City of San Diego Environmental Justice Background Review

Presentation of Findings

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Prepared for

The City *of* SAN DIEGO

TABLE OF CONTENTS

INTRODUCTION

What is Environmental Justice?

Senate Bill (SB) 1000 requires local governments to address pollution and other hazards that disproportionately impact low-income communities and communities of color in their jurisdiction by identifying any "disadvantaged communities" within its planning area. State law defines "disadvantaged communities" as either:

1. *An area identified by the California Environmental Protection Agency (CalEPA) using the California Communities Environmental Health Screening Tool (CalEnviroScreen), or*
2. *An area that is low-income and disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation.*

If a local government identifies one or more disadvantaged communities within its planning area, its general plan must include environmental justice (EJ) goals, policies, and objectives that reduce the unique or compounded health risks in these disadvantaged communities by addressing eight different topics:

- Reducing pollution exposure;
- Promoting public facilities;
- Promoting food access;
- Promoting safe and sanitary homes;
- Promoting physical activity;
- Reducing unique or compounded health risks;
- Promoting civic engagement; and
- Prioritizing the needs of disadvantaged communities.

Related Efforts

In 2015, the City of San Diego's Climate Action Plan (CAP) identified "disadvantaged communities"—what the City now refers to as Communities of Concern—as census tracts scoring in the top 30th percentile of the CalEnviroScreen 3.0 tool, census blocks eligible for Community Development Block Grants (CDBG), and areas within one half-mile radius of affordable housing. Additionally, the City considered presence of priority populations including the non-driving elderly, disabled, low-income, and other members of the population to allocate citywide resources and investments in a manner that advances climate equity.

The City has partnered with community-based organizations to define **climate equity,** comprised of environmental justice and social equity, as "efforts addressing historical inequities suffered by people of color, allowing everyone to fairly share the same benefits and burdens from climate solutions and attain full and equal access to opportunities regardless of one's background and identity."

Assessing Environmental Justice & Equity

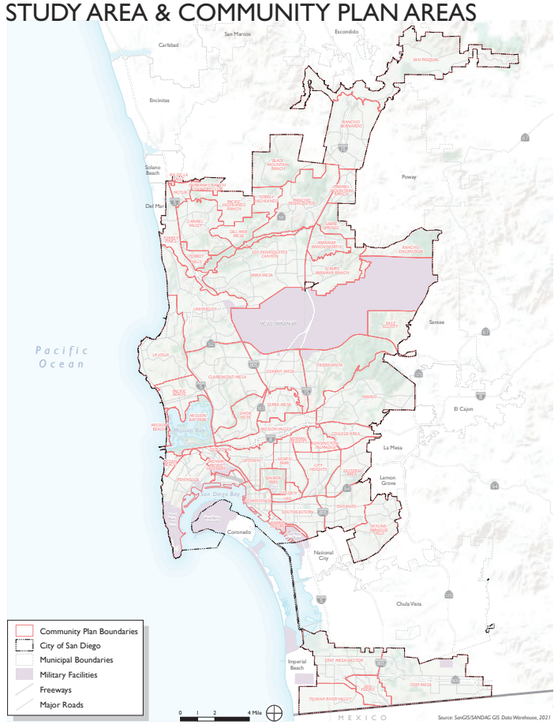
The Office of Planning and Research (OPR) General Plan Guidelines for EJ recommend a screening process for identifying disadvantaged communities that overlays census tracts with a combined CalEnviroScreen score of 75 or higher (i.e., top 25th percentile) with the two definitions of low-income areas (discussed on page 5), as well as community-specific data and additional pollution burdens that were not included in the statewide analysis.

This study builds on existing efforts by the City to continue to refine the identification of EJ communities within the city of San Diego. It assesses additional data from studies related to the topics covered by SB 1000, as well as considers new indicators analyzed using data provided by the City and other available sources. The findings will be used to inform conversations with the community and ultimately will be used in the City's EJ Element in the General Plan.

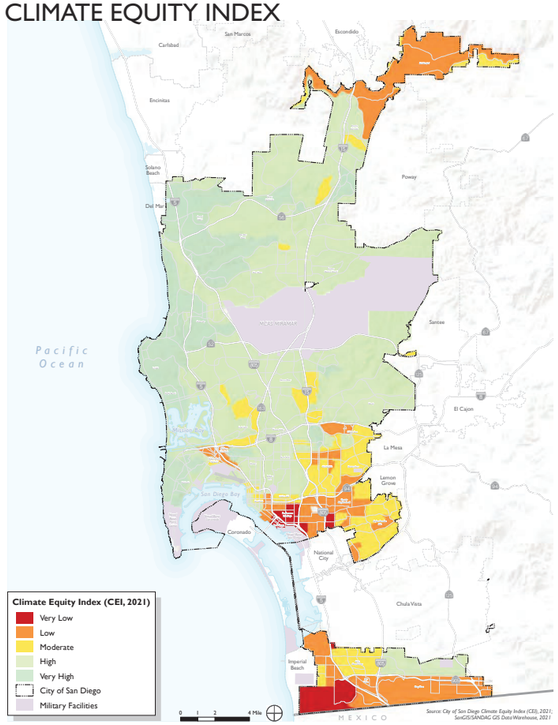
In this document, "disadvantaged communities," or DACs, will refer to tracts officially designated by the State as such. Communities that will be the focus of the City's EJ Element have not yet been defined, but potential areas highlighted by this study are referred to as "EJ focus areas."

This study refers to neighborhoods by their Community Plan Areas (CPAs) defined by the City, as seen in the above left map.

STUDY AREA & COMMUNITY PLAN AREAS



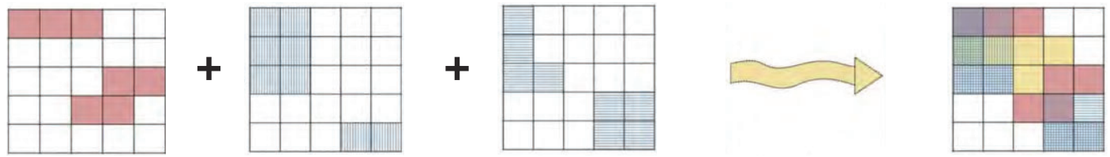
CLIMATE EQUITY INDEX



Climate Equity Index

In 2019, the City's Sustainability Department and the University of San Diego Energy Policy Initiatives Center (EPIC) created the Climate Equity Index (CEI) to establish benchmarks and metrics to assess citywide climate equity and better understand Communities of Concern. The original methodology was revised in 2021 to further refine the indicators, resulting in a CEI score that averages across 41 total indicators. The study found that 119 of 297 census tracts (40 percent) that intersect with the City score below the citywide average and are therefore classified as having Very Low, Low, or Moderate access to opportunity.

As seen in the above right map, these tracts are generally located in the southeastern and northeastern portions of the city, such as in the neighborhoods of Barrio Logan, Lincoln Park, Nestor, the Tijuana River Valley, Logan Heights, Palm City, Mountain View, Stockton, Grant Hill, Southcrest, Teralta East, and Shelltown. This study will examine some of the factors that contribute to the disparity in these areas.



1. Map the planning area census tracts that have a combined score of 75 percent or higher in CalEnviroScreen.

2. Map the planning area census tracts at or below statewide median income.

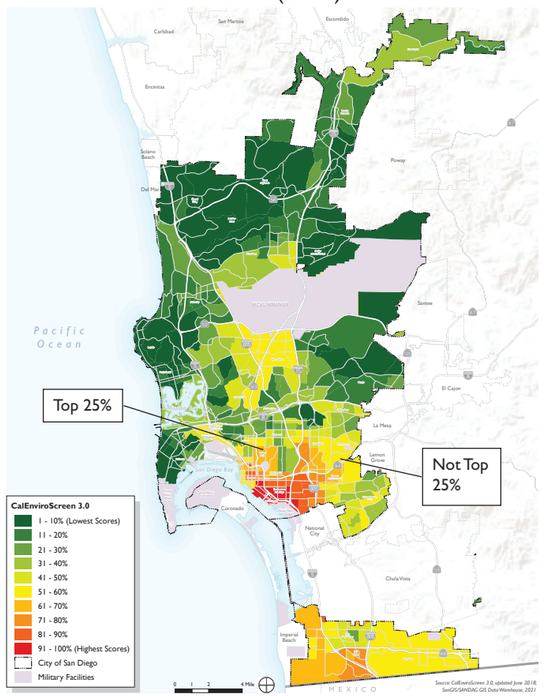
3. Map the planning area at or below the Department of Housing and Community Development's state income limits.

4. Incorporate community-specific data and examine for additional pollution burden.

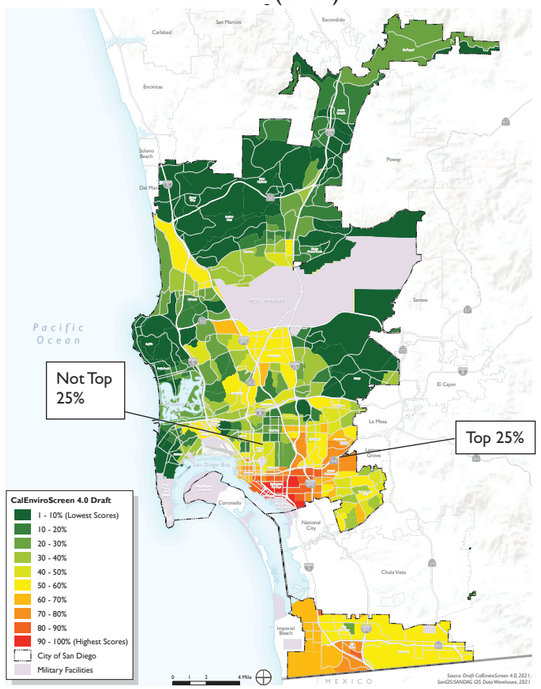
Environmental Justice Screen

INTRODUCTION

CALENVIROSCREEN 3.0 (2018)



CALENVIROSCREEN 4.0 (2021)



CalEnviroScreen

CalEnviroScreen (CES) 3.0, adopted in 2018, assesses 20 indicators that measure the pollution burden and population characteristics of all census tracts in California to identify those that are most impacted and most vulnerable. CalEPA has recently updated this tool (referred to as version 4.0), which was adopted in October 2021 and includes an additional indicator for lead exposure.

The maps to the left show the CES scores of tracts in the city of San Diego. Both CES 3.0 and 4.0 generally indicate that the downtown, Barrio Logan, Southeastern San Diego, City Heights, and southern border areas are more impacted (shown in orange/red), while the least impacted areas (in green) are primarily located in the northern half of the city.

Comparing these maps, there is relatively less disparity in CES 4.0, indicated by the greater proportion of mid-range scores (in yellow), although scores have generally increased throughout the city.

Changes in some tracts near the 75th-percentile threshold also affected their designations as a DAC: Five tracts are no longer in the top 25th percentile, and three tracts are potential new DACs. These changing tracts are located in San Ysidro, Downtown, Golden Hill, Eastern Area, and City Heights neighborhoods and are all directly adjacent to communities that continue to score in the top 25th percentile by both CES 3.0 and 4.0.

The top issues contributing to high scores include Diesel, Poverty, Housing Burden, Hazardous Waste, Educational Attainment, Asthma, Unemployment, Groundwater Threats, and Impaired Water Bodies. In CES 4.0, Toxic Releases was also among top-contributing issues.

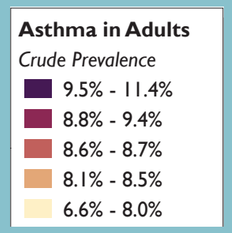
How to Read this Study

Maps throughout this study are generally symbolized by statewide quantiles, which show the percentile rank of the geographical unit (a census tract, census block, community, etc.) in relation to the rest of the state.

Darker colors and higher values generally correspond to more impacted areas such as those with higher pollution burden (with some exceptions, depending on the data).

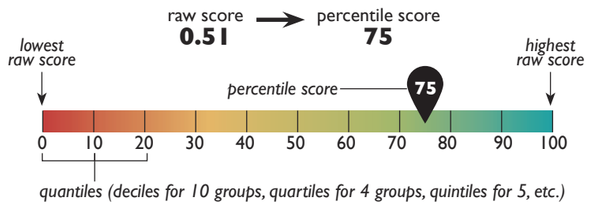
For example, census tracts in the darkest color of the legend are in the top 20th percentile, meaning they score higher than 80 percent of tracts in the state.

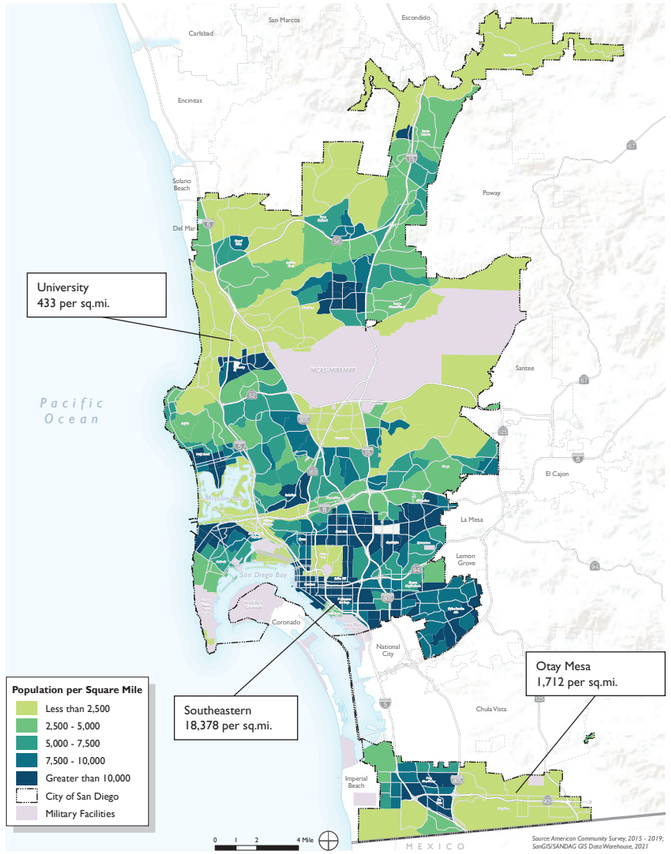
The legend will also specify the range of raw data values included within each quantile grouping. For example, the legend below shows that tracts with a raw value between 9.5% to 11.4% are in the top 20th percentile, or the top "quintile" because there are 5 groupings.



Based on the topics covered by SB 1000, this study assesses differences in indicators to identify areas in the city that are disproportionately disadvantaged. By comparing these maps and noting the emerging trends, this study will highlight key communities and issues of concern.

CREATING PERCENTILE SCORES





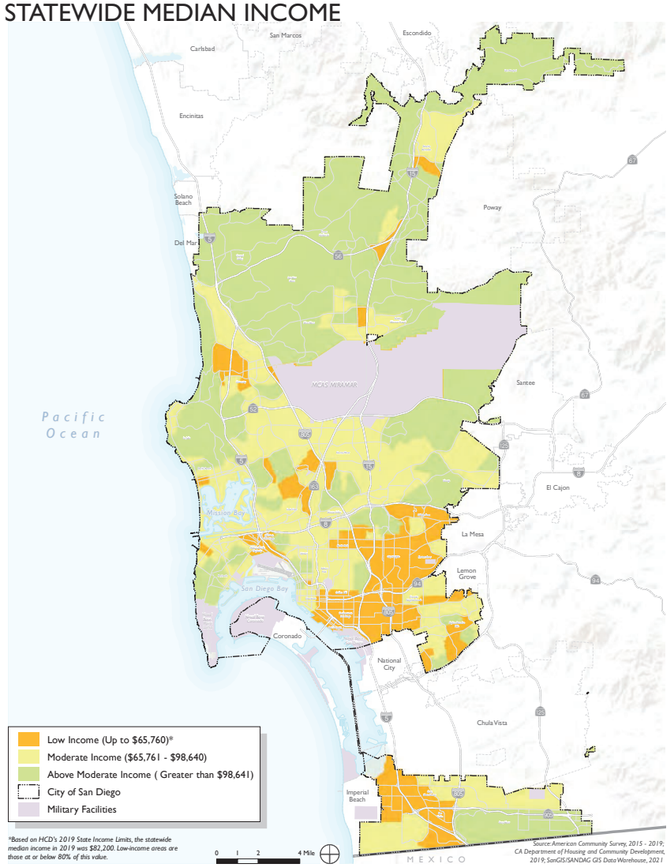
Population Density

The map above shows the population density in the city by census tract (population per square mile). Many south-central communites such as Southeastern San Diego and Encanto neighborhoods are densely populated, while other areas like northwestern University and Otay Mesa are much more sparsely populated.

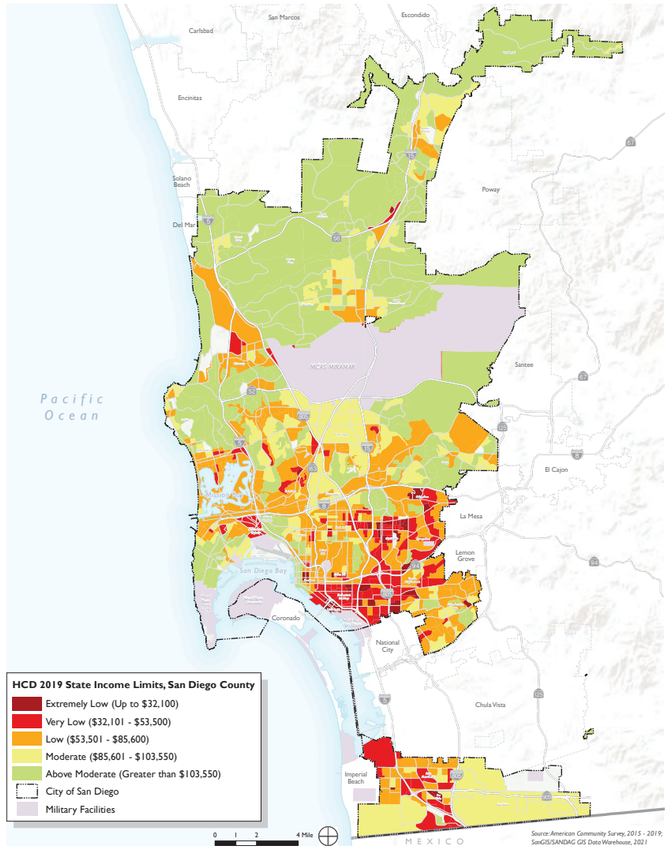
Data and maps discussed throughout this study may show areas with large proportions (e.g., percentage or ratios) of population affected by certain conditions, but these areas may be geographies with low population densities.

INTRODUCTION

LOW TO MODERATE INCOME CENSUS TRACTS BY STATEWIDE MEDIAN INCOME



MEDIAN HOUSEHOLD INCOME BY CENSUS BLOCK GROUPS



Low Income Areas

There are two definitions of "low-income areas" in SB 1000 that use different thresholds. OPR EJ guidelines recommend considering both definitions when screening for potential EJ communities.

The first is based on the statewide median income. Low-income areas are those "with household incomes at or below 80 percent of the statewide median income." Based the Department of Housing and Community Development (HCD)'s 2019 State Income Limits, the statewide median income for 2019 was $82,200, and 80 percent of this value is $65,760.

The above-left map shows low-income tracts in orange, which are concentrated primarily in the southern half of the city. Moderate-income areas (light orange) tend to be adjacent to low-income areas and make up a substantial amount of the central portion of the city along SR-163 as well as University and communities west of I-805 near the Mexican border.

Alternatively, low-income areas are defined as those "below the threshold designated as low income by the Department of Housing and Community Development's list of state income limits."

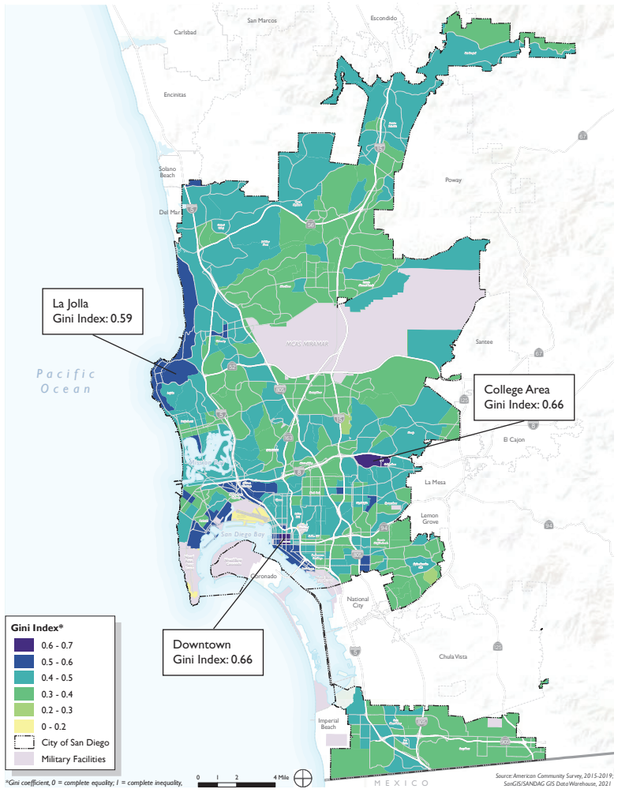
To correspond with 2019 ACS data, tracts were assessed using the 2019 State Income Limits. Based on this source, the low-income limit is $85,600 for San Diego County. The map directly to the left shows census block groups by median household income levels; low-income areas are those shown in red and orange. Overall, block groups in the Extremely and Very Low ranges correspond with low-income areas based on the statewide median, and low-income areas based on HCD thresholds correlate with areas that are Moderate income by statewide median.

Income Inequality

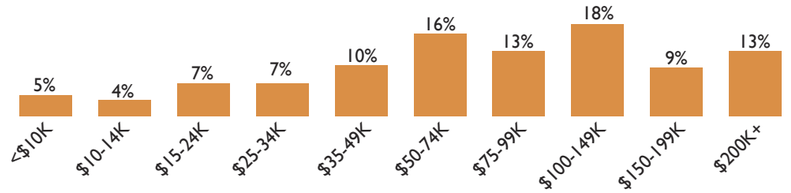
The map below shows the Gini Index of Income Inequality, which is a summary measure of the dispersion of incomes within the census tract. The Gini coefficient ranges from 0, indicating perfect equality (where everyone receives an equal share), to 1, perfect inequality (where only one recipient or group of recipients receives all the income).

Most of the city is between 0.3 to 0.5, but some areas are notably greater inequality (dark blue).

The chart below the map shows the citywide distribution of incomes and indicates that higher income ranges generally have a greater share than lower income ranges.

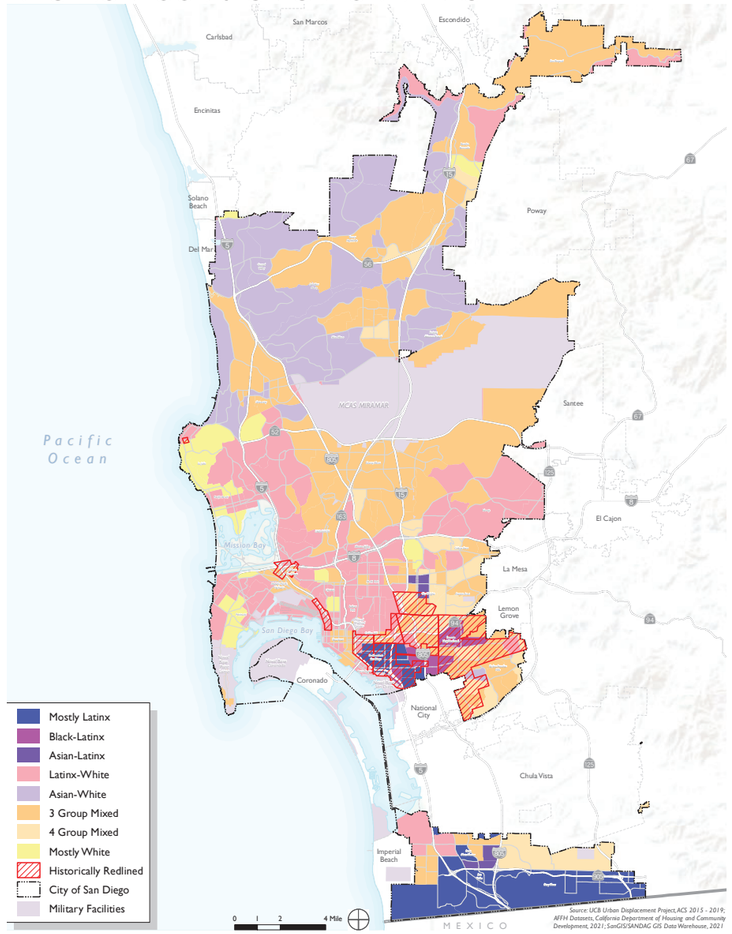


DISTRIBUTION OF MEDIAN HOUSEHOLD INCOMES, 2019

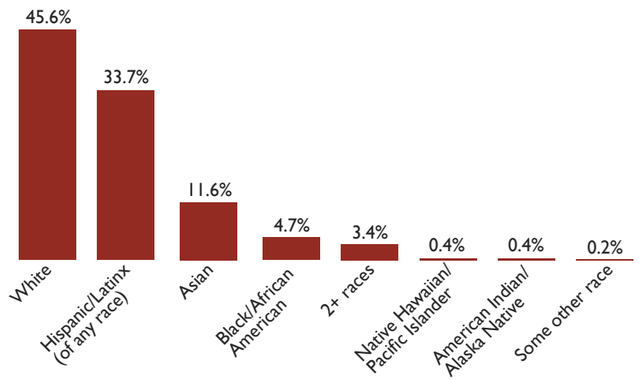


Socioeconomic Disparities

NEIGHBORHOOD SEGREGATION BY RACE



CITY OF SAN DIEGO POPULATION BY RACE, 2019



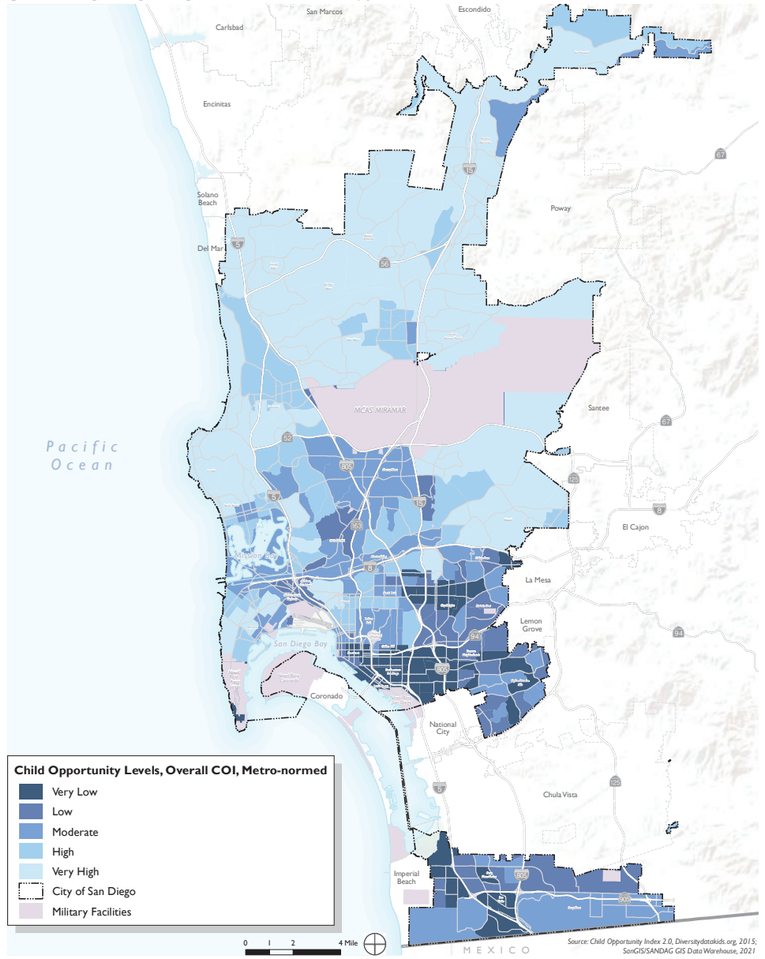
San Diego is a racially diverse community. Hispanic residents make up about 34 percent of the population based on 2019 ACS estimates, and 12 percent of the population is Asian, 5 percent is Black, and 3 percent are of two or more races. The map to the left shows the geographic distribution of San Diego residents by race, aggregated at the census tract level. Areas shown in orange are the most racially diverse, with three of four different racial groups making up a substantial proportion of the tract's population.

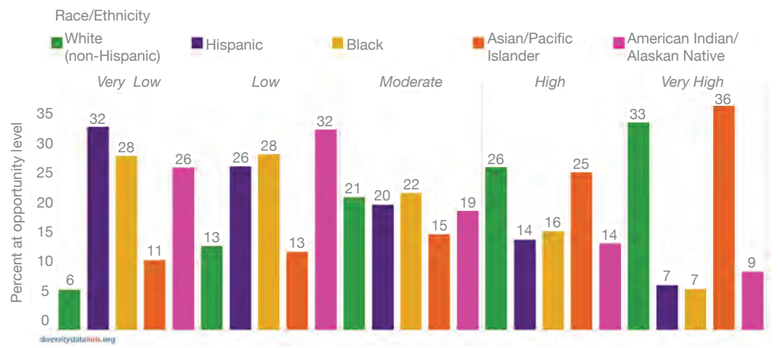
While racial and cultural diversity is a celebrated value today, national and local history includes past policies and governmental actions that have disenfranchised communities of color and continue to have impacts into the present.

For example, redlining was a process used by the federal Home Owners' Loan Corporation (HOLC) in the 1930s to guide federal subsidies and mortgage lending and was largely determined by racial demographics. Red or "hazardous" neighborhoods were deemed riskiest, making it hard for residents from those communities to get loans for homeownership or maintenance and resulting in disinvestment. Figure 7 illustrates how historically redlined areas coincide with areas that, even today, are predominantly communities of color and also coincide with the low-income areas seen in the maps from the previous section.

While redlining was a historical practice that was applied only to the areas of the City that were developed or developing in the 1930s, its legacy still affects redlined neighborhoods locally and nationally.

CHILD OPPORTUNITY INDEX 2.0





OPPORTUNITY GAP: COI 2.0 CATEGORIES BY RACE

The Child Opportunity Index (COI) is a metric developed by the Kirwan Institute (Datadiversitykids.org) that measures neighborhood resources and conditions that affect childhood development. COI 2.0, updated in 2020, has 29 neighborhood-level indicators including access and quality of early childhood education (ECE), high-quality schools, green space, healthy food, toxin-free environments, and socioeconomic resources.

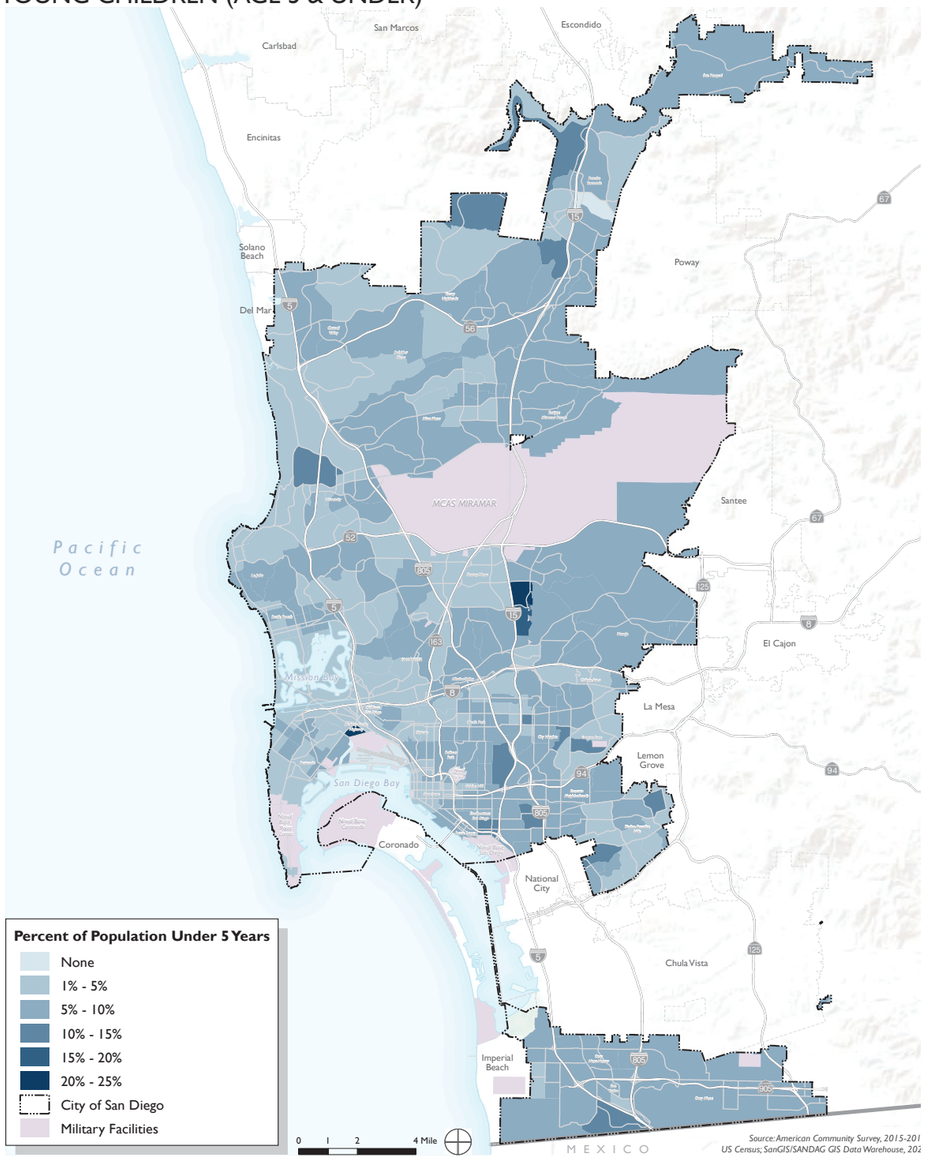
The COI score ranges from 0 (Very Low Opportunity) to 100 (Very High Opportunity). The San Diego-Carlsbad metro area is a Medium opportunity area, with an average score of 56, and ranks in the middle of the 100 largest metros in the US.

The map to the left shows that opportunity is not equal in San Diego; tracts in the northern half of the city tend to be higher, while tracts in the southern half score much lower. There is a 77-point difference between the highest and lowest scoring tracts in the San Diego-Carlsbad metro area.

There is also a racial opportunity gap, as seen in the chart below the map. White and Asian/Pacific Islander racial groups are far more represented in the High and Very High opportunity categories, while Hispanic and Black populations have significantly higher proportions in the Very Low and Low opportunity groups.

Vulnerable & Sensitive Populations

YOUNG CHILDREN (AGE 5 & UNDER)



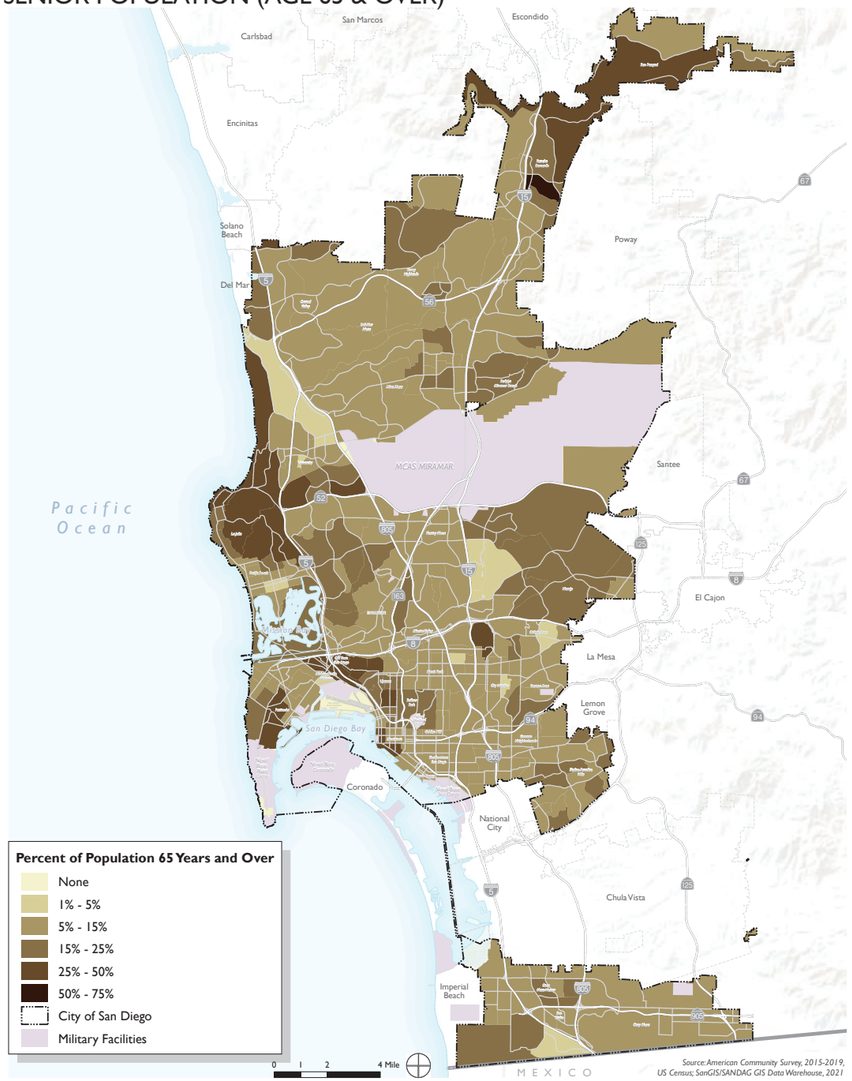
Certain groups of individuals are more vulnerable or susceptible to negative health effects when exposed various kinds of pollution, including individuals with existing health conditions, young children, and seniors. The US EPA identifies uses that serve these populations as "sensitive receptor uses," which include hospitals, schools, daycare facilities, elderly housing and convalescent facilities.

According to 2019 ACS, the median age in San Diego is 34.9, compared 36.5 statewide and 35.8 countywide. This means that the population is comparatively younger, and therefore that there are more children and young people living in San Diego who could be negatively affected by pollution. The distribution of young children ages 5 and under is generally even throughout the city, as mapped to the left.

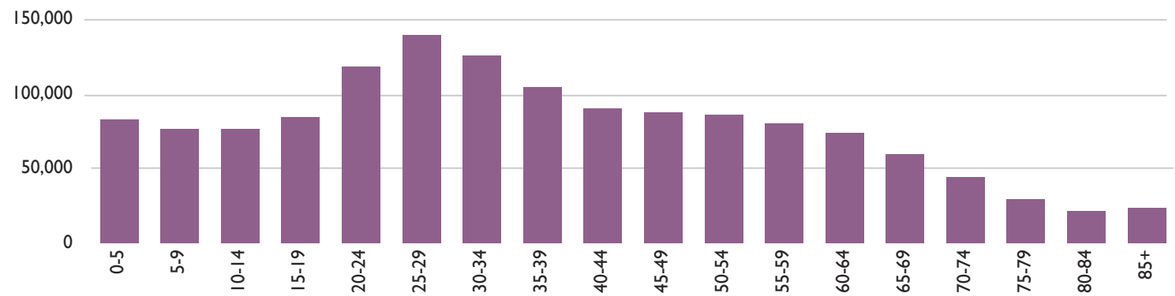
The map on the right illustrates senior populations (ages 65 and older), which vary throughout the city. Seniors are particularly concentrated in the La Jolla, University, Rancho Bernardo, San Pasqual, and Peninsula communities. Due to aging of the baby boomer generation, growth in the City's senior population is expected.

Negative health outcomes can both result from and increase the negative effects of ongoing pollution exposure. Existing health conditions among San Diego residents are shown on the next page.

SENIOR POPULATION (AGE 65 & OVER)

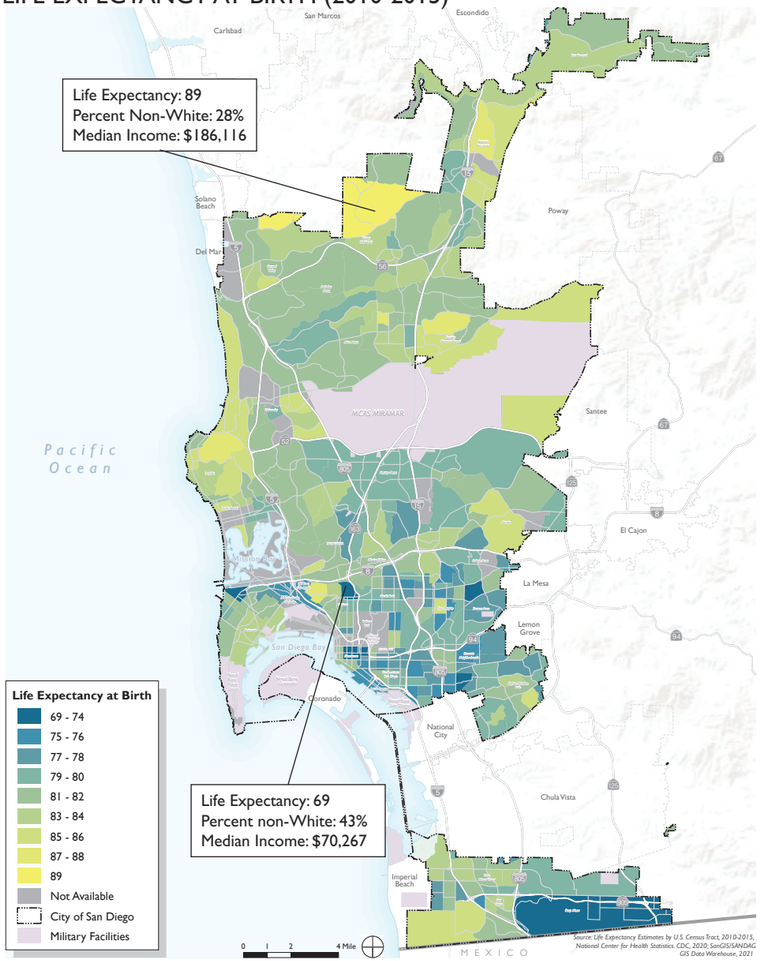


CITY OF SAN DIEGO POPULATION BY AGE, 2019



Health Inequities

LIFE EXPECTANCY AT BIRTH (2010-2015)

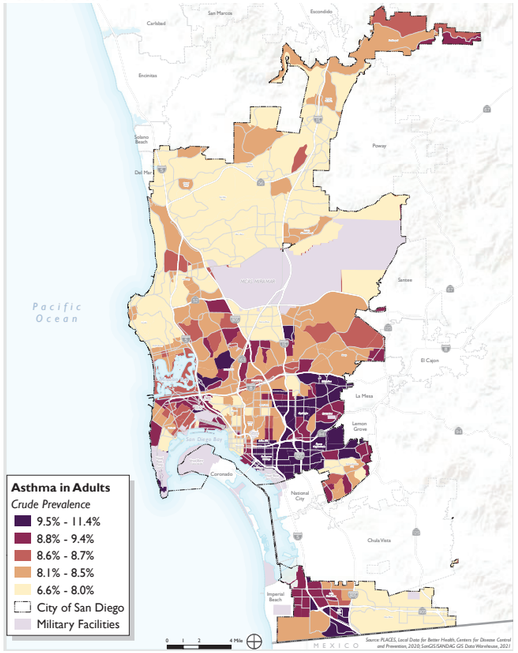


Life expectancy is one of the most basic measures of public health. In San Diego, the median life expectancy is 81 years, but there is a 20-year difference in life expectancy between the highest and lowest census tract. Furthermore, life expectancy is slightly lower in neighborhoods south of I-8.

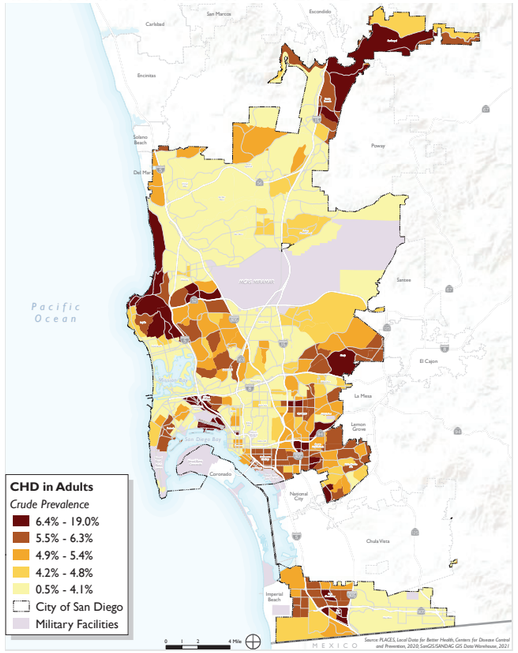
Life expectancy is directly tied to individual health, which can vary based on a person's environmental exposure. The maps to the right show trends of negative health outcomes, which generally overlap in the same areas – namely, Southeastern San Diego, Encanto, City Heights, Otay Mesa-Nestor, and San Ysidro areas as well as parts of Rancho Bernardo and San Pasqual.

Negative Health Outcomes *(Crude Prevalence in Adults, CDC PLACES Local Data for Better Health)*

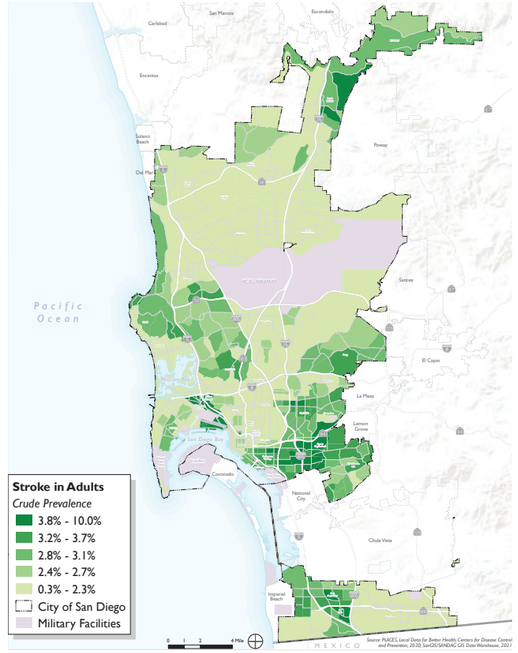
ASTHMA



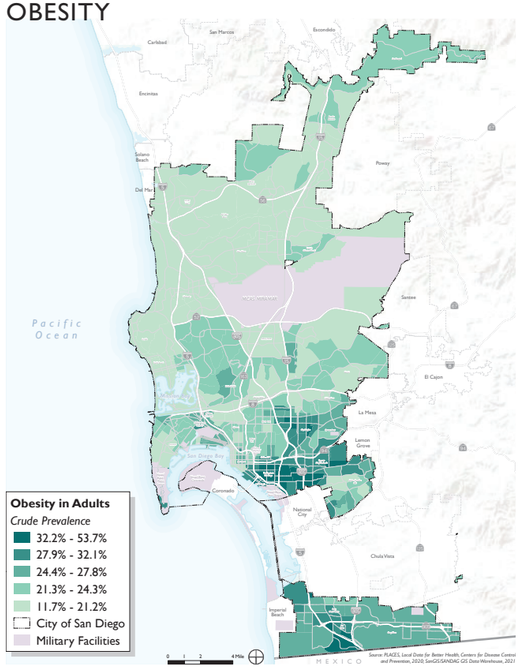
CORONARY HEART DISEASE



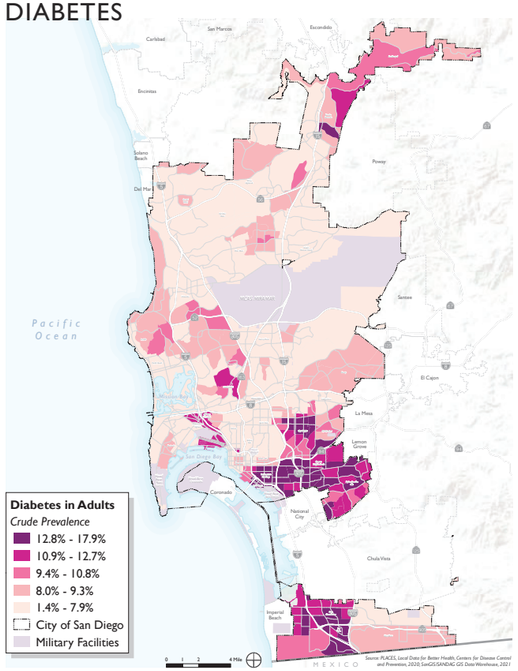
STROKE



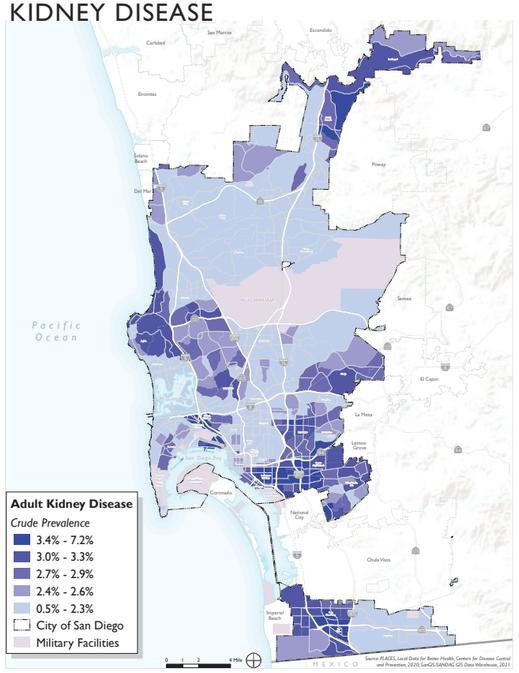
OBESITY



DIABETES

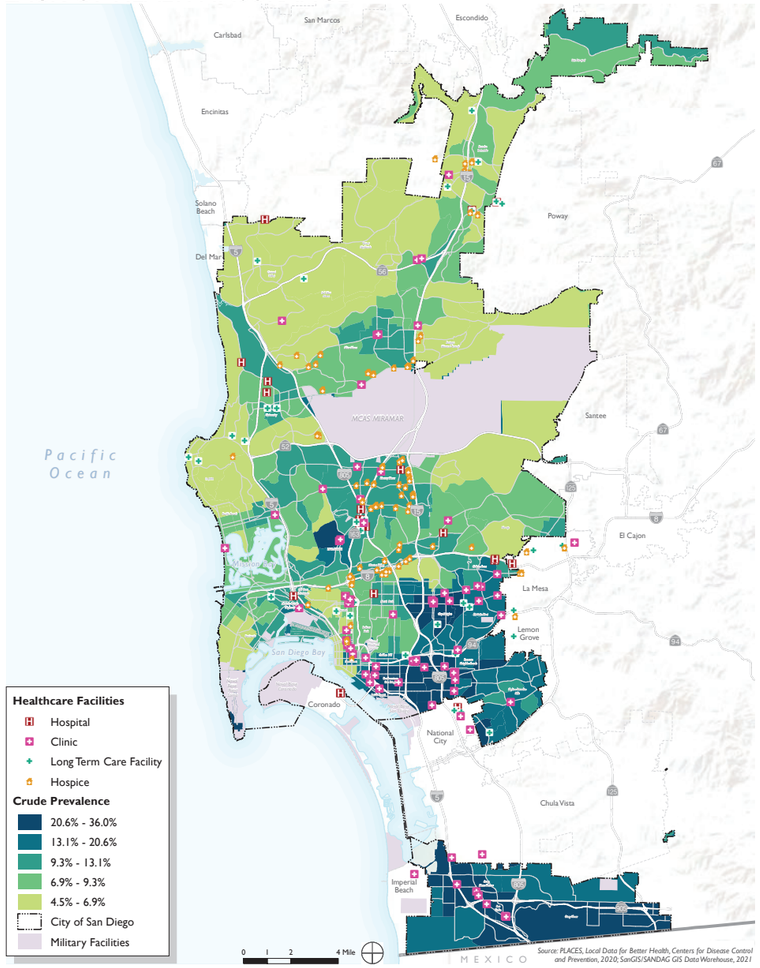


KIDNEY DISEASE

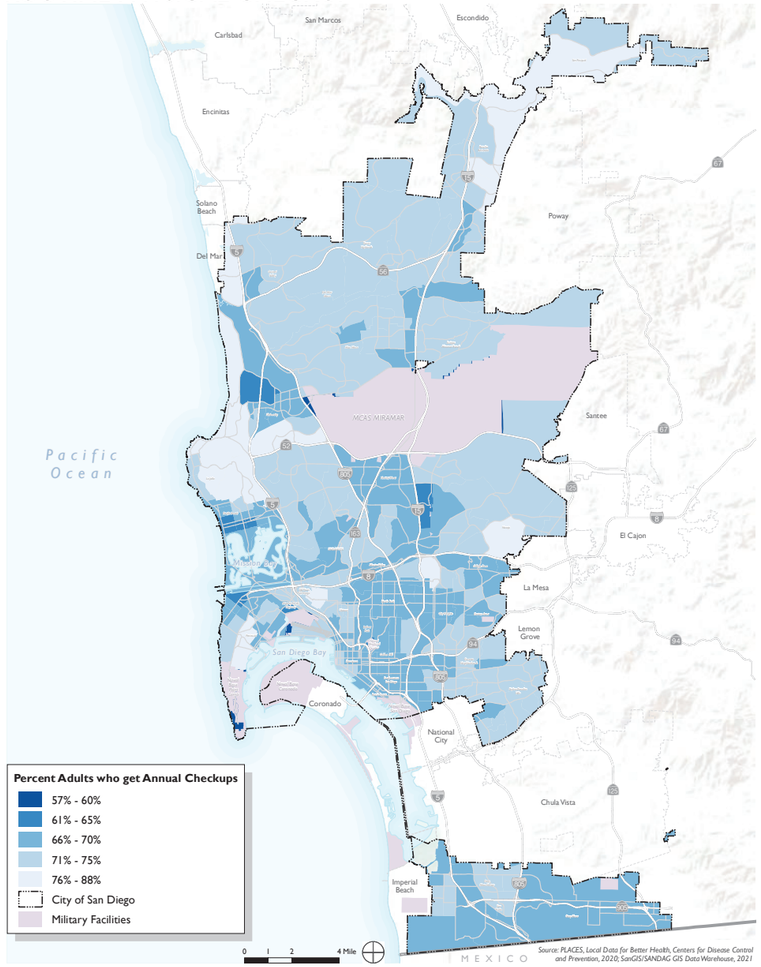


HEALTH OUTCOMES & HEALTHCARE

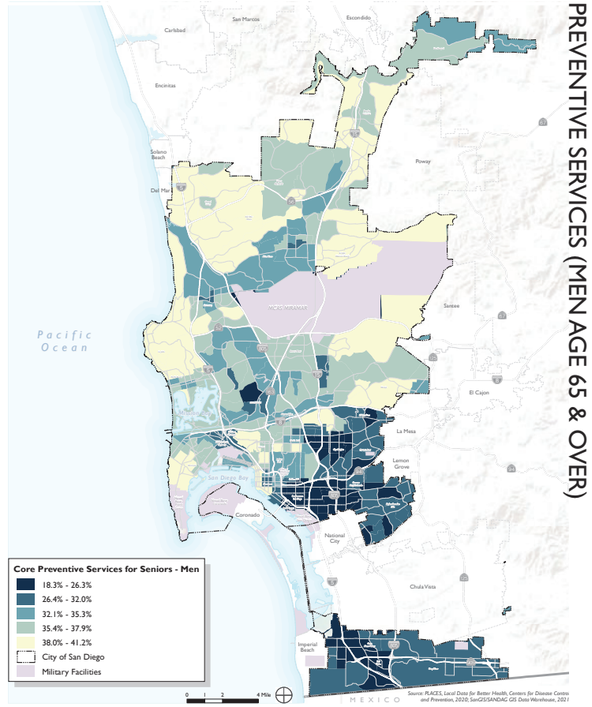
LACK OF HEALTH INSURANCE



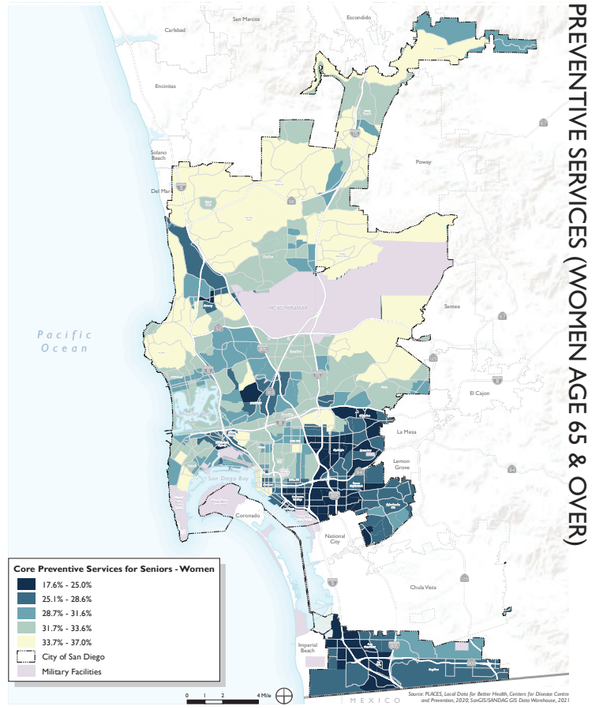
ROUTINE PHYSICAL CHECKUP



PREVENTIVE SERVICES (MEN AGE 65 & OVER)



PREVENTIVE SERVICES (WOMEN AGE 65 & OVER)



Access to Healthcare

Proper medical care is a vital component of maintaining personal health. However, not everyone can afford healthcare, and certain areas of the city have less access to these services than others.

The above-left map shows that almost a third of the city is in the top 40th percentile for lack of health insurance in the state, with as high as 36 percent of the adult population less than 65 years old without health insurance, and encompasses the entire southeastern end of the city. Interestingly, these are areas that have a larger concentration of healthcare facilities such as health clinics (shown in pink).

Based on data from the CDC PLACES dataset, receiving annual physical checkups is an important preventive behavior that correlates with improved health. The above-right map shows that for most tracts in the city, between 66 percent and 70 percent of adults get routine physical checkups.

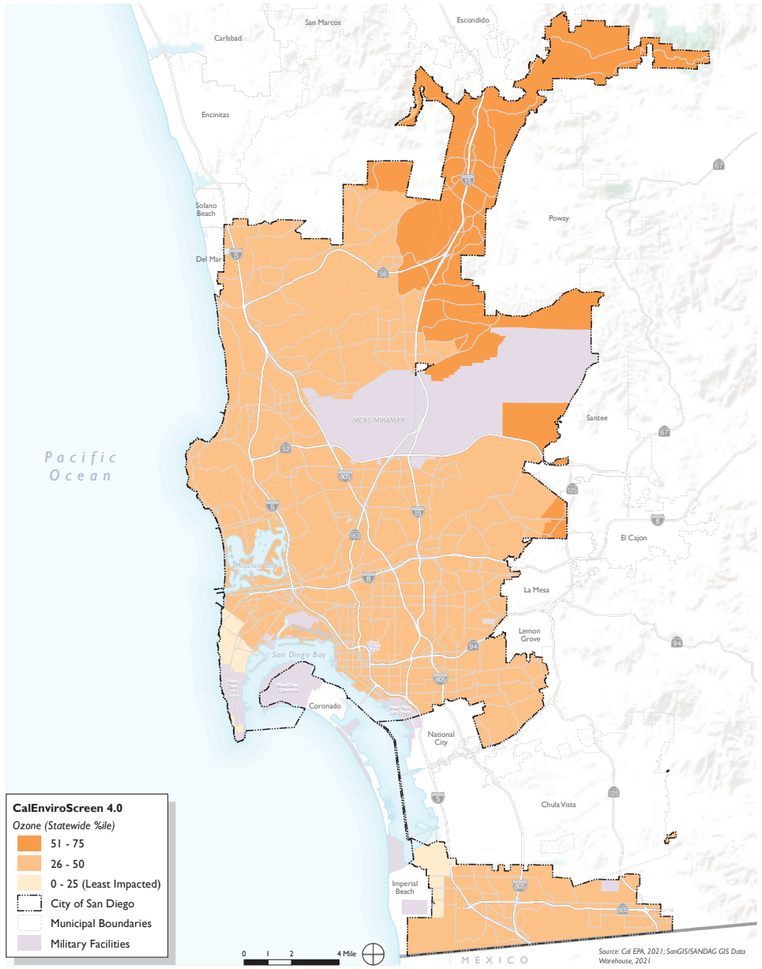
As the baby boomer generation ages, need for appropriate care is apparent. Adults ages 65 and older are more likely to develop chronic illnesses and related disabilities, so national experts recommend a set of clinical preventive services to detect and treat them at early stages. These services include influenza and pneumonia vaccinations, colorectal cancer screening, and mammography screening for women.

As seen in the maps to the right, seniors in lower income neighborhoods are less likely to receive these core preventive services, and women are less likely to be up to date on these services than men.

POLLUTION EXPOSURE

Air Pollution

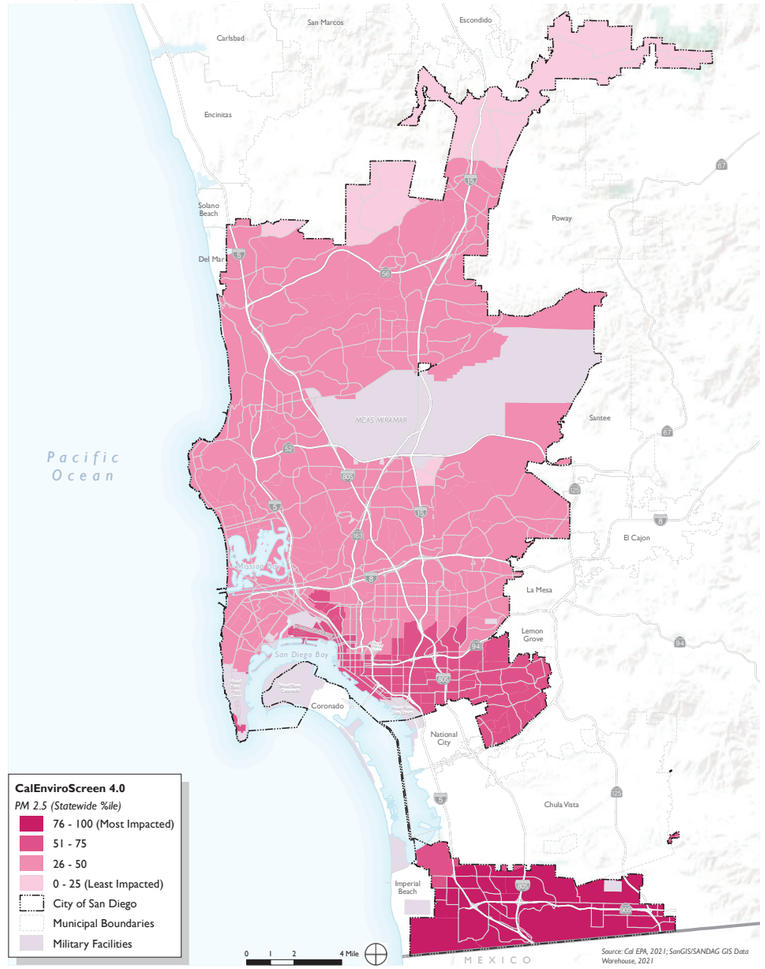
OZONE



Ground-level ozone is the main ingredient of smog and primarily comes from trucks, cars, planes, trains, factories, farms, construction, and dry cleaners. It is one of the most widespread and significant air pollution health threats in California and can cause lung irritation, inflammation, and worsening of existing chronic health conditions like asthma.

California Air Resources Board (CARB) monitors ozone at stations across the state, and thresholds are regularly set to ensure air districts are within acceptable levels. Because this data is based on the closest air monitoring station within 50 kilometers, many areas have the same score. However, ozone concentrations are greater in the northeastern part of the city.

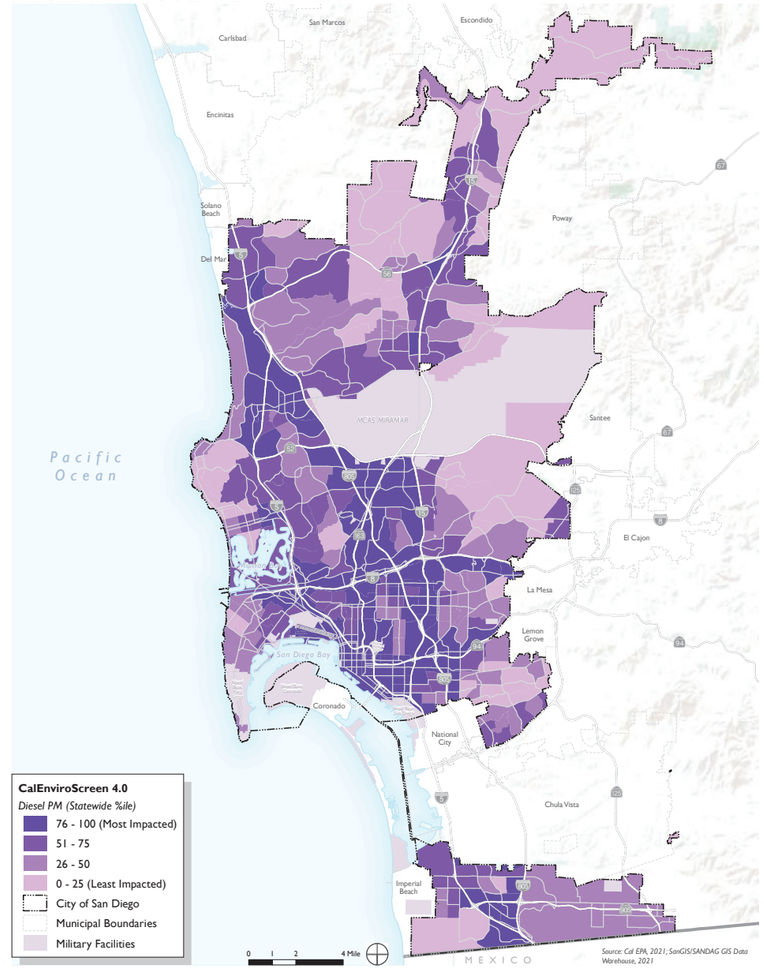
PARTICULATE MATTER 2.5



Particulate matter (PM) 2.5 is a mixture of very fine particles less than 2.5 micrometers in diameter—less than the thickness of a human hair—that includes organic chemicals, dust, soot, and metals that come from automobiles, factories, and wood burning. PM 2.5 can enter deep into the lungs and can cause serious health effects like heart and lung disease.

Like ozone, CARB measures PM 2.5 at air monitoring stations throughout the state, and the data is the average from 2015-2017. However, there is slightly greater variation, and communities around SR-94 and southward experience higher exposure levels. Tracts in the Otay Mesa-Nestor, Tijuana River Valley, San Ysidro, and Otay Mesa are among the top 25 percent in the state.

DIESEL PARTICULATE MATTER

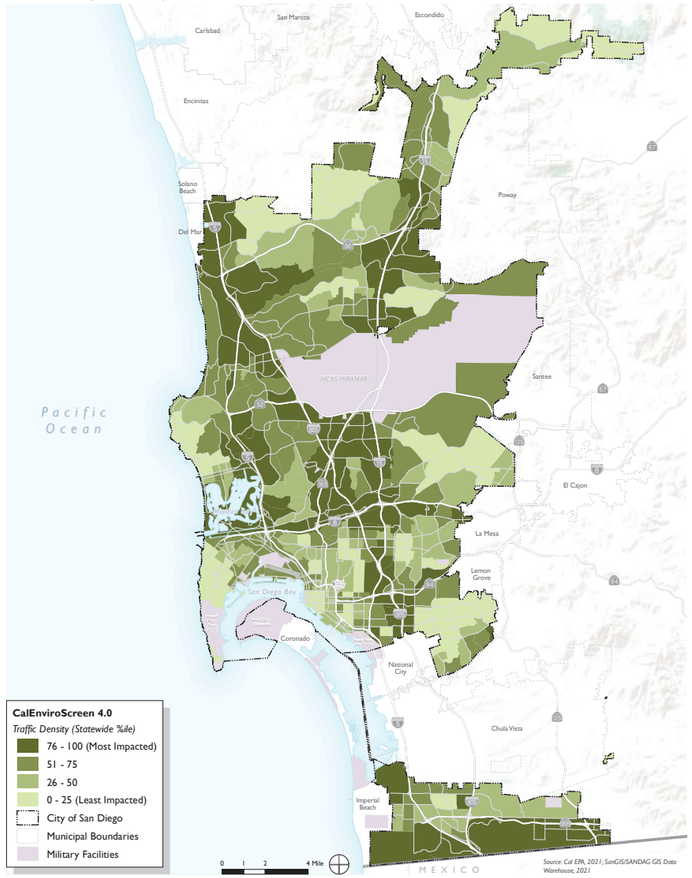


Diesel PM are particles found in the exhaust from trucks, buses, trains, ships, and other equipment with diesel engines, and the highest levels of diesel PM are near ports, rail yards, and freeways. People who are regularly exposed to industrial areas and heavy truck or train traffic are more likely to develop illnesses including heart and lung disease or lung cancer.

Diesel emissions data is available at a 4-kilometer resolution statewide, and CARB collects data from both on-road (trucks and buses) and off-road (ships and trains) sources. In San Diego, tracts along major freeways including I-805, I-15, I-8, I-5, SR-94, and SR-163 are most impacted, many of which are within the top 25 percent in the state.

POLLUTION EXPOSURE

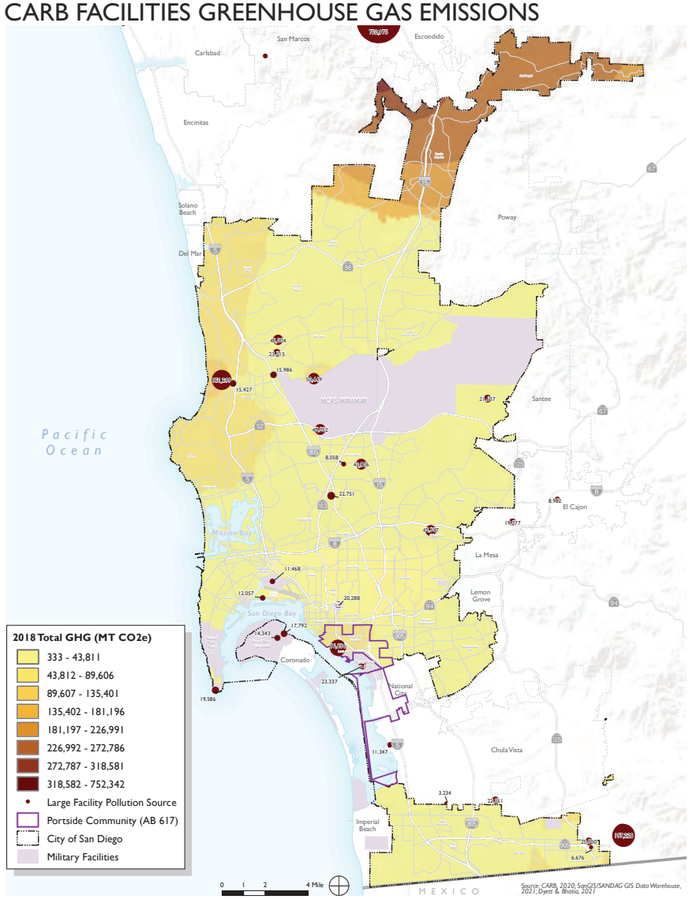
TRAFFIC DENSITY



Vehicular exhaust is the main source of air pollution in much of the state, and low-income communities and people of color are more likely to live near areas with high traffic. Many tracts along the major freeways that transect the city rank among the top 25th statewide percentile, seen in the map above.

Stationary sources such as large facilities can also emit large quantities of greenhouse gas (GHG) emissions. CARB tracts GHG emissions by these facilities, most of which are industrial sources. The above-right map shows that there are several sources in San Diego, such as near airport, industrial, and military uses (shown in gray) in central and southwestern areas. However, when assessed by quantity of GHG emissions (illustrated by the size and label of the dot), communities with the greatest exposure are in the northeastern Rancho Bernardo and San Pasqual neighborhoods.

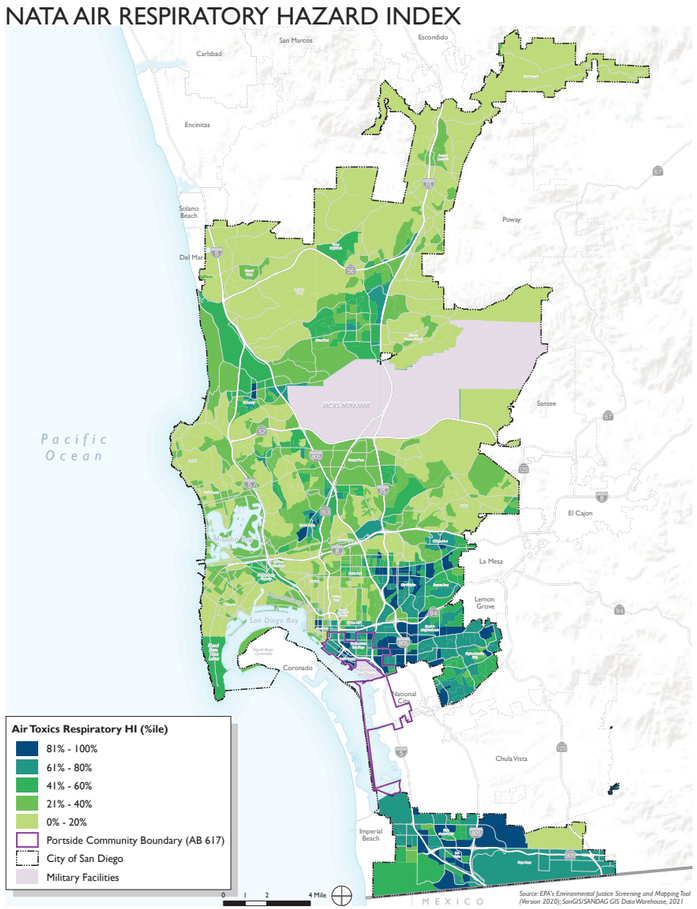
CARB FACILITIES GREENHOUSE GAS EMISSIONS



Following presidential Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, US EPA developed the EJSCREEN mapping tool to develop a single, nationally consistent method for assessing environmental and demographic characteristics of locations throughout the US. The tool was publicly released in 2015 and last updated in 2020.

The dataset includes several indices developed by EPA such as the 2014 National-Scale Air Toxics Assessment (NATA) respiratory hazard index, seen in the rightmost map, which measures the ratio of exposure concentration to health-based reference concentration. Tracts among the top 20 percent in the state are in the City Heights, Southeastern, Barrio Logan, San Ysidro, and Otay Mesa communities. These areas are generally more impacted than neighborhoods west of I-15 and north of I-8.

NATA AIR RESPIRATORY HAZARD INDEX



Assembly Bill 617

The Portside Environmental Justice Community—including Barrio Logan, West National City, Logan Heights, and Sherman Heights as outlined above in purple—is a community selected by CARB in 2018 for development of a Community Air Monitoring Plan (CAMP) and Community Emissions Reduction Program (CERP). Together, these documents form a strategic effort to reduce air pollution and disproportionate health impacts in these communities located near the local port, freight, rail, and concentrated industrial activities.

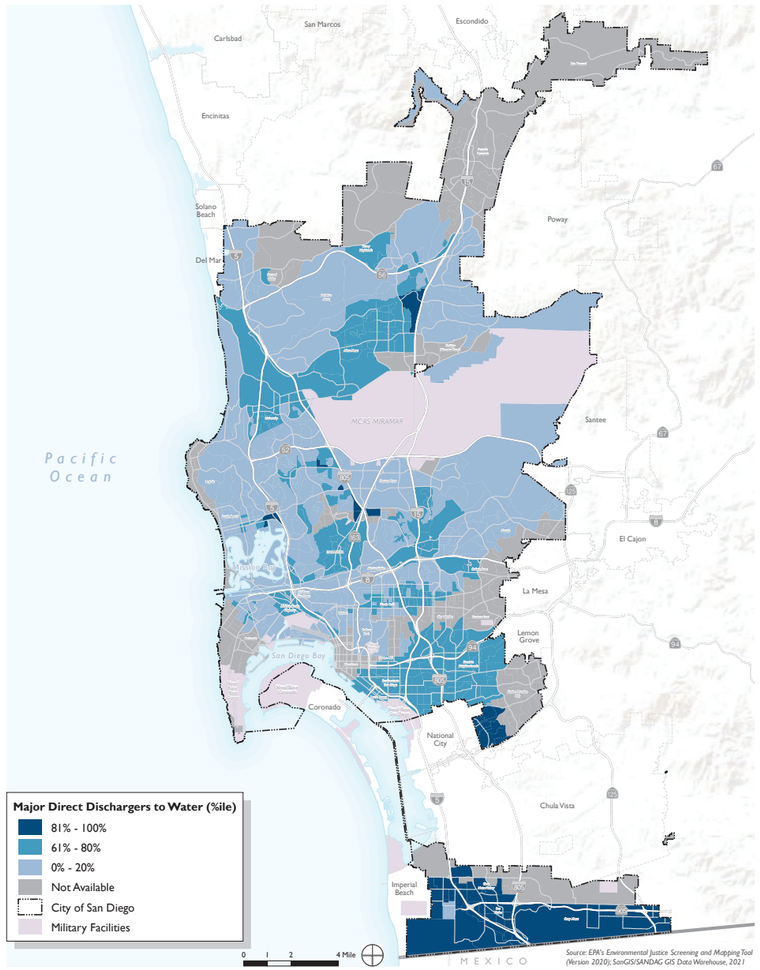
The CAMP was adopted in 2018, and the 2019 draft CERP is undergoing review by the San Diego County Air Pollution Control District and CARB.

POLLUTION EXPOSURE

Water Pollution

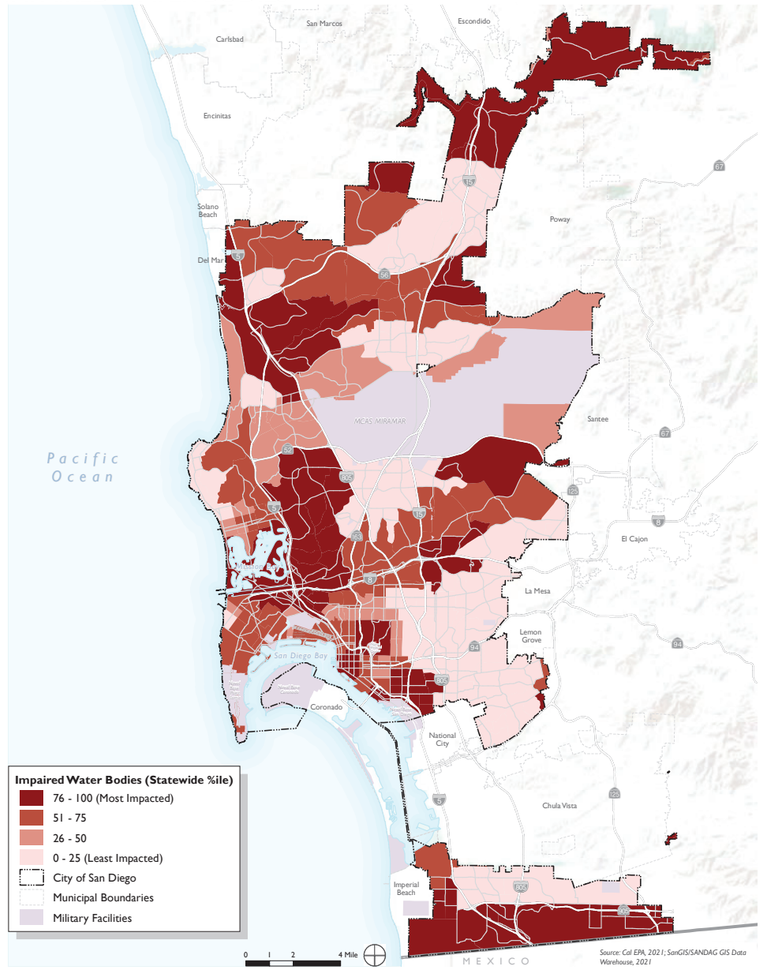
Note: The indicator below is a relative measure of water quality samples in census tracts throughout the state and does not indicate whether water is safe to drink. Furthermore, because data was obtained at the water system level, it does not necessarily reflect the water that an individual resident of that tract is drinking.

WASTEWATER DISCHARGE INDICATOR



The Wastewater Discharge Indicator is an index from EJSCREEN that measures the EPA Risk-Screening Environmental Indicators (RSEI) modeled toxic concentrations at stream segments within 500 meters. RSEI and the Toxic Releases Inventory (TRI) document the amount of toxic chemicals released from industrial and federal facilities as well as each chemical's relative toxicity, or the potential impacts it could have on human and environmental health. Based on this metric, southern tracts are most impacted by toxic releases to water such as in portions of Skyline-Paradise Hills, Otay Mesa-Nestor, Otay Mesa, San Ysidro, and Tijuana River Valley. These areas are in the top 20th percentile in the state, whereas a majority of the remainder of the city are in the bottom 20th percentile.

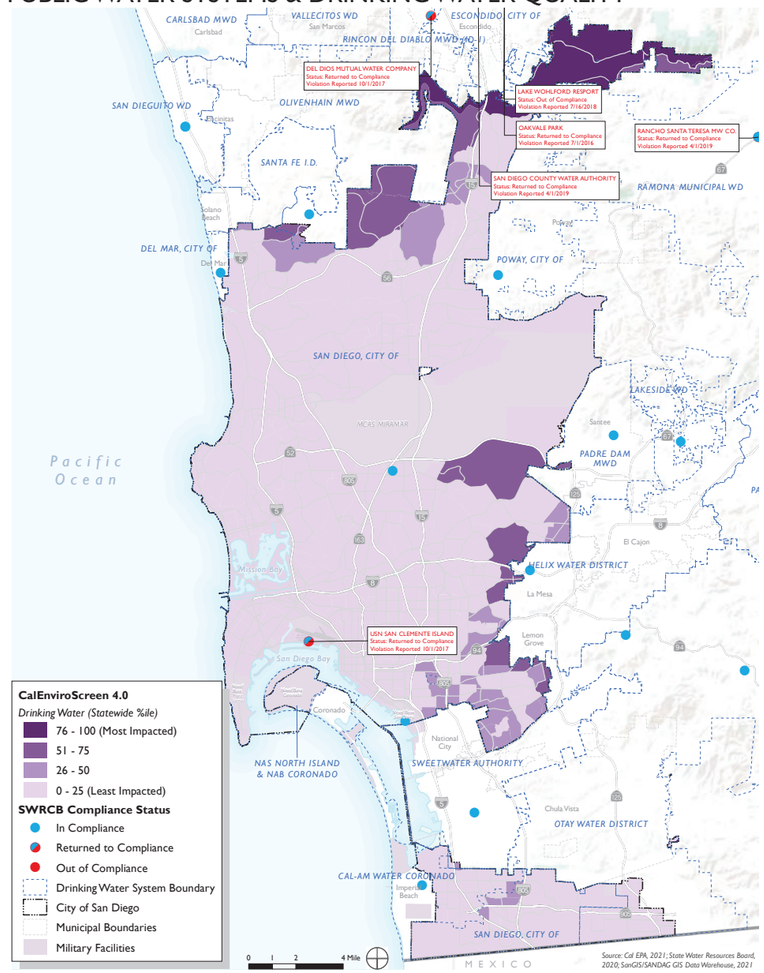
IMPAIRED WATER BODIES



Impaired water bodies are those contaminated by pollutants that can harm wildlife habitats and prevent recreation and other uses of the water body. The State Water Resources Control Board (SWRCB) maintains information on water bodies in California by tracking them on what is referred to as the Section 303(d) List of Impaired Water Bodies, which is assessed every two years (data mapped is for 2014-2016).

The San Diego Region has 5,027 miles and 210,359 acres total of impaired water bodies such as segments along Chollas and Los Pensaquitos creeks and parts of Mission Bay and the Pacific Ocean shoreline. As a result, tracts near these water bodies are most impacted and are among the top 25 percent in the state.

PUBLIC WATER SYSTEMS & DRINKING WATER QUALITY

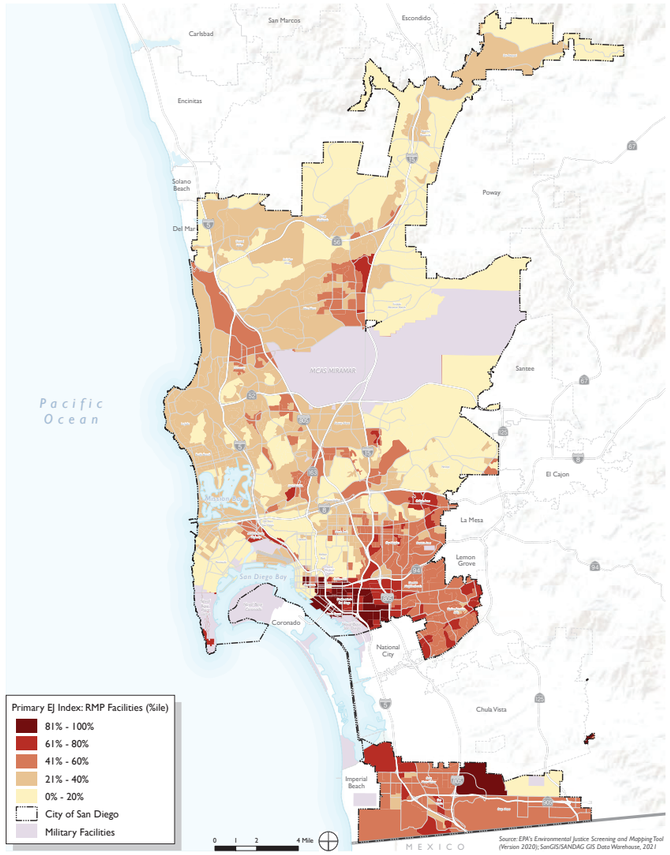


Drinking water quality, a CES indicator, measures the concentration of selected contaminants and history of violations for a given water system. Contaminants come from both natural and human sources such as rocks and soil or sewage and farm runoff.

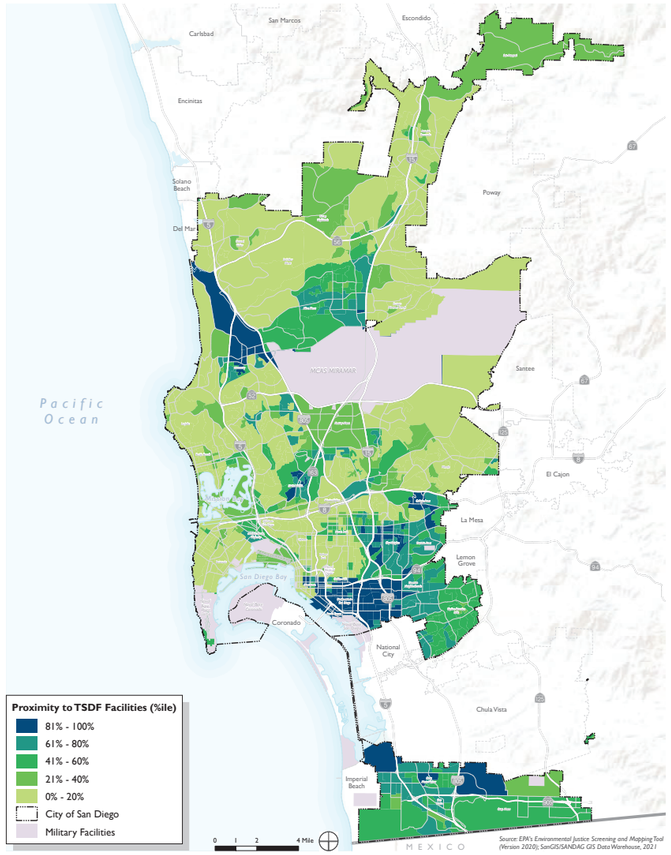
Tracts at the northern edge of the city are most exposed to drinking water contaminants as well as some tracts at the eastern edge. Several nearby public water systems north of the city have recent history of violations catalogued by the State Water Resources Control Board (SWRCB), in addition to one near the airport.

POLLUTION EXPOSURE

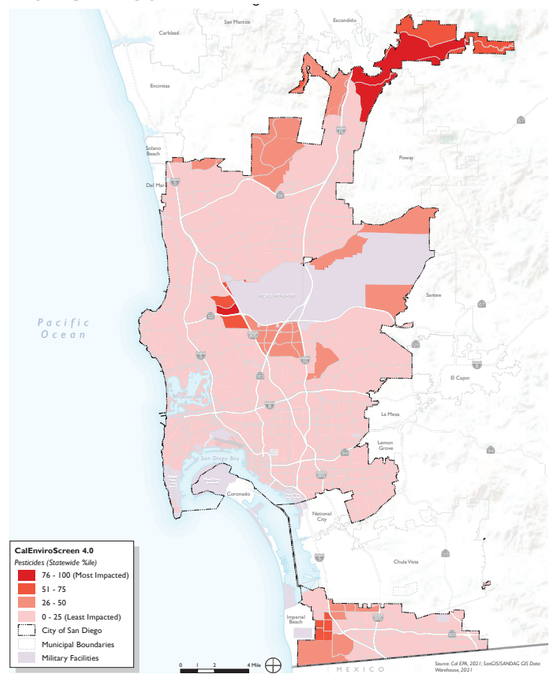
RISK MANAGEMENT PLAN FACILITIES



HAZARDOUS WASTE FACILITIES



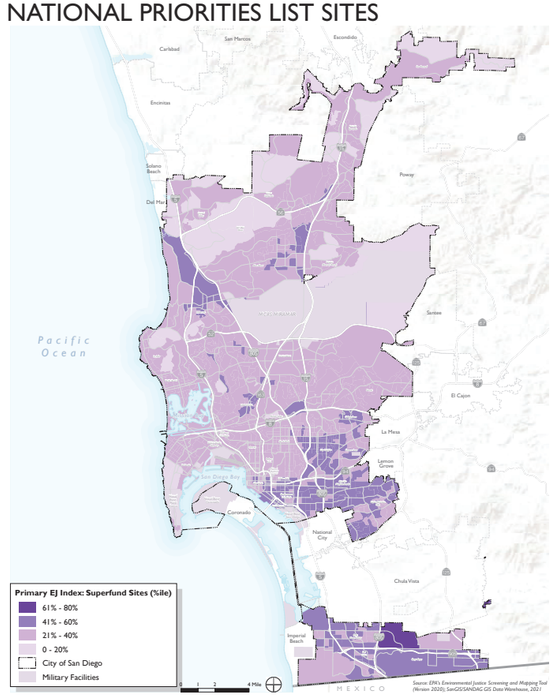
PESTICIDE USE



The map to the left shows areas most exposed to pesticide usage. Exposure to high levels of some pesticides can cause immediate illness or lead to conditions such as birth defects or cancer. CES data measures the total pounds of selected active pesticides per square mile over three years (2016-2018).

Tracts in San Pasqual, Black Mountain Ranch, Tijuana River Valley, and those surrounding the MCAS Miramar base are impacted, whereas most of the city is within the bottom 25th percentile of the state.

NATIONAL PRIORITIES LIST SITES



National Priorities List (NPL) sites, also known as superfund sites, are places where there have been known or threatened releases of hazardous substances, pollutants, or contaminants. The NPL guides EPA investigation to assess risk to human health and the environment, and many are targeted for remediation to be reused or redeveloped following cleanup.

There is only one area in the city above the 60th percentile, located in Otay Mesa. However, low income areas generally score higher than higher income areas.

Toxics & Hazardous Waste

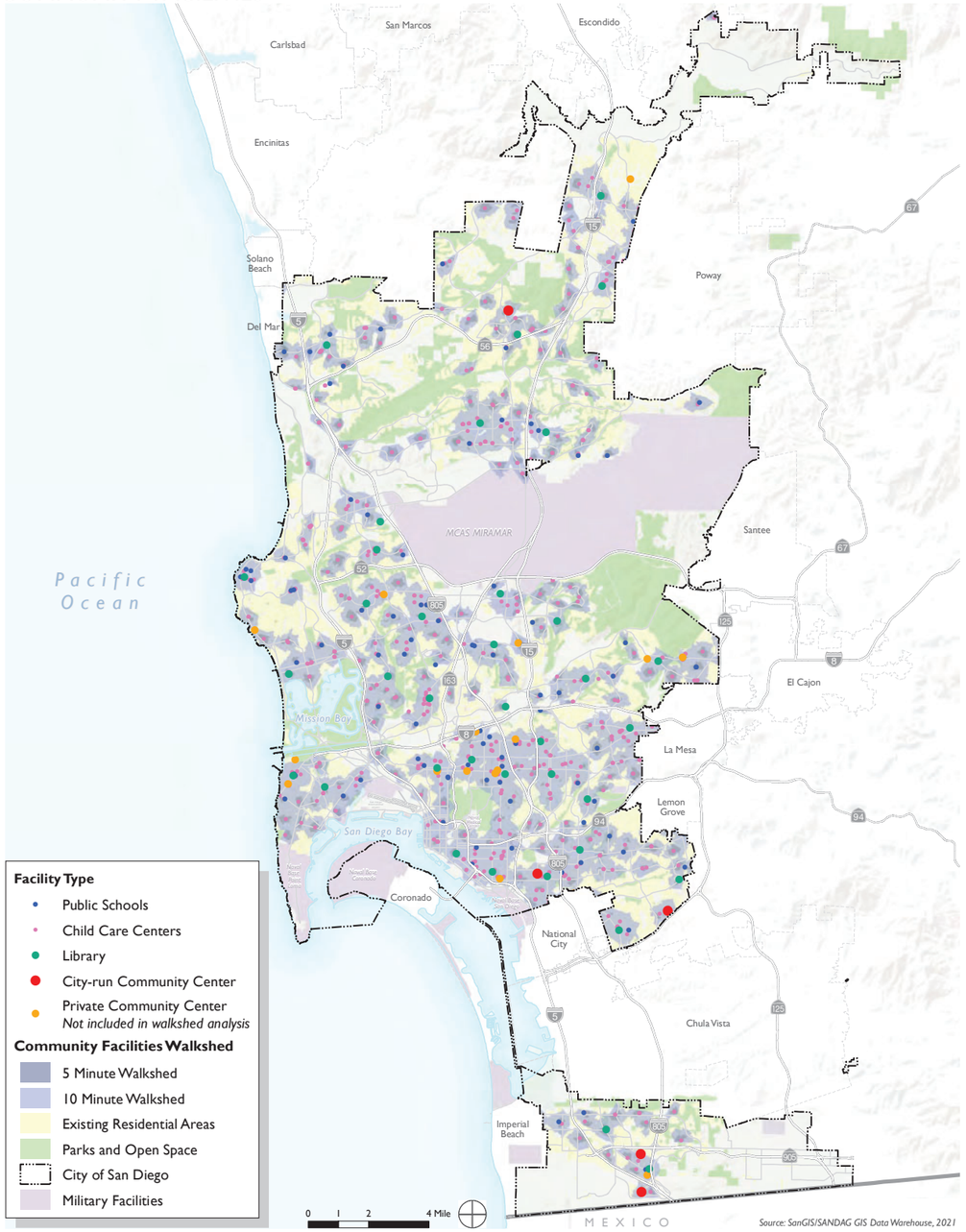
Improper handling and management of chemical waste can contaminate air, water, and soil and harm both the natural environment as well as people. In California, information about hazardous waste generators and facilities is maintained by the Department of Toxic Substances and Control.

Proximity to Risk Management Plan (RMP) sites is measured by EPA and included in EJSCREEN. This index is the density per kilometer of potential chemical accident management plan facilities within 5 kilometers, assessed in 2020. RMPs are required by facilities that use extremely hazardous substances and provide valuable information to local safety service providers to prepare for chemical emergencies. Some tracts in the city are notably more at risk, especially those in Downtown, Barrio Logan, Southeastern, and northern Otay Mesa (see map above left).

These areas also coincide with those with high densities of hazardous waste facilities including Treatment, Storage, and Disposal Facilities (TDSFs) and Large Quantity Generators (LQGs) logged by EPA in the Resource Conservation and Recovery Act (RCRA) data base, with the addition of tracts in the University, City Heights, College Area, and Linda Vista communities, as seen in the map above.

PUBLIC FACILITIES & PHYSICAL ACTIVITY

COMMUNITY FACILITIES



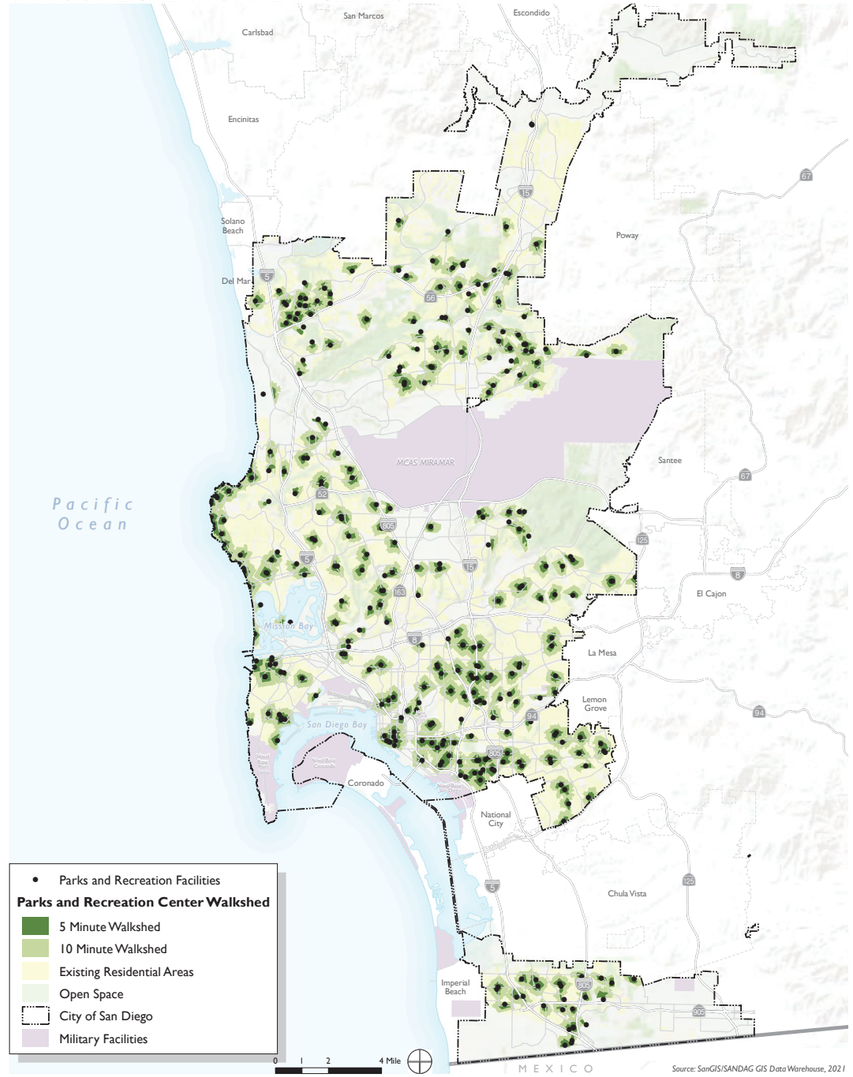
Access to Facilities & Services

Access to public amenities, including community facilities, parks, and recreational facilities, is an important component of community health. These facilities help provide necessary services and promote active lifestyles.

The map to the left shows that public facilities including libraries, schools, childcare centers, and community centers are fairly well-distributed throughout the city. Most residential areas are within a 5- or 10-minute walk of these locations, though some areas in La Jolla, Skyline-Paradise Hills, Miramar Ranch North and Rancho Bernardo are somewhat underserved. It is noted that although there are no City- or privately-run community centers in northwestern San Diego, other public facilities including libraries and schools that are found in all parts of the city are also important venues for community programs and resources.

Parks and recreational facilities are essential resources for encouraging active play and healthy lifestyles. The map to the right shows the 5- and 10-minute walksheds of parks and recreational facilities in the city, which is generally well-served. Areas that are underserved include parts of La Jolla, Kensington-Talmadge, Black Mountain Ranch, and Rancho Bernardo.

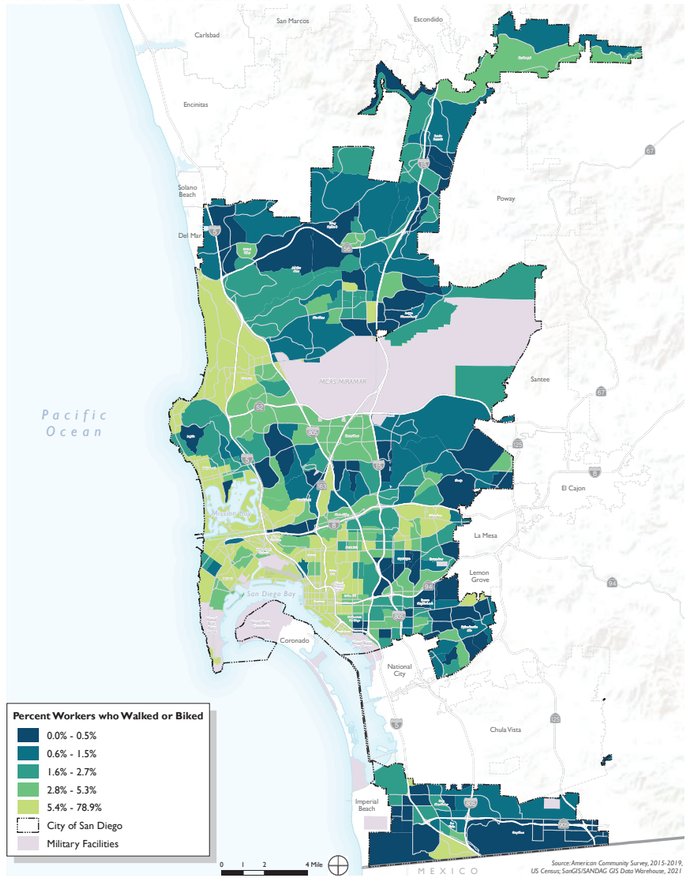
PARKS & RECREATIONAL FACILITIES



However, according to Trust for Public Land ParkServe 2021 data, provision of parks and facilities is not equitable: While walkable access is generally about 80 percent for all residents in San Diego, low-income residents have 86 percent less park space per person compared to those in high-income neighborhoods. Additionally, residents in neighborhoods of color have access to 73 percent less park space per person compared to those in white neighborhoods.

Accessibility & Mobility

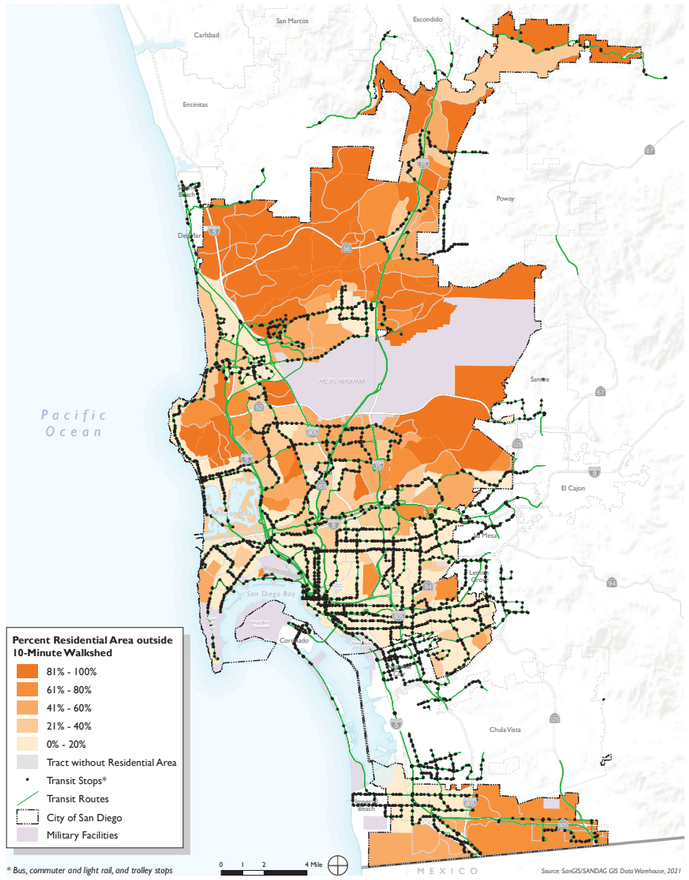
ACTIVE COMMUTERSHIP



Most workers in San Diego take a car, truck, or van to work, and 75 percent drive alone. In comparison, only 4 percent take public transportation, 3 percent walk, and less than 1 percent bike to work. An active commute—walking or biking—is one way to increase daily physical activity to maintain a healthy lifestyle. However, in places where infrastructure does not support safe and convenient routes for pedestrians and cyclists or where jobs are far from residential areas, it may not be feasible for residents to choose an active mode to commute.

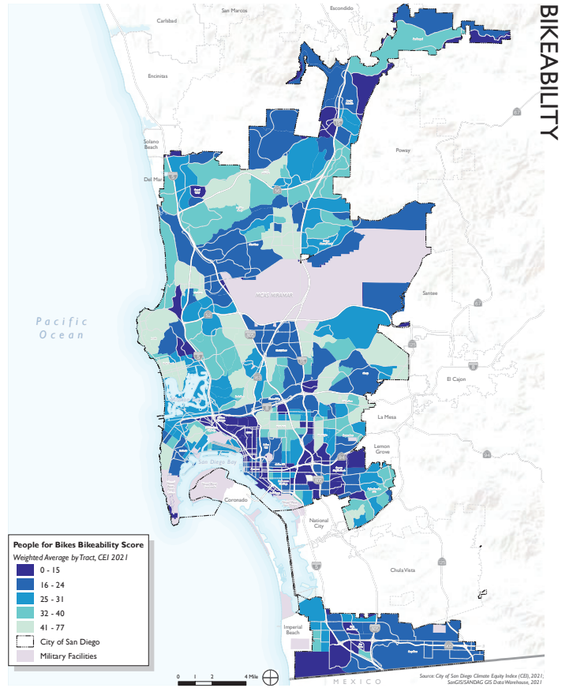
The above-left map shows that areas less likely to walk or bike to work are generally in the eastern half of the city, but within that area, the distribution of tracts with the least proportions of active commutership are relatively spatially equal.

TRANSIT ACCESS



The above-right map shows the public transportation network in San Diego, which is generally densest nearer to Downtown. Areas in darker orange have higher proportions of residential area that are not within a 10-minute walk of a transit stop; a score of 100 percent indicates that no residential area within that tract is within a 10-minute walk of a transit stop. Many of the highest-scoring tracts are indeed not near a transit route at all.

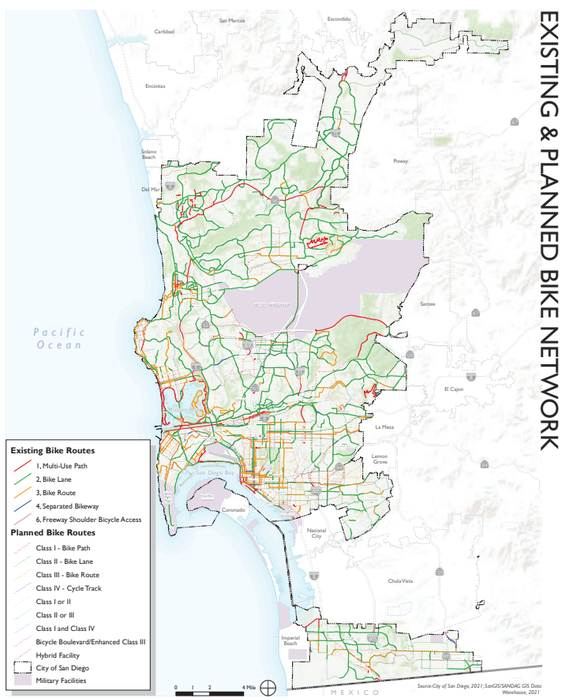
BIKEABILITY



The PeopleForBikes Bikeability Score (included in the City's CEI) is a city rating that measures the quality of a city's bicycle network and how people feel about biking in their city. San Diego has an overall city rating of 33 out of 100 (43rd percentile out of 104 large cities in the world), with a Network subscore of 27 and Community subscore of 58. Based on PeopleForBikes' Bike Network Analysis tool, most of the city is an area of High Stress, meaning the volume of traffic creates environments that are not comfortable for bicyclists.

This map shows tracts in darkest blue where bikeability is particularly low.

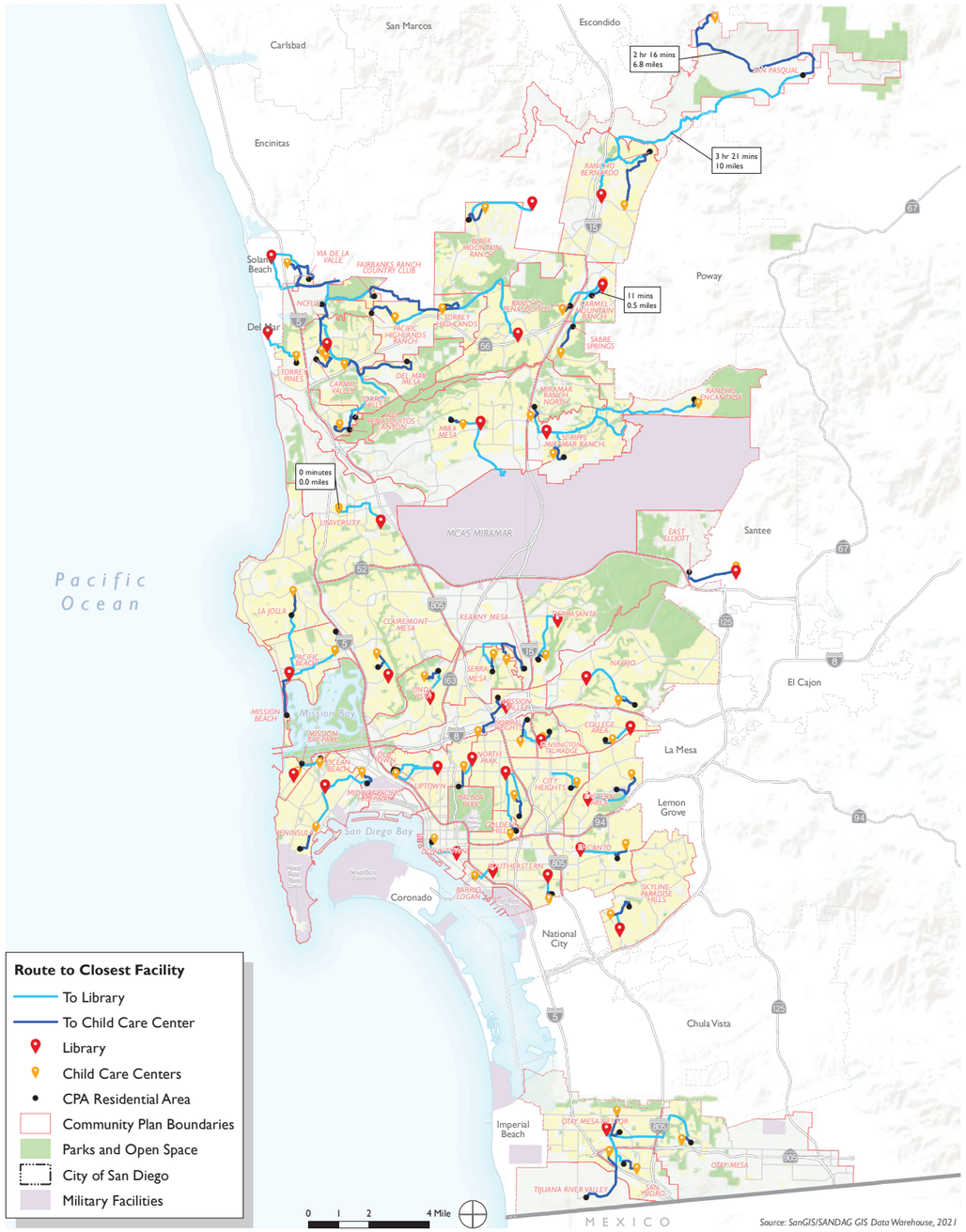
EXISTING & PLANNED BIKE NETWORK



The City's 2013 Bicycle Master Plan (BMP), mapped to the left, includes many planned bike routes that are focused on connecting existing routes in central and south-central areas of the city including Clairemont Mesa and Kearney Mesa, areas surrounding Balboa Park, and Encanto. Implementation of the BMP would likely greatly increase the bikeability of areas that currently have low scores.

Access Analysis & Barriers to Mobility

MULTIMODAL ACCESS BY COMMUNITY PLAN AREA

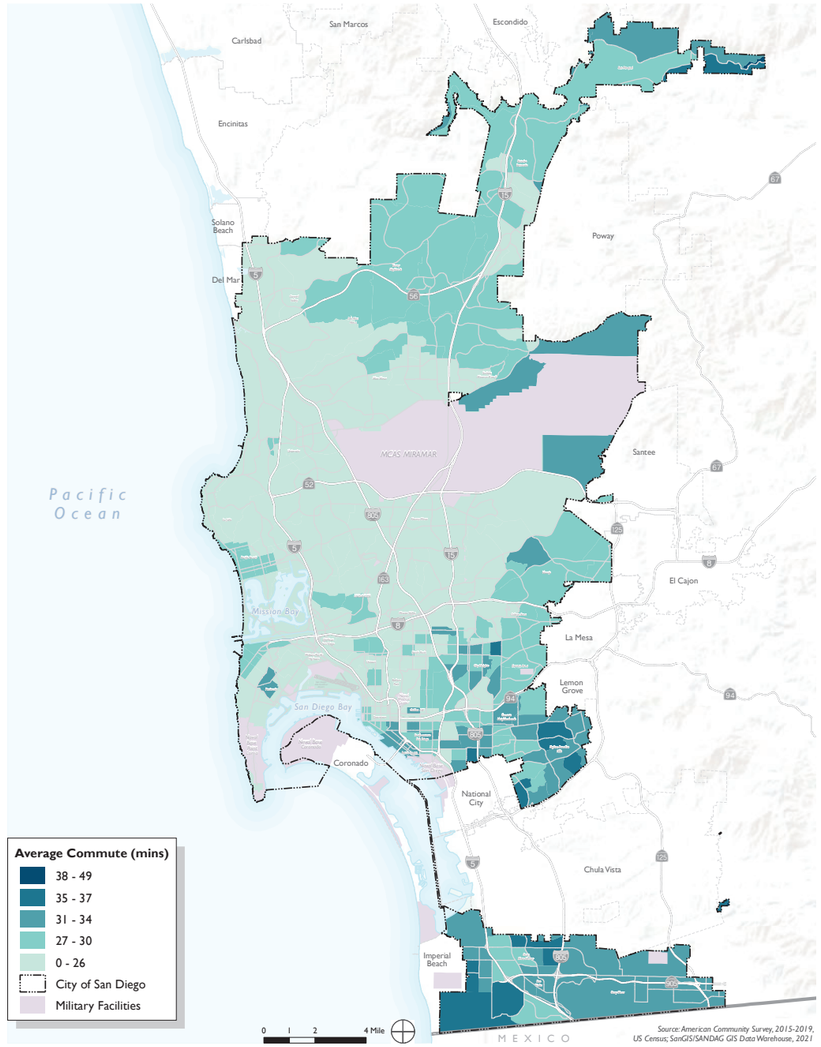


When a person lives far from regular destinations such as work or school, they spend more time and income getting to the places they need to go. Over time, this transportation burden can impact health—for example, through elevated levels of stress—and this outcome falls disproportionately on lower income residents and populations of color.

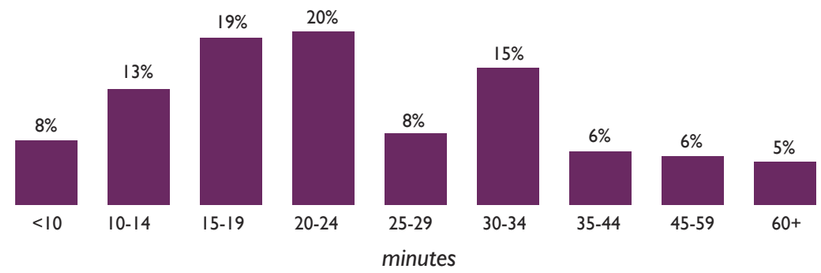
In San Diego, the average length of commute is 24.5 minutes, according to ACS 2019. This is shorter than the statewide average commute length of 29.8 minutes. Most of the city is in the bottom 20th percentile in the state, as mapped to the right, but areas such as in Skyline-Paradise Hills and Tijuana River Valley are in the top 20th percentile, with a maximum commute time of just under 50 minutes. There is a clear delineation of commute burden in the city: The western half of the city, where employment opportunities are much higher, has shorter average commutes, while communities at the eastern and southern borders of the city have the longest commutes.

The map to the left illustrates why commute times in some neighborhoods may be longer than others. Based on an analysis of the City's transit network—including bus, rail, and trolley lines, as well as walkable roads—accessing libraries and childcare centers is particularly difficult in the northeastern communities due to less transit options and farther facility locations. Without use of a car, getting to a childcare facility could be as easy as crossing the street in University, but it could take over 2 hours for a resident in San Pasqual to arrive at the closest facility, almost 7 miles away. Likewise, there is over a 3-hour (about 9.5 miles) difference between the shortest and longest routes to reach a library.

LENGTH OF COMMUTE



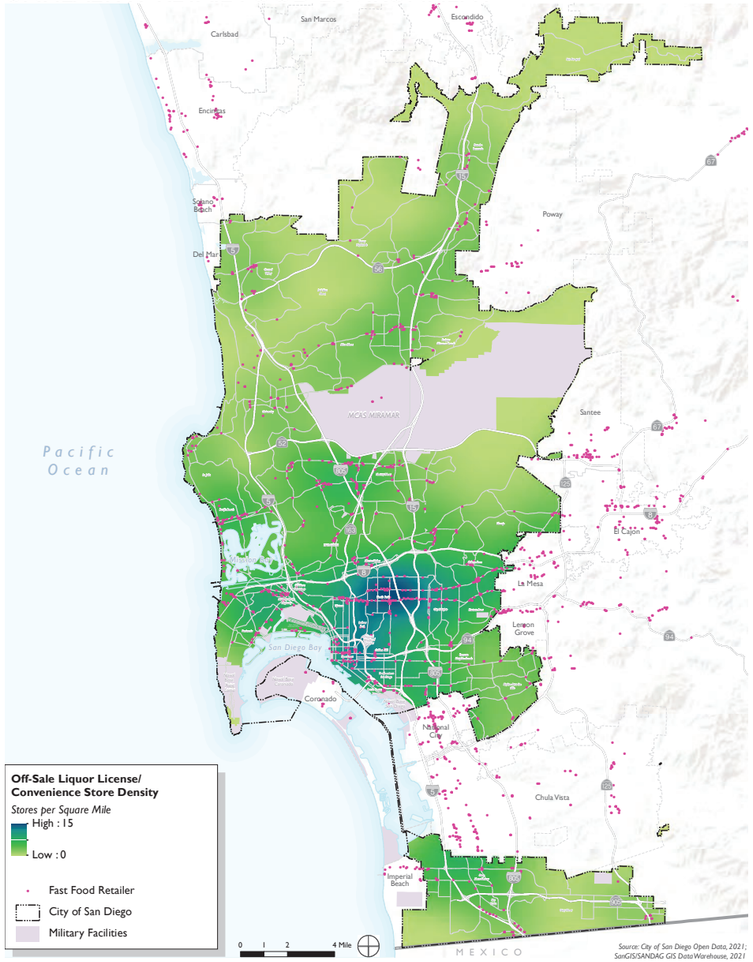
TRAVEL TIME TO WORK, ACS 2019



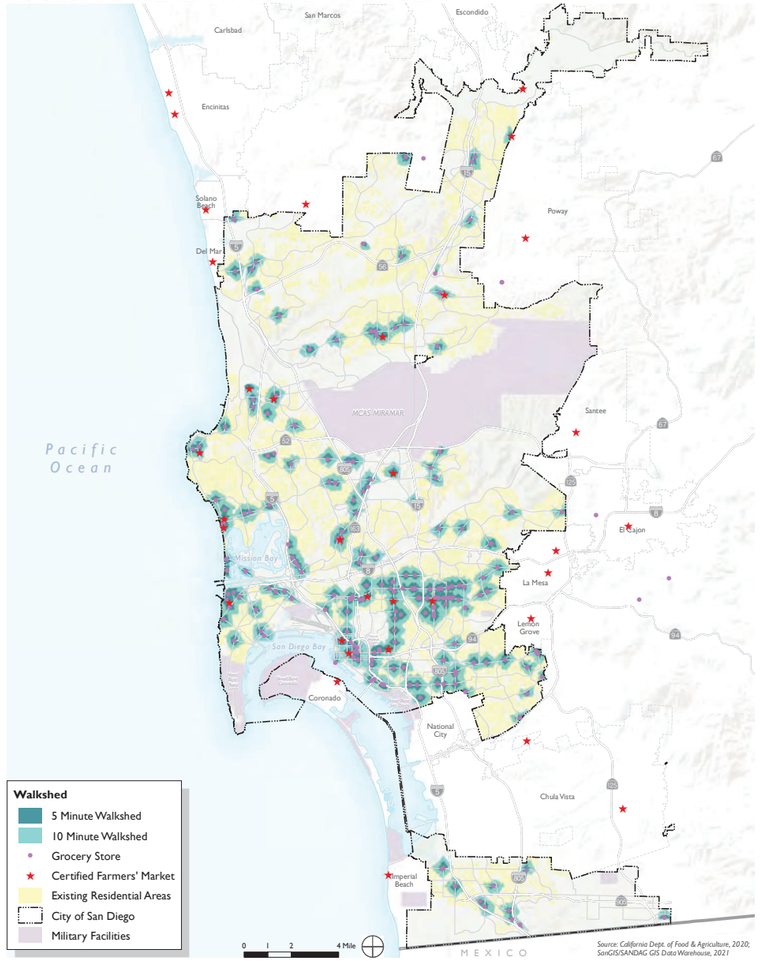
HEALTHY FOOD

Supply & Access to Healthy Food

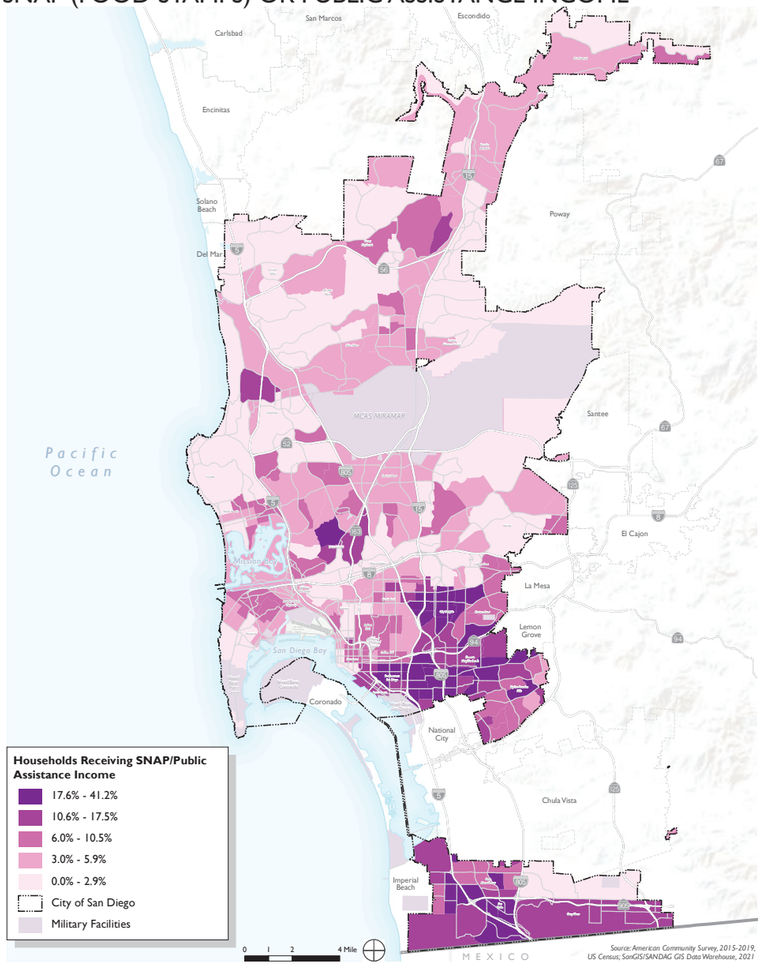
UNHEALTHY RETAIL FOOD ENVIRONMENT



ACCESS TO HEALTHY FOOD SOURCES



SNAP (FOOD STAMPS) OR PUBLIC ASSISTANCE INCOME



Retail food environment has a large influence on a person's food choices, and oversaturation of unhealthy food retailers such as fast food outlets, convenience stores, and liquor licenses (for off-site consumption) can lead to greater incidences of negative health outcomes including obesity, high cholesterol, and diabetes.

The map above shows the density of off-sale liquor licenses and convenience stores per square mile, which is concentrated in the area around northern North Park and Normal Heights, with as many as 15 stores per square mile. Similarly, the most highly concentrated cluster of fast food establishments (pink dots) in the city is also located in this area.

The San Diego County Food Vision 2030 recently outlined a set of goals, objectives, and strategies to achieve a food system that cultivates justice, fights climate change, and builds resilience. The county foodshed is a unique system that features both active farming and fishing industries, but residents and local producers alike experience challenges to keep up with changing climate and market dynamics.

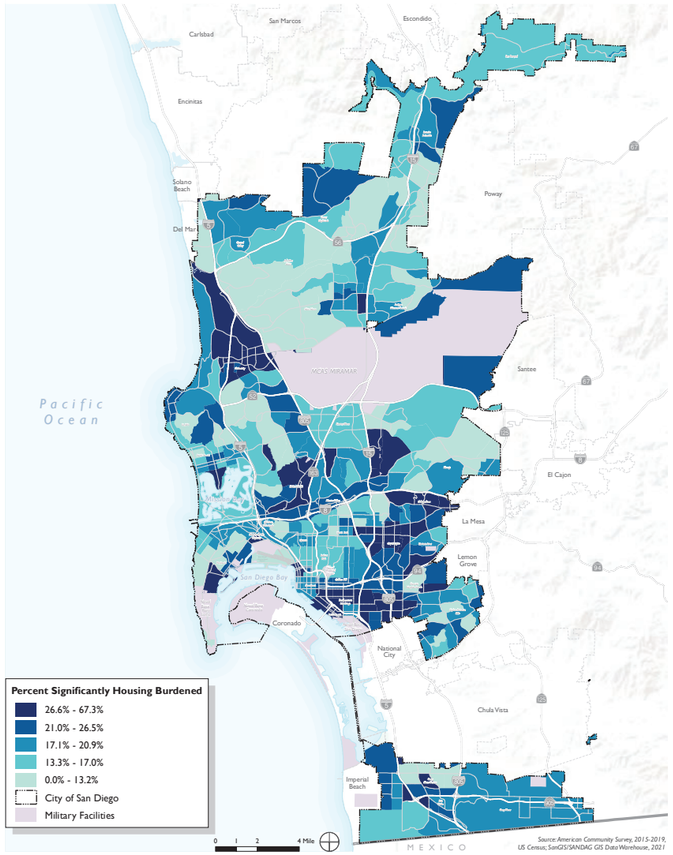
Healthy food sources offer fresh and nutritious foods including fruits and vegetables and are ideally locally produced and/or organic. The map above reveals that many areas of the city do not have walkable access to healthy food sources including grocery stores, farmers markets, and community gardens.

According to USDA, high food security means an individual does not have food-access problems or limitation. On the other hand, food insecurity can be described as a lack of consistent access to sufficient food and is a measure of how many people cannot afford food.

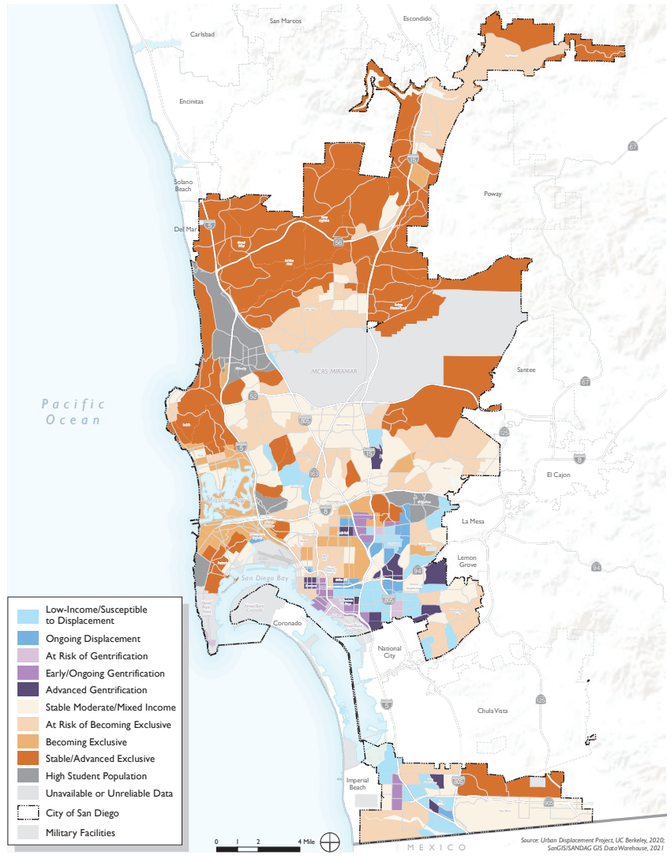
People experiencing food insecurity may participate in the Supplemental Nutrition Assistance Program (SNAP, formerly known as "food stamps") or receive public assistance income. Based on ACS 2019, 6.4 percent of households in San Diego receive SNAP and 1.8 percent are single mothers receiving SNAP. SNAP usage is particularly prominent in Southeastern, City Heights, and San Ysidro.

SAFE & SANITARY HOUSING

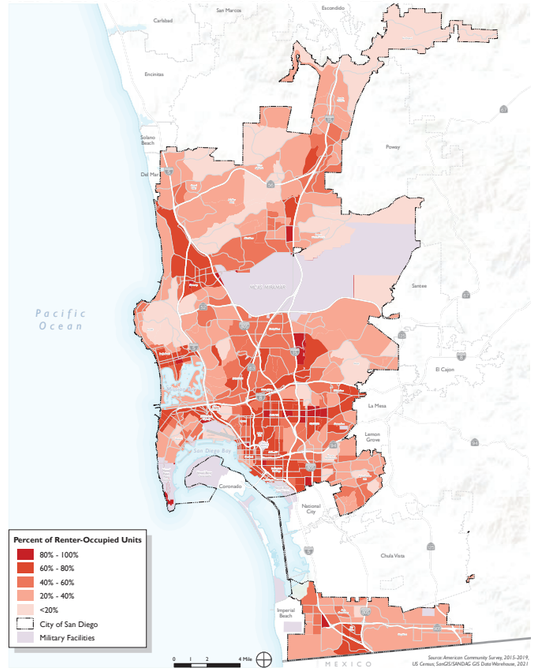
SIGNIFICANT HOUSING BURDEN



GENTRIFICATION & DISPLACEMENT RISK



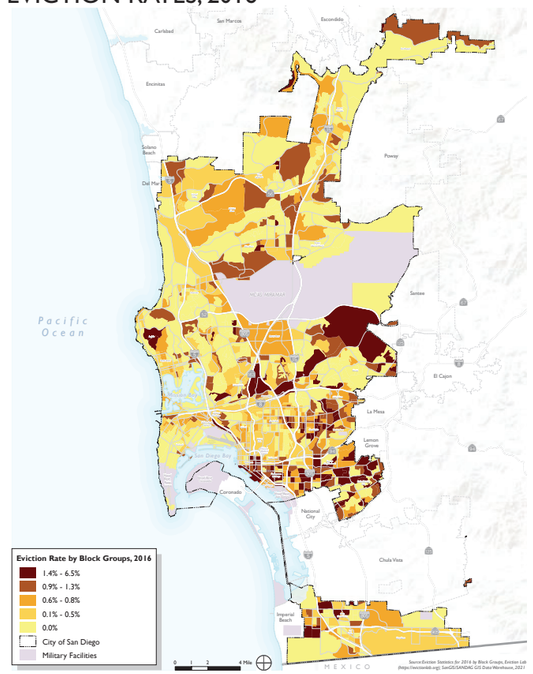
RENTER-OCCUPIED HOUSEHOLDS



Although a slight majority of homes in San Diego are single family residences (56 percent), a majority of housing units are occupied by renters (53 percent). Compared to owners, renters have a significantly lower median household income ($110,465 and $59,622, respectively), and 31 percent of owner-occupied housing units are housing burdened compared to 51 percent of renter-occupied homes.

The map to the left shows that greater concentrations of renter-occupied households are located in central San Diego and along major roads like I-805 and I-15 and include communities like University, North Park, and western Tierrasanta.

EVICTION RATES, 2016



This map shows eviction rates of renter-occupied households by block group, and block groups in the darkest color have the top 20 percent highest eviction rates in the county.

The lack of a clear pattern indicates that eviction rates are not necessarily spatially correlated, though there is a slight trend of higher rates in the Barrio Logan, Southeastern, and Encanto area as well as parts of City Heights and Eastern Area, which are generally lower-income areas.

Housing Burden & Insecurity

Rising housing costs and lack of affordability is a primary driver of housing insecurity. Households that spend 30 percent or more of their income on housing costs are deemed housing burdened, and those that spend 50 percent or more are significantly housing burdened. Households that are housing burdened have fewer financial resources for food, healthcare, and other needs. In San Diego, 43 percent of residents are housing burdened, and 20 percent are significantly housing burdened – compared to 44 percent and 20 percent in the County, respectively.

The above-left map illustrates that lower income areas tend to be more housing burdened, namely in University, Linda Vista, southeastern Tierrasanta, City Heights, Barrio Logan, and Southeastern.

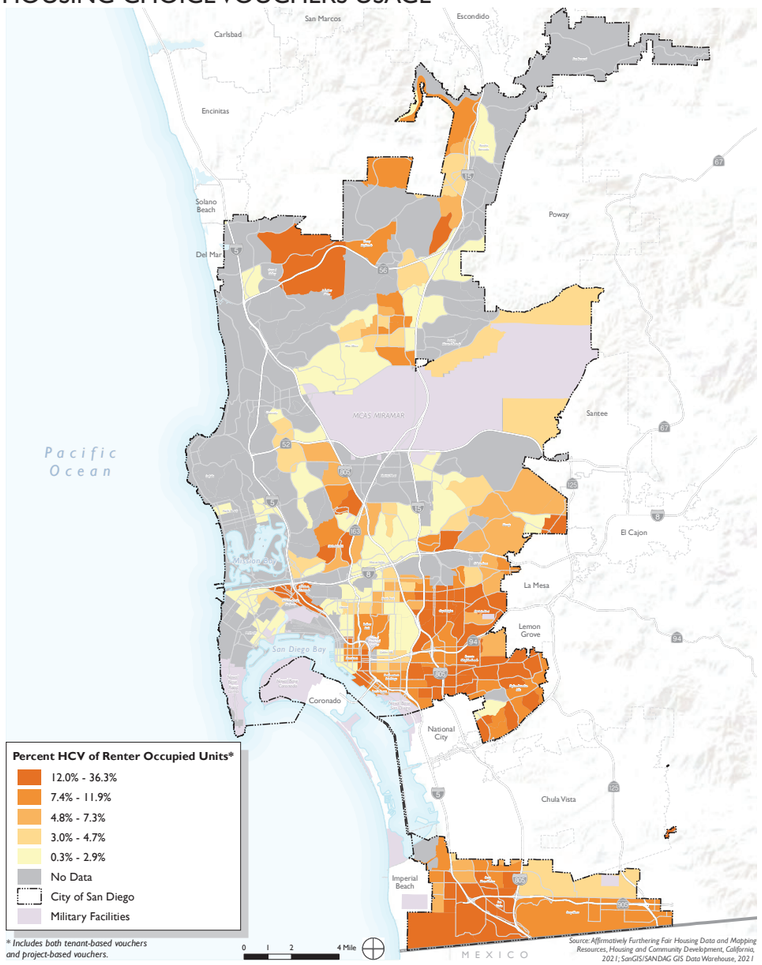
When combined with changing market dynamics, lack of affordability and housing insecurity can also lead to displacement of populations that cannot afford to stay in gentrifying neighborhoods. Based on the study by Urban Displacement Project, there is a high degree of income segregation in San Diego, as evidenced in the map to the above-right. Areas of Stable/Advanced Exclusive typology (darkest orange) make up a large proportion of the city, while still more are Becoming or At Risk of Becoming Exclusive. These areas generally are higher income areas.

This map also highlights places of change, where risk of displacement is higher (in blue). In particular, Southeastern, Encanto, and City Heights as well as parts of Linda Vista, Tierrasanta, Otay Mesa-Nestor, and San Ysidro face this risk.

SAFE & SANITARY HOUSING

Housing Quality & Choice

HOUSING CHOICE VOUCHERS USAGE



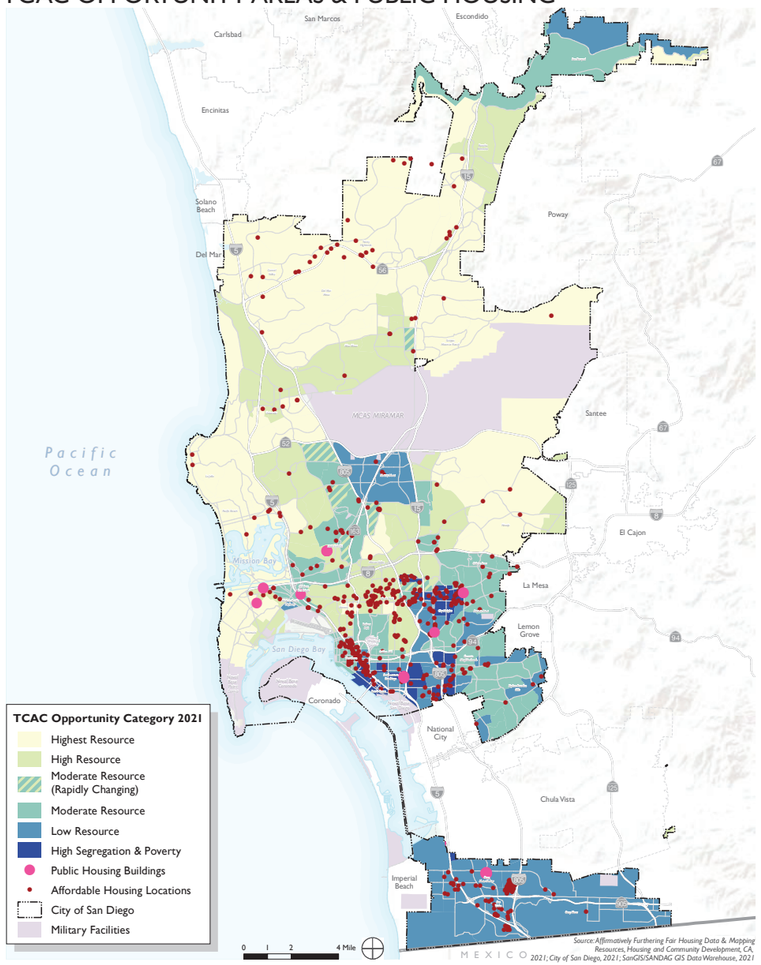
** Includes both tenant-based vouchers and project-based vouchers.*

Source: Affirmatively Furthering Fair Housing Data and Mapping Resources, Housing and Community Development, California, 2021; SanGIS/SANDAG GIS Data Warehouse, 2021

The US Department of Housing and Urban Development's (HUD) Housing Choice Voucher (HCV) Program assists very low-income families, the elderly, and persons with disabilities in obtaining decent, safe, and sanitary housing in the private market. HCV-subsidized rents to allow participants to choose their own housing, including single-family homes, townhouses, and apartments, provided that the chosen housing meets the requirements of the program including maximum allowable rent.

The above map shows that as many as 36 percent of renters in some tracts are participating in this program based on data from HUD's 2021 Affirmatively Furthering Fair Housing (AFFH) dataset, and tracts with the top 20 percent highest proportions statewide make up much of the southeastern and some of the northern parts of the city.

TCAC OPPORTUNITY AREAS & PUBLIC HOUSING

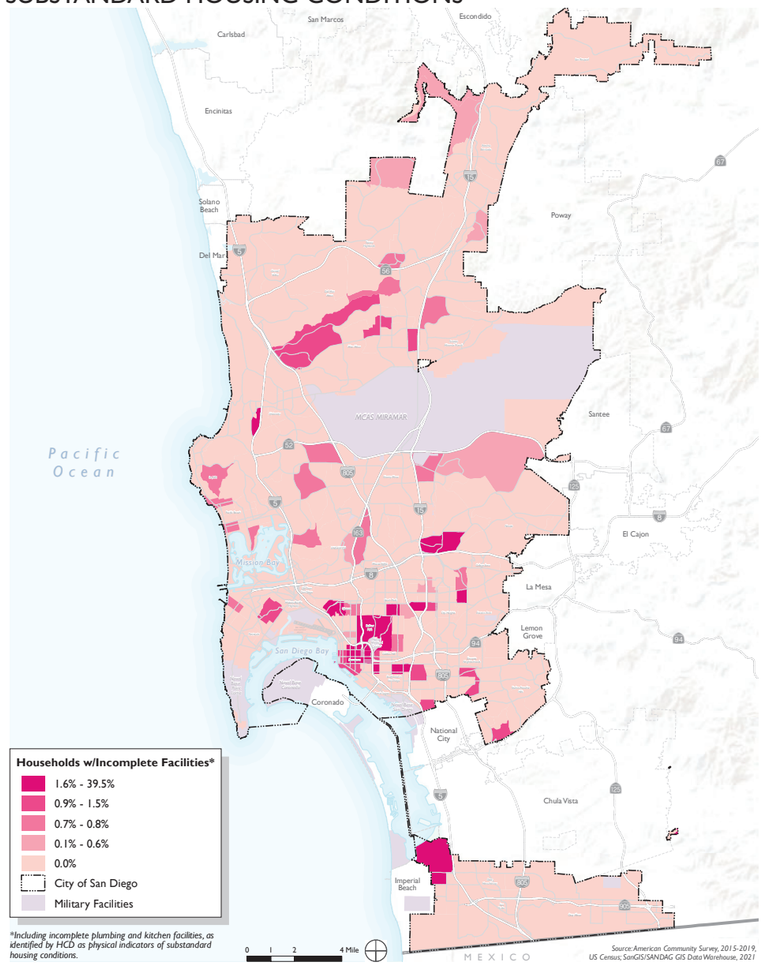


Source: Affirmatively Furthering Fair Housing Data & Mapping Resources, Housing and Community Development, CA, 2021; City of San Diego, 2021; SanGIS/SANDAG GIS Data Warehouse, 2021

The State Tax Credit Allocation Committee (TCAC) and HCD annually create Opportunity Maps that describe the location's access to resources such as proximity to jobs, quality of education, and other environmental indicators.

However, low-income residents may not be able to afford housing choices in areas of high opportunity. Accordingly, low-income communities may not have the same level of access to jobs, quality of education, and other environmental factors that higher-income neighborhoods have. The map above shows that affordable housing locations (those with deed-restricted units) are offered in areas at all levels of resources, although many are located in places that are Low Resource or High Segregation and Poverty (shown in blue).

SUBSTANDARD HOUSING CONDITIONS



**Including incomplete plumbing and kitchen facilities, as identified by HCD as physical indicators of substandard housing conditions.*

Source: American Community Survey, 2015-2019, US Census; SanGIS/SANDAG GIS Data Warehouse, 2021

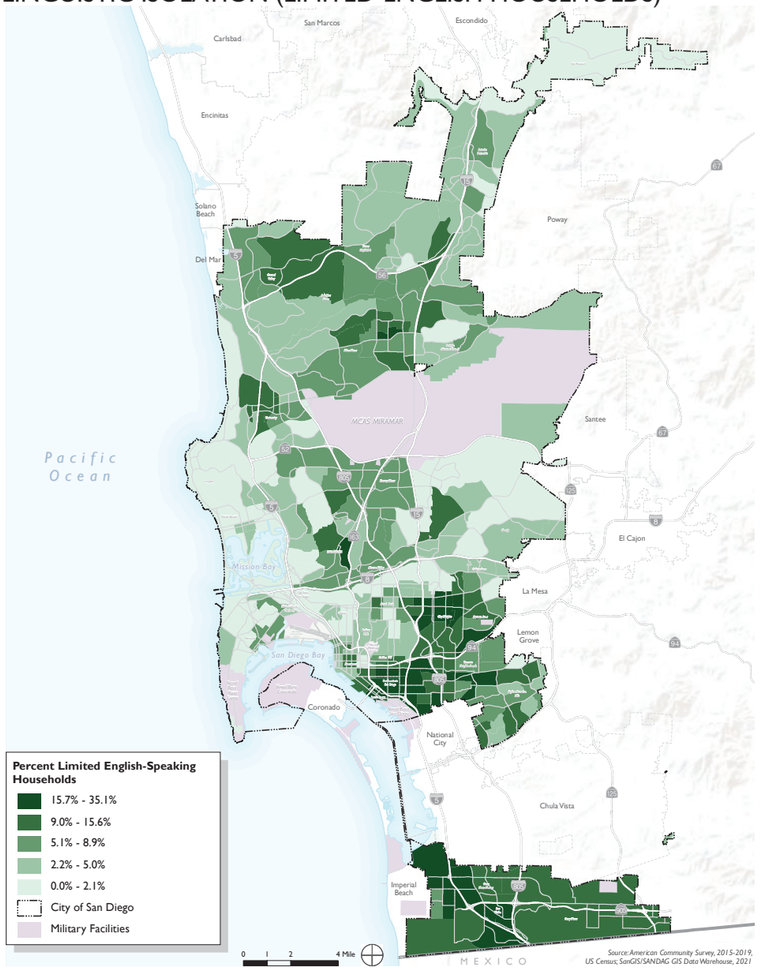
Selected financial and physical conditions including lack of complete plumbing facilities, lack of complete kitchen facilities, overcrowding (1.01 or more occupants per room), and housing burden (housing costs greater than 30 percent of income) are used by the Census Bureau to identify homes in which the quality of living and housing can be considered substandard.

Based on this definition and data from ACS 2019, the map above shows the percentage of households with the selected physical conditions (incomplete plumbing or kitchen facilities) by tract. While these conditions do not apply to almost the entirety of the city, certain tracts have significant proportions of housing that meet these criteria such as near Downtown and Balboa Park, the northeast intersection of I-8 and I-15, and northern Otay Mesa-Nestor.

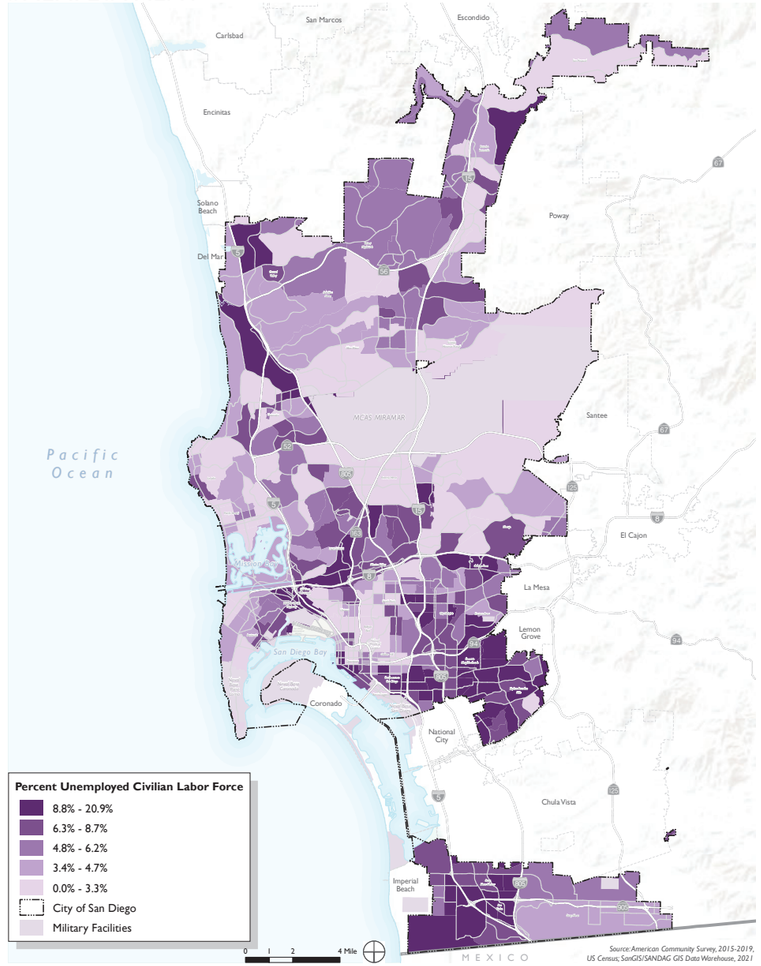
CIVIC ENGAGEMENT & INVESTMENT PRIORITY

Barriers to Civic Engagement

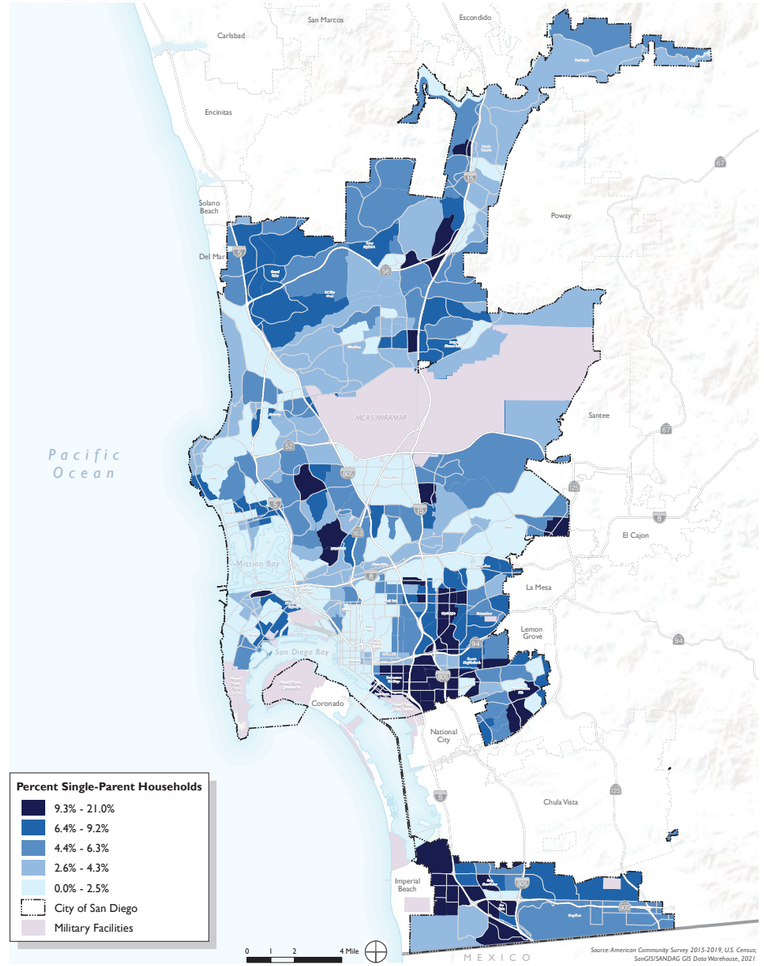
LINGUISTIC ISOLATION (LIMITED-ENGLISH HOUSEHOLDS)



UNEMPLOYMENT



SINGLE PARENT HOUSEHOLDS



Individuals with limited English-speaking ability (also referred to as linguistic isolation) may not be able to properly communicate their needs or receive vital information to access resources and services. This barrier to access is even more pronounced when an entire household has limited English-speaking ability.

In San Diego, as much as 35 percent of a tract's population is linguistically isolated. The most common language spoken in these limited-English households is Spanish.

Employment is a central component of financial health and economic mobility opportunity that also has implications on a person's health. According to ACS 2019, 5.8 percent of the city's civilian labor force is unemployed. The census tract with the highest unemployment rate is 20.9 percent, while some census tracts do not have any unemployed civilian population in the labor force.

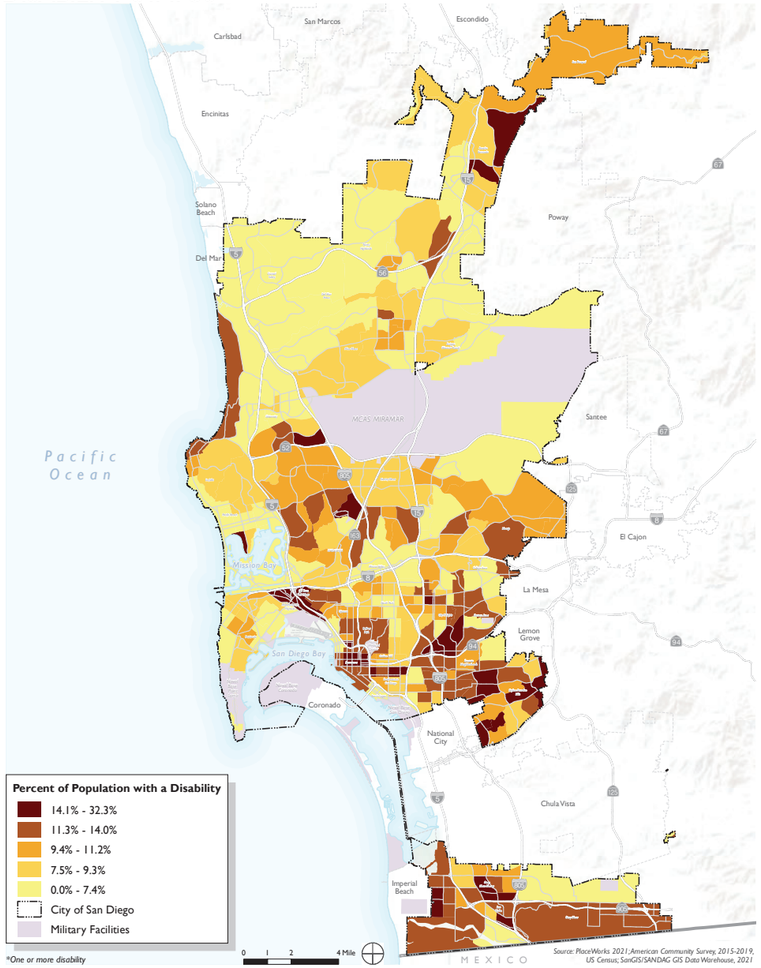
Unemployment is greatest in low income areas, many of which are also places that with higher proportions of linguistic isolation.

Given increasing cost of living, maintaining a single-income household can be difficult, especially when supporting children. Single parents may not have the time or be able to afford childcare to be civically involved in their communities.

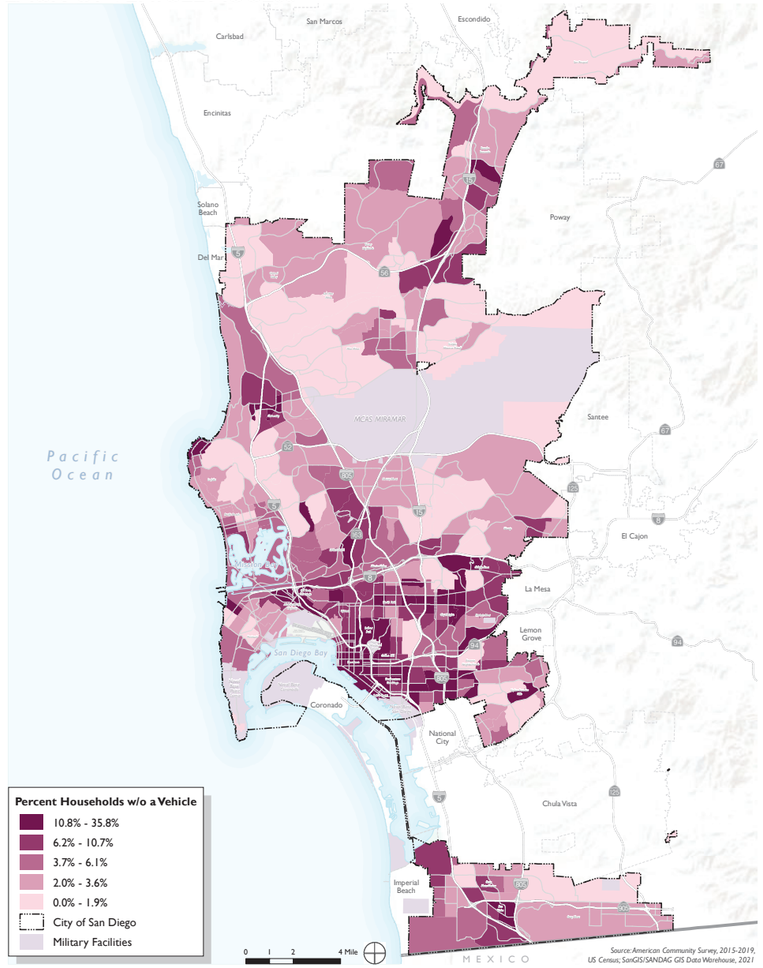
Tracts ranking in the top 20 percent in the state have more than 9 percent of households headed by single parents, many of which coincide with low-income areas. These include neighborhoods in the southeastern and southern parts of the city, as well as some tracts in Clairemont Mesa, Linda Vista, Tierrasanta, Mira Mesa, and Rancho Pensaquitos.

CIVIC ENGAGEMENT & INVESTMENT PRIORITY

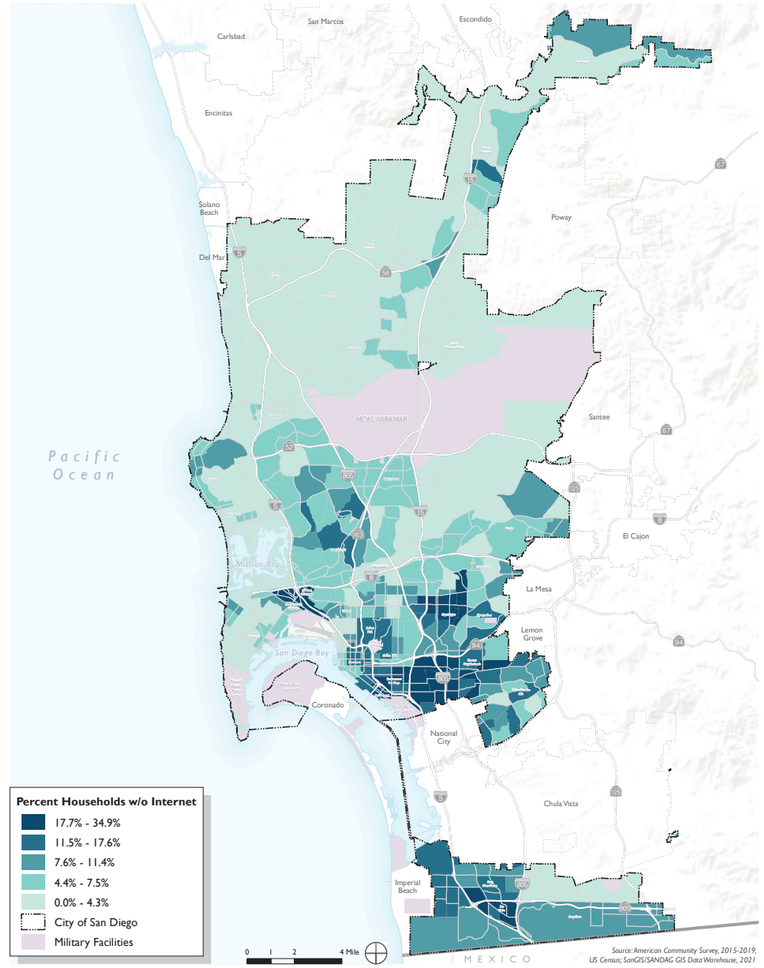
DISABILITY STATUS



LACK OF VEHICLE ACCESS



LACK OF DIGITAL ACCESS



Individuals with a disability may require additional accommodations to allow them to be meaningfully engaged in civic activities. This map shows the percentage of population by tract with one or more disabilities. Tracts in the top 20th percentile statewide occur in communities such as Skyline-Paradise Hills, City Heights, Eastern Area, Southeastern, Downtown, and Clairemont Mesa in addition to neighborhoods south of Chula Vista. In comparison, tracts in the bottom 20th percentile are primarily concentrated in the northwestern end of the city.

Households without a vehicle may not be able to participate in civic activities due to inability or inconvenience of getting to a location. This is particularly an issue where alternative modes of transportation are not widely available. It is noted that neighborhoods with higher proportions of multifamily residences such as apartments are also likely to have higher proportions of households without a vehicle.

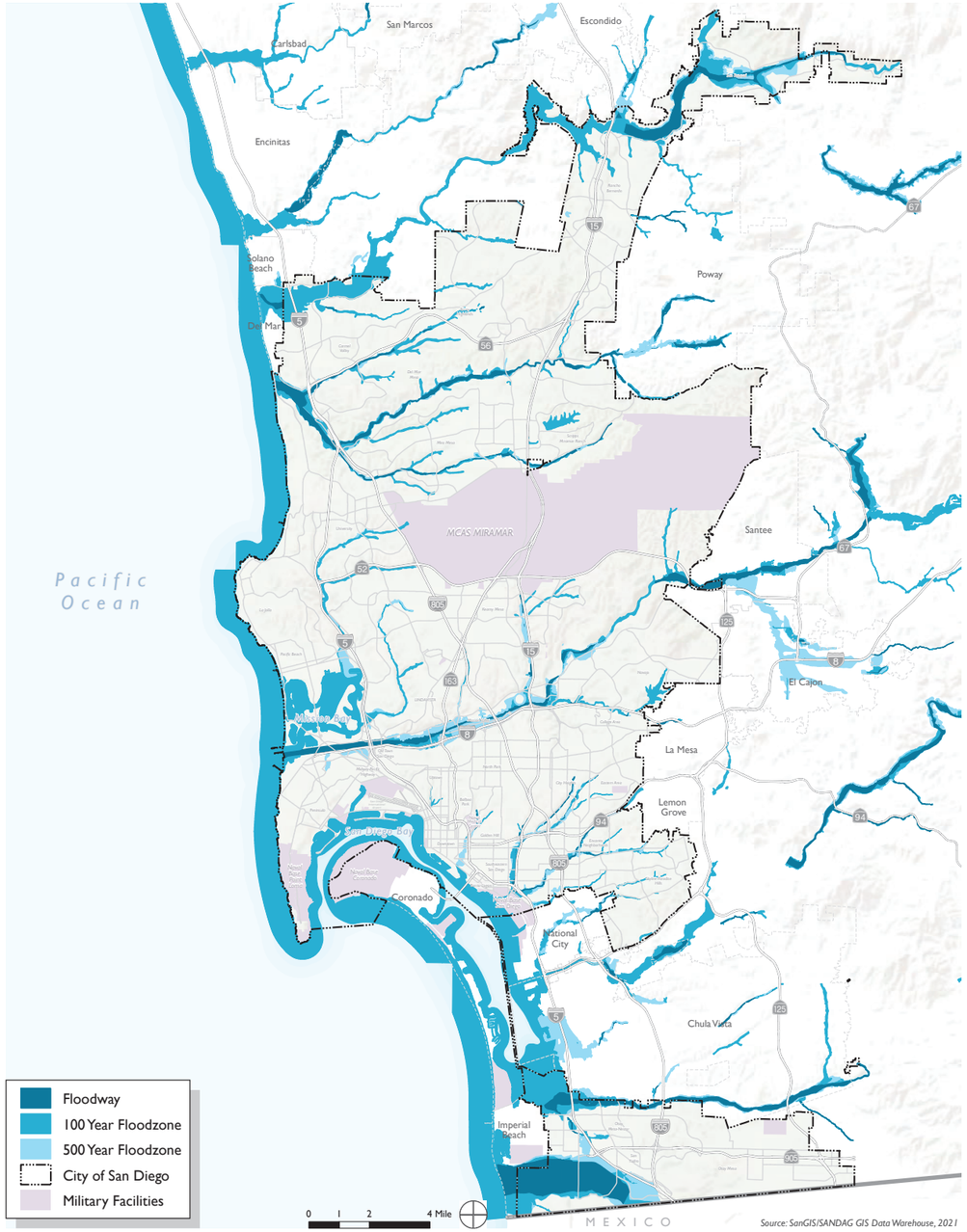
Tracts in the city ranking among the top 20th percentile in the state have as much as 35.8 percent of households without a vehicle, and these tracts are primarily clustered in the Downtown, Barrio Logan, Golden Hill, and Southeastern areas.

The internet plays an increasingly central role in how people get information and connect with one another. This practice has become readily apparent throughout the COVID-19 pandemic, during which many community activities were held online. Households without computers or without internet subscriptions may rely on public resources such as libraries in order to access these platforms.

Some tracts in the city have significantly higher proportions of households that do not have internet, and these tracts are highly correlated with low-income areas in the southeastern and southernmost communities, as seen in the map above.

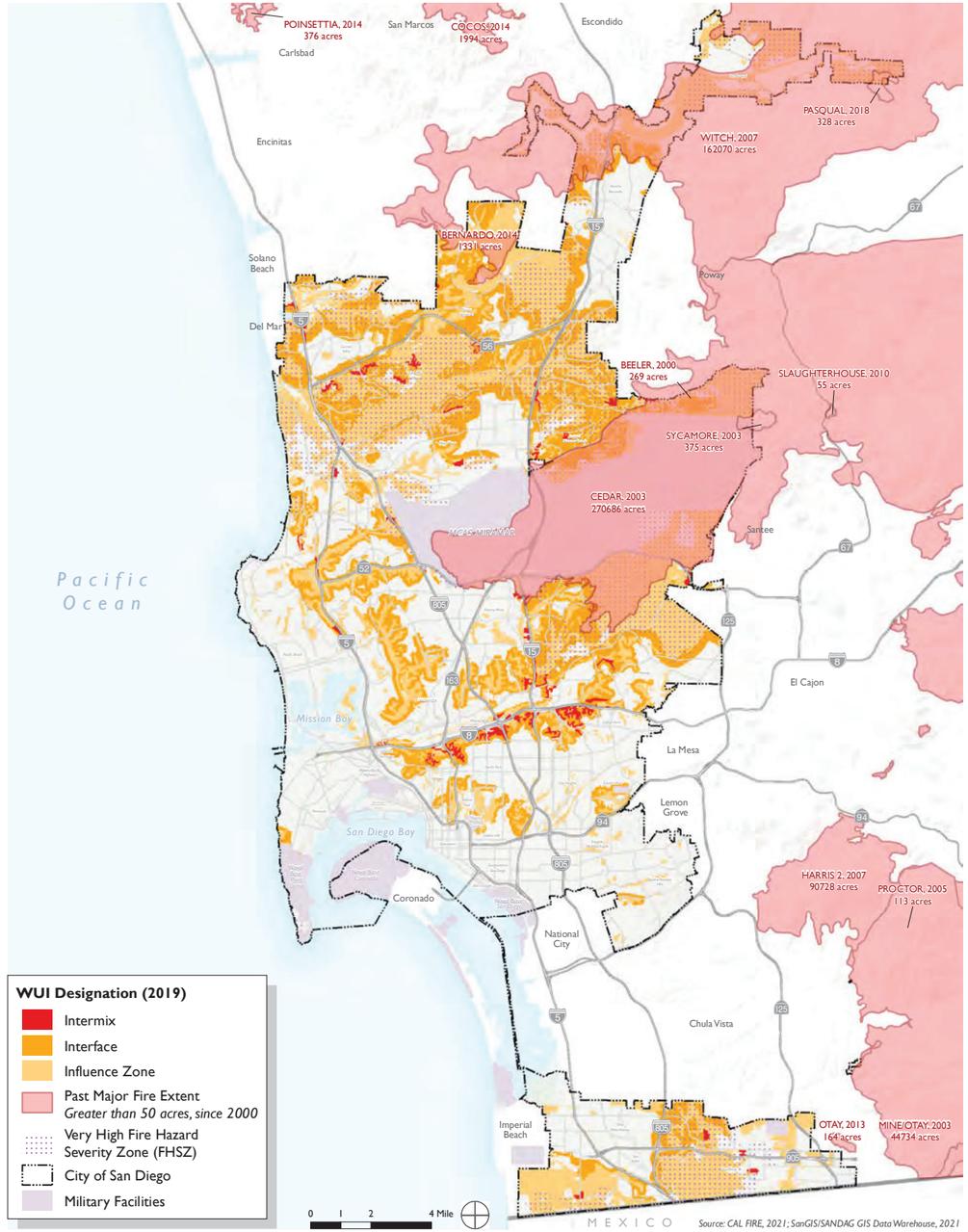
Natural Hazards

FLOOD HAZARDS



Source: SanGIS/SANDAG GIS Data Warehouse, 2021

PAST FIRE EXTENTS AND FIRE HAZARD ZONES



Source: CAL FIRE, 2021; SanGIS/SANDAG GIS Data Warehouse, 2021

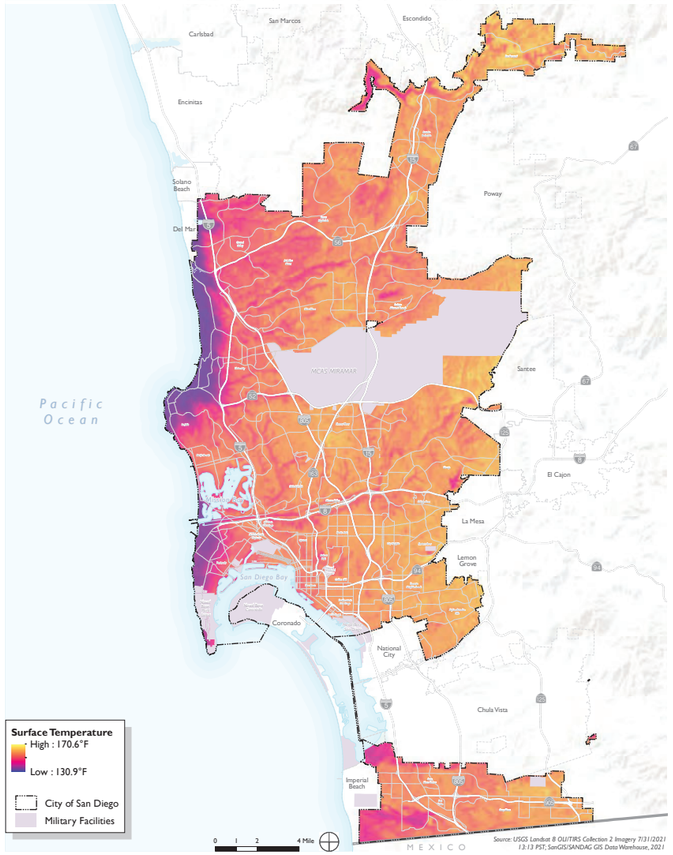
Natural disasters and hazards such as wildfires and flooding are exacerbated by climate change and pose an increased threat to life and property. Due to the varying geographic nature of the city, in addition to historical development patterns that impact the contemporary environment, certain residents of the city are more at risk than others.

The Federal Emergency Management Agency (FEMA) has identified flood risk areas, which include floodways and areas with 0.2 percent or 1 percent annual chance of flooding (known as 500-Year and 100-Year floodplains, respectively). These zones occur along the coastline as well as along waterways and canyons throughout the city.

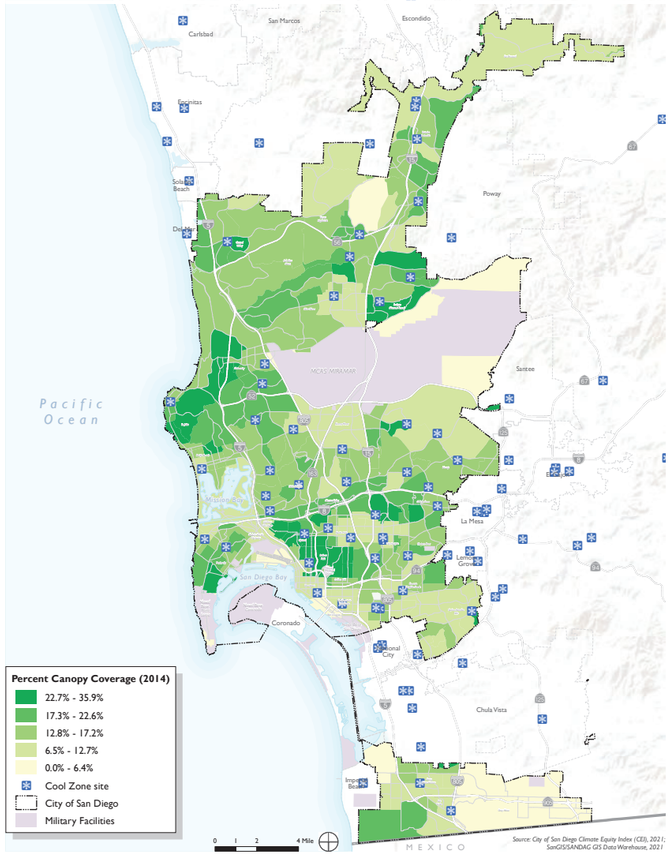
Wildland Urban Interface zones measure development intensity and fire risks based on proximity to wildland (non-developed) areas, part of a study by CAL FIRE last updated in 2019. San Diego is within a local responsibility area (LRA), and areas designated as Very High Fire Hazard Severity Zones are shown in dotted hatch. These areas are susceptible to wildfires that could damage adjacent or nearby structures. Major fire events (greater than 50 acres) since 2000 have also encroached within the city, particularly in the northeastern portions.

CLIMATE CHANGE & RESILIENCE

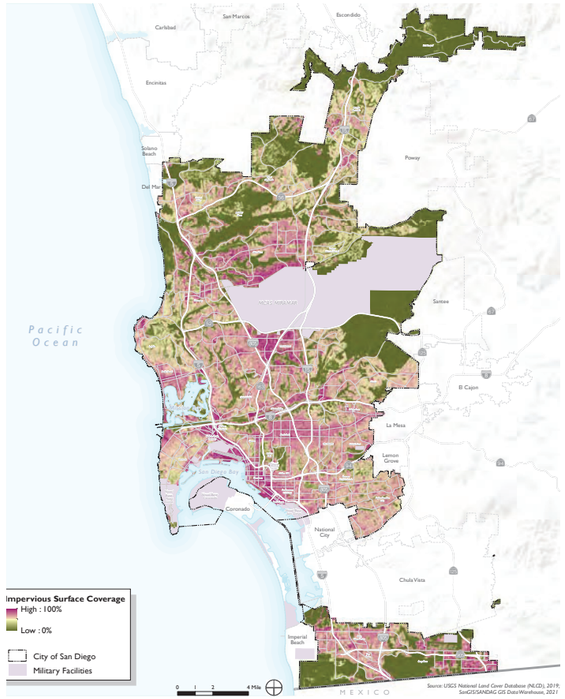
DAYTIME LAND SURFACE TEMPERATURE



TREE CANOPY COVERAGE & COOLING CENTERS



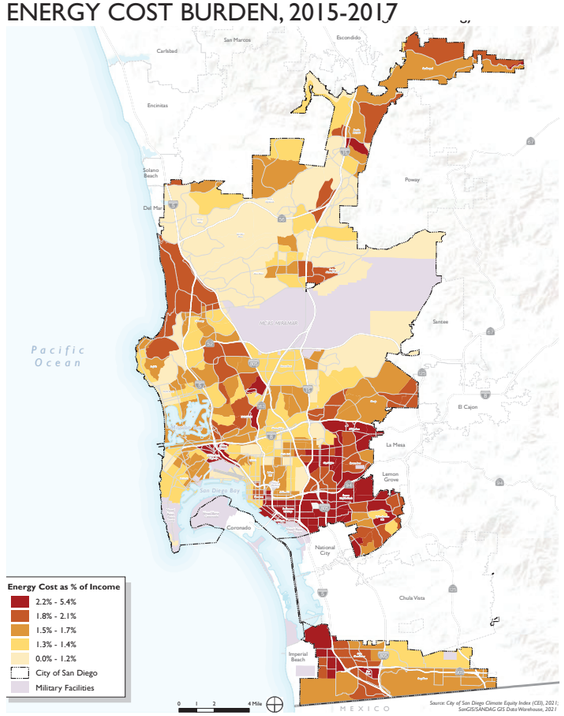
IMPERVIOUS SURFACE COVER



Impervious surface cover, or urban land cover types found in developed areas such as buildings and pavement, are an indicator of places where urban heat could accumulate.

In San Diego, there are many natural lands where impervious surface cover is as low as 0 percent, but other areas where development is highly concentrated include Kearny Mesa, Mira Mesa, Mission Valley, Downtown, and eastern Otay Mesa.

ENERGY COST BURDEN, 2015-2017



As energy use needs increase to combat high heat, energy cost-burdened households may struggle to afford the energy needed to cool themselves and their homes.

This map illustrates the disparity in energy cost burdens in the city, which is based on data from San Diego Gas and Electric (SDG&E) and ACS 2017, measured as the three-year average annual cost of energy as a percent of median household income.

Some residents have an energy cost burden that is more than four times that of residents in the least cost-burdened areas. In particular, Otay Mesa-Nestor, Downtown, Southeastern, Encanto, City Heights, and College Area communities are among the most burdened in the city.

Urban Heat

Built environments, where structures like buildings and roads are concentrated and greenery is limited, absorb and re-emit heat more than natural landscapes such as forests and water bodies. This leads to higher temperatures in urban areas that can be 1-7°F hotter during the day and 2-5°F hotter at night compared to outlying rural areas. This is referred to as the urban heat island effect. As cities grow and as climate change leads to more frequent and severe extreme heat events, risk of heat-related illnesses can be a growing concern.

San Diego generally enjoys milder temperatures due to coastal cooling, and the average number of extreme heat days (those exceeding 93.3°F, or the 98th percentile temperature between 1961-1990) has historically been about 4 per year. However, CalAdapt projects that this number will more than triple by 2070, at 15 extreme heat days per year.

The above left map shows daytime surface temperature data obtained from satellite imagery, which varies by up to 40°F between areas and is significantly hotter along the eastern inland edges of the city. The above-right map shows that these hotter areas also have less tree canopy coverage, meaning they have less shade to mitigate heat accumulation. Many of these tracts (in light yellow) also do not have a Cool Zone site where at-risk populations such as seniors can access air-conditioned settings to escape the heat.