile = Least Burdened in the State

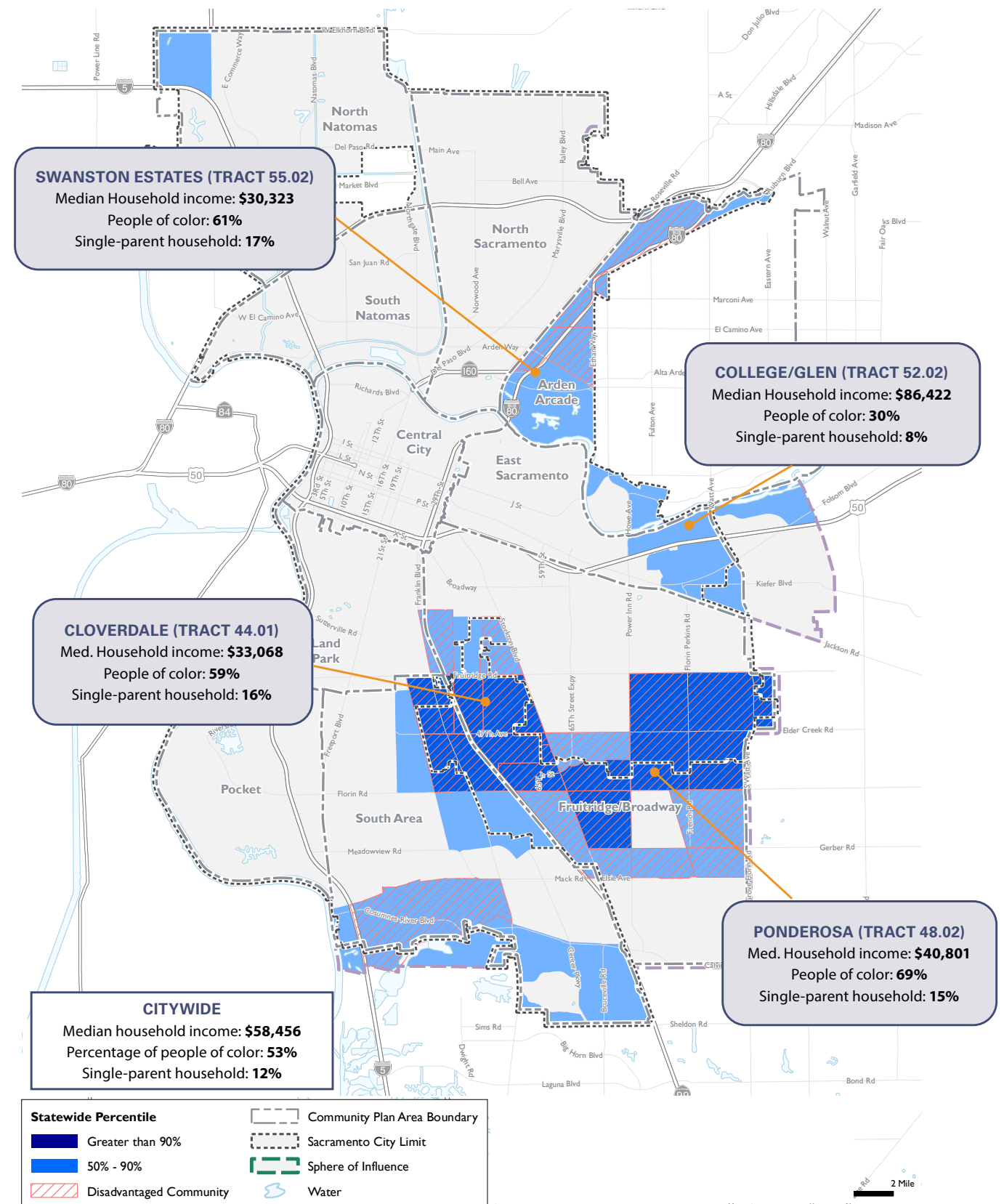
100th Percentile = Most Burdened in the State

Source: CalEnviroScreen 3.0



American and Sacramento rivers

Drinking Water Quality



Source: CalEnviroScreen 3.0, 2018; American Community Survey, 2014-2018; City of Sacramento, 2019; Dyett & Bhatia, 2020.

Water Quality Threats

Hazardous chemicals are often stored in containers on land or in underground storage tanks. Leaks from tanks can contaminate soil and **groundwater**. Common soil and groundwater pollutants include gasoline and diesel fuels at gas stations, as well as solvents, heavy metals and pesticides.

Until the mid-1980s, most underground tanks were made of bare steel, which is likely to corrode over time and allow contents to leak into the environment. **Leaking tanks** can affect drinking water and expose people to contaminated soil and air. The land and groundwater may take many years or decades to clean up. Though much of Sacramento is affected by groundwater threats, the city has **fewer active groundwater cleanup sites** near populated areas than other cities of comparable size. McLellan Air Force Base poses a threat to the groundwater supply in Northeast Sacramento.

The State Water Resources Control Board and U.S. Environmental Protection Agency closely monitor and keep an inventory of leaking underground storage tanks.

Water Threats/ Drinking Water Quality Findings

- 1 Water quality and threats.** Sacramento has a lower rate of underground storage tanks and fewer active cleanup sites than cities of comparable size. However, much of Sacramento is affected by groundwater threats. Sacramento has better drinking water quality than other comparable California cities, especially within city limits.
- 2 Areas affected.** The Central City and Fruitridge/Broadway Community Plan Area, parts of North Sacramento and Arden Arcade near the American River, and East Sacramento have the most groundwater threats- most but not all of these areas are disadvantaged communities. Many of these threats are located in areas with past or current industrial uses. Drinking water quality issues (discussed on the previous page) are most likely to affect unincorporated areas of Sacramento, and to a lesser extent, Arden Arcade, the College/Glen area, and the Meadowview area.
- 3 Populations affected.** The most significant groundwater threats are more likely to affect low-income populations, with the exception of the East Sacramento area. The most severe drinking water contaminant issues are more likely to affect disadvantaged communities (see map, right) households with lower incomes, single-parent households, and communities of color, with the exception of College/Glen.

GROUNDWATER THREATS, 2016: SACRAMENTO AND PEER CITIES MEDIAN STATEWIDE PERCENTILE

45TH
Sacramento, CA

57TH
Long Beach, CA

77TH
Oakland, CA

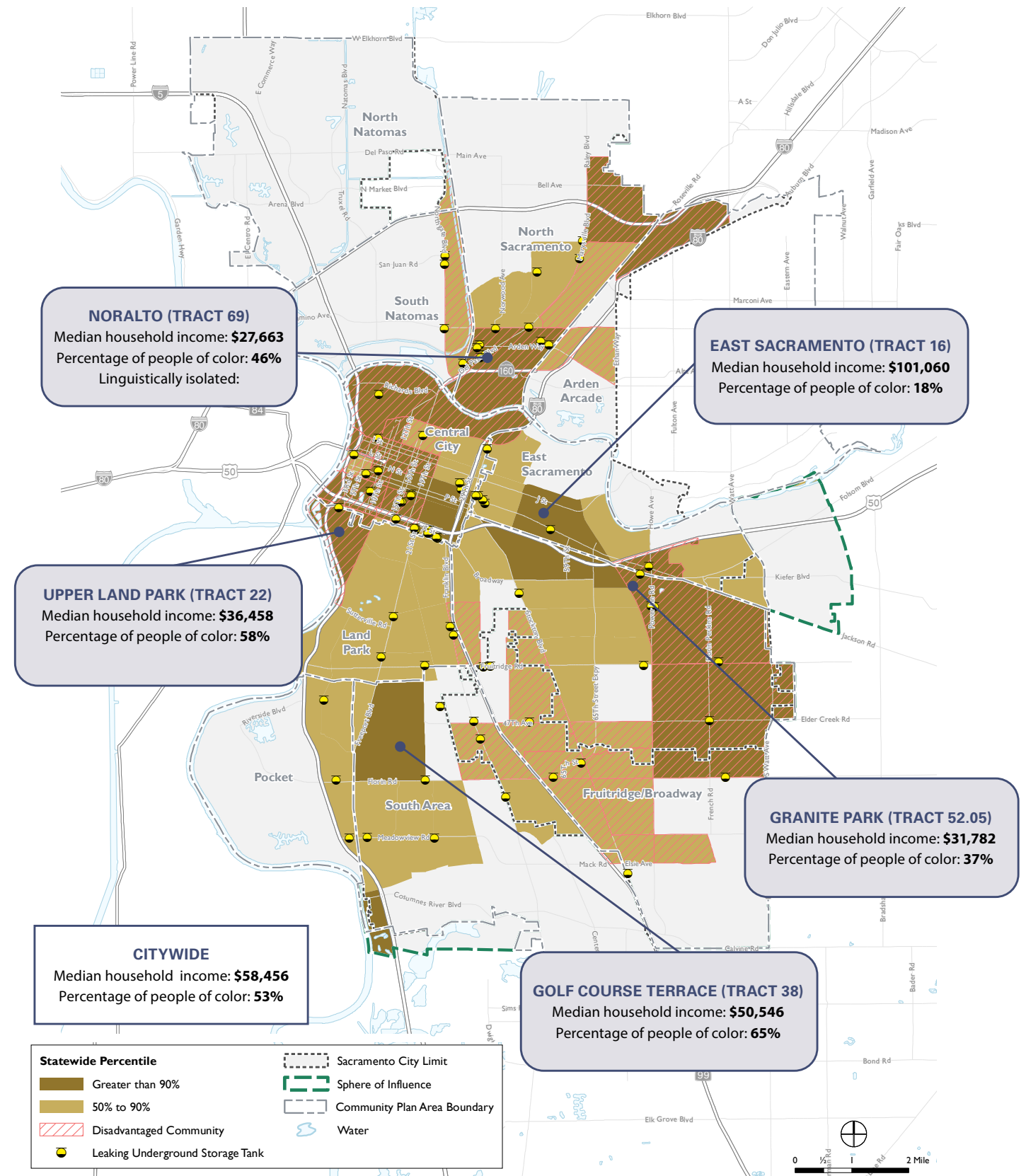
0th Percentile = Least Burdened in the State
100th Percentile = Most Burdened in the State

Source: CalEnviroScreen 3.0



An example of a leaking underground storage tank (not in Sacramento)

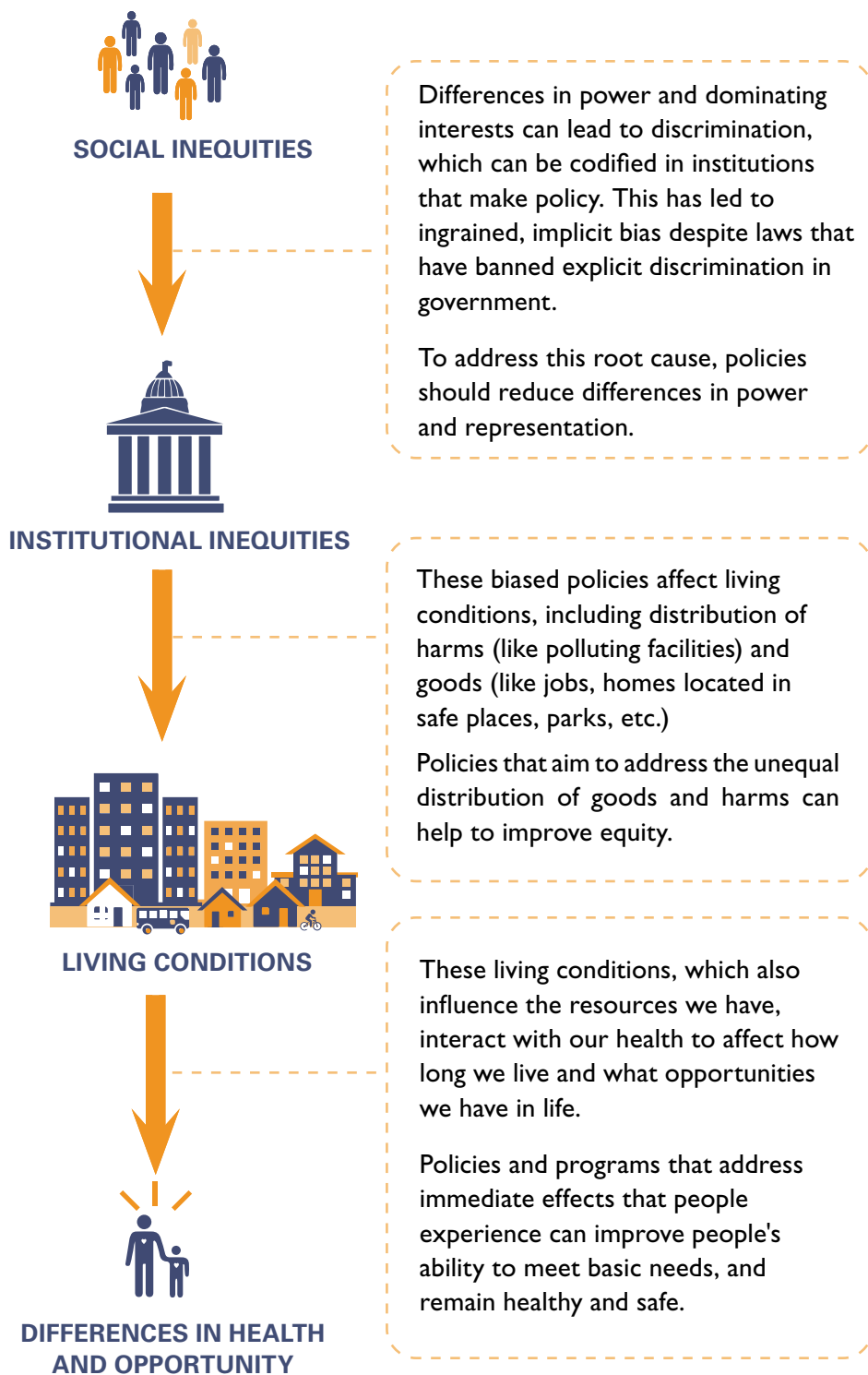
Groundwater Threats



Source: CalEnviroScreen 3.0, 2018; American Community Survey, 2014-2018; City of Sacramento, 2019; Dyett & Bhatia, 2020.

Strategies

Root Causes Of Environmental Injustice



Adapted from BARHII's Public Health Framework for Reducing Health Inequities Framework.

Air Quality And Pollution Exposure Issues

1 Air quality. Poor air quality is a citywide and a regional issue, but low income residents are more vulnerable and therefore more impacted. Efforts are underway to assess the most vulnerable and most burdened communities as part of California law AB 617 (Community Air Protection Program), whose goal is to improve air quality in environmental justice communities through local, community-specific strategies focused on the individual needs and issues particular to each community. This groundwork can serve as the basis for air quality improvements in the city.

2 Hazardous Materials. Exposure to hazardous materials tends to be based on geography, proximity to industrial areas (either past or current uses). Low income populations tend to be disproportionately burdened.

3 Water Quality. Within city limits, Sacramento enjoys good drinking water quality, but unincorporated areas and areas on the periphery that are more likely to be served with groundwater have higher rates of drinking water contaminants such as arsenic and nitrate. Groundwater threats, including tanks with the potential to leak, affect most of the city, though they are concentrated in the Central City, parts of North Sacramento and industrial areas to the southeast. Areas with the highest levels of contamination are more likely to be state-designated disadvantaged communities, tend to be lower income, and have a higher percentage of residents of color.

Existing/Ongoing City Efforts

- 1**
- Coordination and support of the Sacramento Air Quality Management District in implementing the Community Air Protection Program (AB 617).
 - Updating the Climate Action Plan, a framework for reducing greenhouse gas emissions. Many sources of GHG also impact air quality.
 - Existing land use and circulation regulations that reduce air pollution from vehicles, such as the Transit Oriented Development Ordinance.
 - Programs like the "Sac to Zero" electric vehicle infrastructure program and electric vehicle car sharing programs.
 - Existing goals and policies to improve the health and sustainability of the community through improved regional air quality and reduced greenhouse gas emissions.

- 2**
- The City of Sacramento Brownfields Program, which provides financial and technical assistance for Brownfields revitalization (sites that contain environmental contamination), including grants for environmental assessment, cleanup, and job training.
 - The Clean Water Business Partners campaign, which provides assistance and incentives to local businesses who follow proper procedures for disposal of wastewater, while promoting clean water awareness.

- 3**
- Development of an online Drinking Water Quality Data Portal, which comprehensive results from the City's safe water testing, including specific levels of various substances.
 - Existing General Plan goals and policies to protect local watersheds, water bodies, and groundwater resources.

Air Quality and Pollution Exposure Actions: What is Needed

ADD YOUR IDEAS TO THE BOXES BELOW AND ON THE BACK OF THIS FACTBOOK.

1 Reduce the sources of air pollution and mitigate its effects.

Example policies could include: Reduce air and noise pollution effects from vehicle emissions, freeways, and major roadways; Use buffers to separate sensitive land-uses from incompatible land uses when feasible; Encourage existing stationary sources of emissions to minimize impacts on residents' exposure to pollution; Support outreach efforts to educate residents on health impacts of pollution exposure.

2 Promote the remediation and redevelopment of brownfield sites in the City.

Example policies could include: Promote the remediation and redevelopment of brownfield sites in the City, particularly near communities bearing a disproportionate environmental burden.

3 Explore strategies to improve water quality in burdened areas.

Example policies could include: Consider annexation of the Fruitridge Florin study area to consolidate and provide city services to that community.

ADDITIONAL IDEAS OR ISSUES: