



**BOARD OF DIRECTORS
JUNE 22, 2018**

ACTION REQUESTED: APPROVE

**SAN DIEGO FORWARD: THE 2019-2050 REGIONAL PLAN –
SOCIAL EQUITY ANALYSIS FRAMEWORK AND APPROACH**

File Number 7300600

Introduction

Public transit, freeways, local streets and roads, and other transportation infrastructure have a significant effect on the quality of life for a region’s residents by shaping access to jobs, education, housing, services, and recreational opportunities. Achieving social equity in the development of the transportation network is vital to achieving the San Diego region’s sustainability goals. It requires making investments that provide everyone—regardless of age, race, color, national origin, income, or physical agility—with opportunities to work, shop, study, be healthy, and play.

Recommendation

The Regional Planning and Transportation Committees recommend that the Board of Directors approve the proposed Social Equity Analysis Framework and Approach for San Diego Forward: The 2019-2050 Regional Plan.

Consistent with past practice and state and federal laws, SANDAG will conduct a social equity analysis as part of the development of San Diego Forward: The 2019-2050 Regional Plan (2019 Regional Plan) to assess the distribution of benefits and burdens of the transportation network. This report provides an overview of the framework and proposed approach for the social equity analysis. Also, the report summarizes input received from the Community-Based Organizations Network Working Group (CBO Working Group) regarding the framework and proposed approach.

Discussion

Context and Overall Framework

“Social equity” is a shorthand term SANDAG uses for an overarching goal that combines the concepts of environmental justice, the federal laws in Title VI of the Civil Rights Act, and various other federal and state laws intended to promote an equitable distribution of benefits and burdens resulting from SANDAG projects and programs. In the case of the 2019 Regional Plan, SANDAG must evaluate the relative distribution of benefits and burdens of the transportation network. The framework for the social equity analysis for the 2019 Regional Plan includes the following steps:

- 1. Define the Social Equity Focus (SEF) Populations** based on socioeconomic and demographic characteristics that can be forecasted into the future.
- 2. Identify key questions and social equity performance measures** that reflect issues faced by SEF populations in the region that will provide meaningful comparative data.

3. **Conduct a social equity analysis** on each alternative transportation network scenario and the preferred transportation network, using the selected social equity performance measures.
4. **Identify the location of disadvantaged communities** in accordance with Assembly Bill 805 (AB 805) (Gonzalez Fletcher, 2017) and develop strategies for reducing pollution exposure for these affected communities as part of the 2019 Regional Plan in collaboration with the CBO Working Group.

Further explanation of the approach is described below.

Defining Social Equity Focus Populations

The proposed three SEF populations include: (1) all minorities¹; (2) low-income populations (200 percent of the federal poverty level); and (3) seniors (age 75 and older). These are the same populations that were identified for use in the 2015 Regional Plan based on feedback from social equity stakeholders and the CBO Network. Maintaining consistency would allow for comparison between the 2015 Regional Plan and the 2019 Regional Plan. The most vulnerable population is the low-income population, which by definition, includes low-income minorities and low-income seniors. For reference, the distribution of each SEF population is shown in the attached maps (Attachments 1A-C).

Key Questions and Social Equity Performance Measures

On March 23, 2018, the Board of Directors approved the [Performance Measures](#) for the 2019 Regional Plan, which will be used to evaluate the overall performance of the transportation networks. A subset of the Performance Measures was identified for inclusion in the social equity analysis. The analysis will compare the performance of the network scenarios for the three SEF populations against their respective 'non'-populations (meaning minority versus non-minority populations; low-income versus non-low-income populations; and senior versus non-senior populations). In addition, staff recommends including an environmental burden measure (for Title VI considerations) looking at exposure to environmental pollutants as was done in the 2015 Regional Plan based upon CBO Working Group input. The proposed environmental burden measure is particulate matter, PM_{2.5}

The recommended Social Equity Performance Measures are listed in Table 1.

¹ Minority is defined as a person who is: Black (having origins in any of the black racial groups of Africa); Hispanic (of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race); Asian American (having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or American Indian and Alaskan Native (having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition). Source: U.S. Department of Transportation Federal Transit Administration Circular 4702.1B – Title VI Requirements and Guidelines for Federal Transit Administration Recipients.

Table 1: Recommended Social Equity Performance Measures

2019 Regional Plan Goals	Key Question	2019 Regional Plan Performance Measures to use for Social Equity Analysis
Innovative Mobility and Planning	Are travel times to work distributed equitably?	Average peak-period travel time to work (drive alone, carpool, transit, bike, and walk) (minutes)
Vibrant Economy	Do the transportation investments help to improve the regional economy?	Benefit/Cost Ratio of transportation investments
	Is the relative cost of transportation distributed equitably?	Change in percent of income consumed by transportation costs
Healthy Environment and Communities	Does the transportation network support smart growth?	Percentage of population/ employment within 0.5-mile of high-frequency (≤ 15 min peak) transit stops
		Percentage of population/employment within 0.5-mile of a major transit stop per California Code section 21064.3.
	How does the transportation network support public health?	Time engaged in transportation-related physical activity per capita (minutes)
		Average Exposure to Particulate Matter (PM _{2.5}) per person
	Is access to jobs and key destinations improving for all communities?	Percent of population within 30 minutes jobs and higher education (via driving, transit)
		Percent of population within 15 minutes of goods and services (retail, medical, parks, and beaches) (via driving, transit)

Conduct Comparative Social Equity Analysis

Each social equity performance measure (listed in Table 1 above) will compare the results between each SEF group and non-SEF group to determine if there is a disparity (minority versus non-minority; low income versus non-low income; senior versus non-senior) in the results. This will be done for all alternative networks, as well as the Preferred Network. The purpose of doing the comparison is to see how the performance measure is improving relative to both groups. If the SEF group is not improving in the performance of a given measure, is the trajectory leading to a disproportionate burden? Although Title VI itself prohibits only intentional discrimination, agency regulations which were adopted to implement Title VI, direct SANDAG to ensure that it does not engage in practices that have the effect of discriminating on the basis of race, color, or national origin. Often, statistics are used as a way to screen for such unintentionally caused discriminatory impacts. The threshold percentage often used to screen for disparate impact or disproportionate effect is 20 percent due to the “four-fifths” or “80/20” rule because it is only presumed that a case for disparate impact or disproportionate effect is created when there is a substantially different rate of impact for a particular group. A rate that is different by more than 20 percentage points is regarded as substantial because statistically it is unlikely to occur on a random basis. Although this relatively stringent standard is only required when checking for disparities for minorities under Title VI, SANDAG proposes to also analyze low-income and senior groups using this screening process.

Identifying Location of Disadvantaged Communities and Strategies for Reducing Pollution Exposure

In accordance with AB 805, SANDAG will identify the location of disadvantaged communities as designated pursuant to Section 39711 of the Health and Safety Code. The California Office of Environmental Health Hazard Assessment has developed a screening tool for designating these communities, called the California Communities Environmental Health Screening Tool, or CalEnviroScreen for short.

CalEnviroScreen is a science-based mapping tool that helps identify California communities that are most affected by many sources of pollution, and that are often especially vulnerable to pollution’s effects (Attachment 2). CalEnviroScreen uses environmental, health, and socioeconomic information to produce a numerical score for each census tract in the state. This statewide tool evaluates multiple pollutants and stressors at the census tract level. CalEnviroScreen provides a snapshot of existing conditions based on historical data; it does not predict future conditions for disadvantaged communities.

The results are depicted on maps so that different communities can be compared to one another. A census tract with a high score (red) is one that experiences higher pollution burden and vulnerability than census tracts with low scores (green). Attachment 3 shows the results for the San Diego region of the most recent iteration of the tool with adjustments made on several variables and new data provided by new air pollution monitors in San Ysidro.

In accordance with AB 805, SANDAG will develop strategies for reducing pollution exposure for these affected communities from the Preferred Transportation Network. Staff will engage the CBO Working Group in an effort to develop ideas and concepts appropriate to the scope and role of the agency. There are many proven strategies to draw from—some of which the agency already takes a lead in, such as the Smart Growth Incentive Program and the Active Transportation Grant Program,

to encourage jurisdictions to create opportunities for Transit Oriented Development and active transportation. Others may involve roadway design such as roundabouts, while others may involve the use of landscapes and other barriers near highways or other high-volume roadways.

Community-Based Organizations Working Group Input

At its March 4 and May 3, 2018, meetings, the CBO Working Group reviewed and discussed the social equity analysis framework and approach.

The CBO Working Group agreed with the performance measures as providing meaningful data for comparative purposes to assess the relative distribution of benefits and burdens of the transportation networks. They also agreed on the need for an environmental burden measure and were in agreement with the 'average exposure of particulate matter per person' measure. Staff had initially proposed using a PM₁₀ measure. CBO Working Group members suggested that the size of particulate matter be 2.5 instead of 10 because particulate matter less than 10 micrometers when inhaled can get deep into lungs and even the bloodstream, causing multiple health problems, according to the Environmental Protection Agency (EPA). It was noted that CalEnviroScreen measures PM_{2.5} and that the San Diego Air Pollution Control District (APCD) is taking some PM₁₀ monitors out of commission. APCD has confirmed an increasing trend toward using PM_{2.5} as a more appropriate measure for health impacts of near roadway pollution.

In addition, there was discussion on the methodology for determining disparity in the performance measures. Some members were concerned that the calculation appeared too large but did not propose an alternative. However, the proposed method is used by the U.S. Equal Employment Opportunity Commission, Department of Labor, and Department of Justice, and is an accepted threshold for determining disparity, and was the method utilized for the 2015 Regional Plan. Staff is not proposing a revised method.

Next Steps

Pending approval, staff will implement the Social Equity Framework and Approach. The results of the analysis are anticipated to be brought to the Board of Directors in the fall along with the overall performance measure results as part of the analysis of the transportation network scenarios.

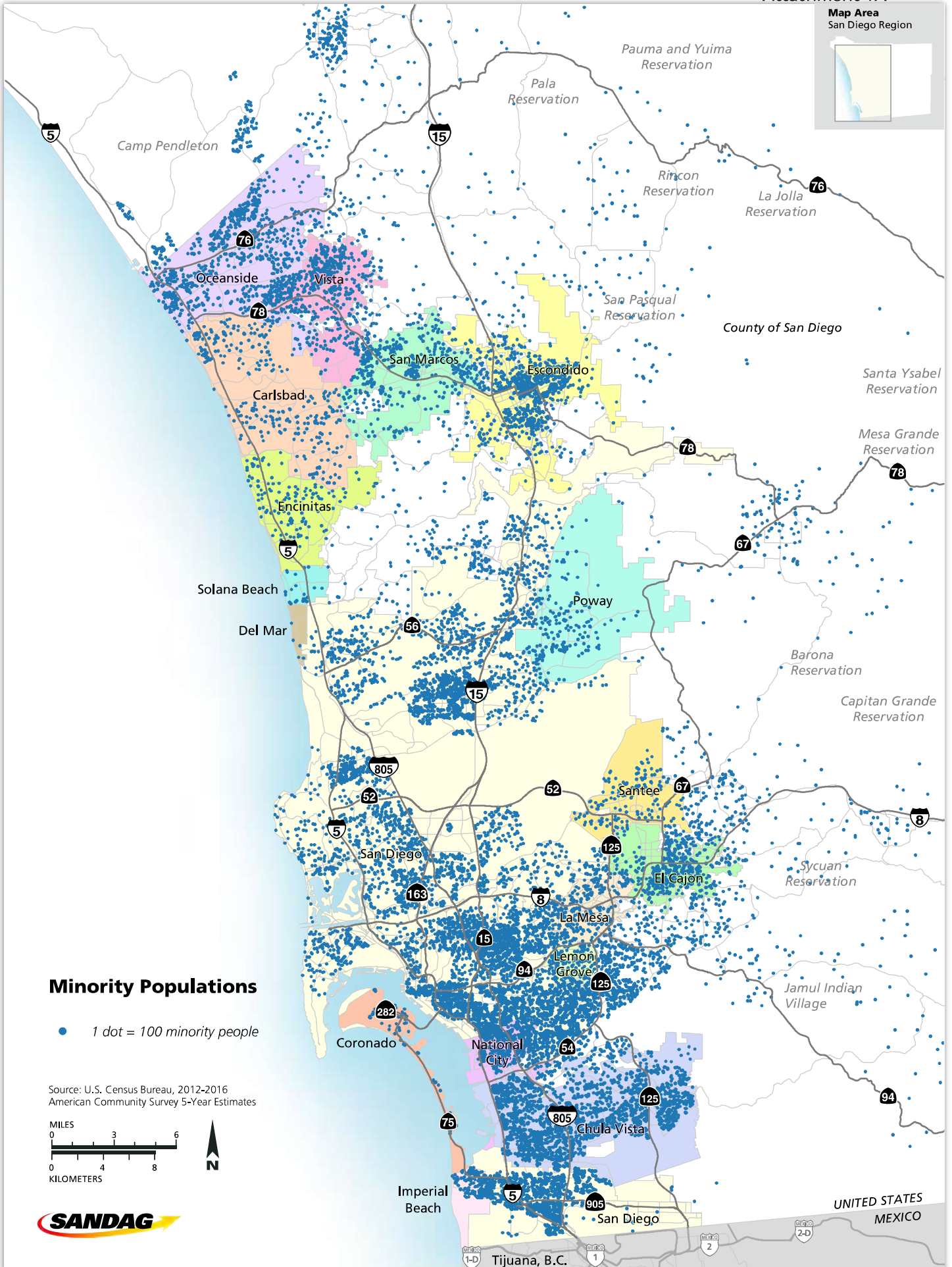
KIM KAWADA

Chief Deputy Executive Director

- Attachments:
- 1A. Minority Population in the San Diego Region
 - 1B. Low-Income Population in the San Diego Region
 - 1C. Senior Population in the San Diego Region
 2. CalEnviroScreen 3.0 Fact Sheet
 3. CalEnviroScreen 3.0 Results for San Diego

Key Staff Contact: Jane Clough, (619) 699-1909, jane.clough@sandag.org

Map Area
San Diego Region



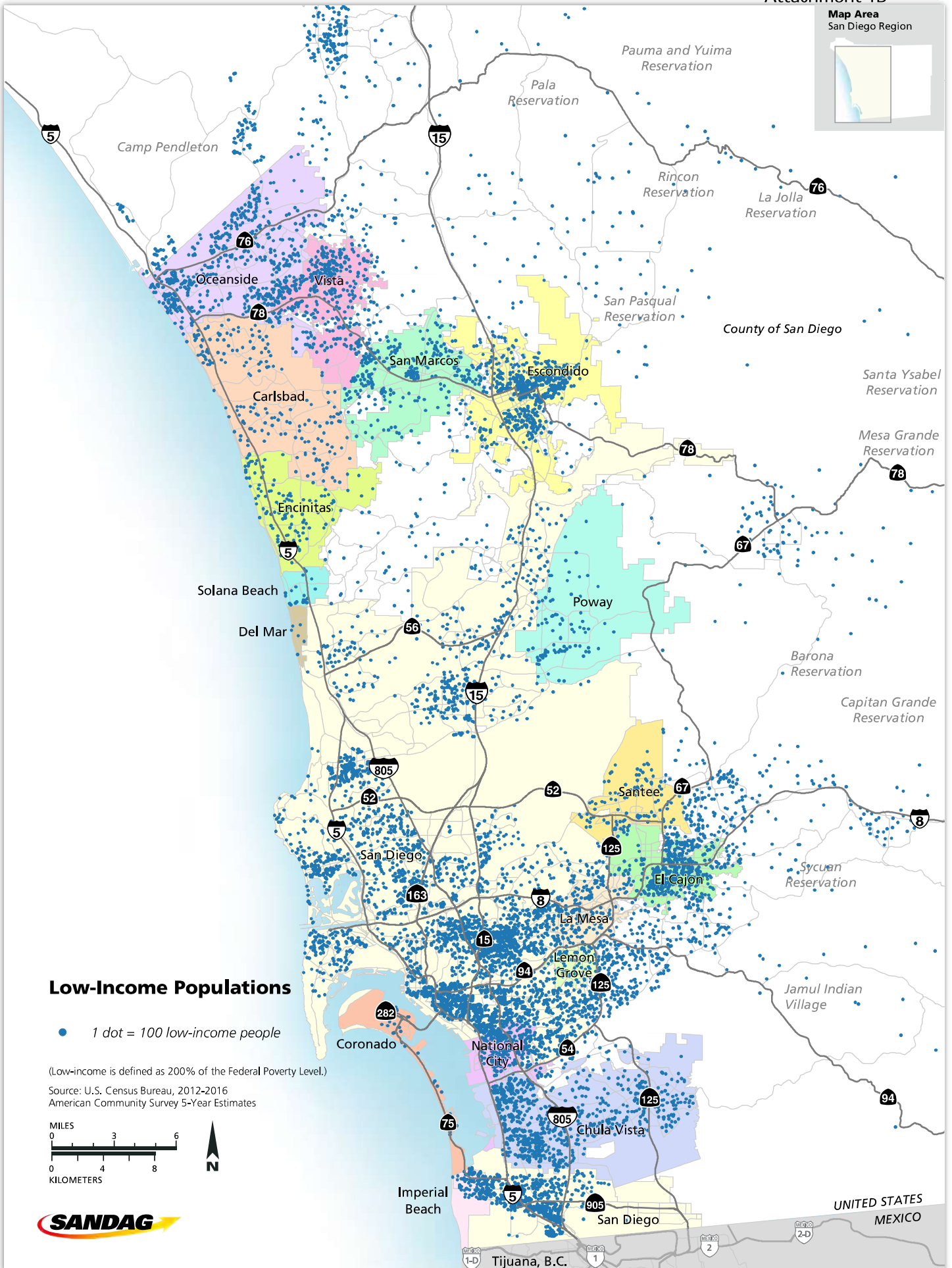
Minority Populations

• 1 dot = 100 minority people

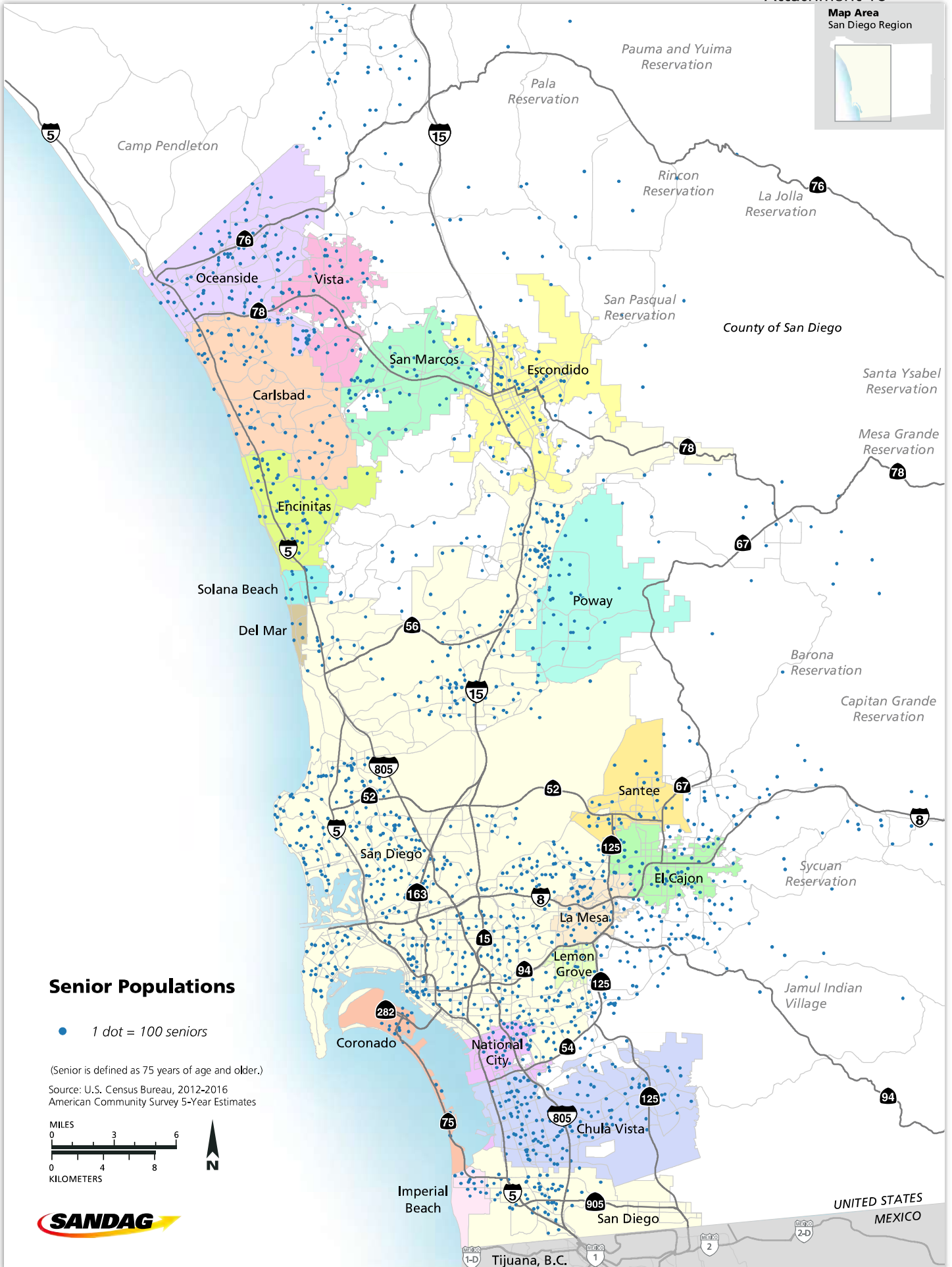
Source: U.S. Census Bureau, 2012-2016
American Community Survey 5-Year Estimates



Map Area
San Diego Region



Map Area
San Diego Region



Senior Populations

• 1 dot = 100 seniors

(Senior is defined as 75 years of age and older.)

Source: U.S. Census Bureau, 2012-2016
American Community Survey 5-Year Estimates



CalEnviroScreen 3.0 Factsheet



OEHHA
Office of Environmental Health
Hazard Assessment



CalEPA
California Environmental
Protection Agency

What is CalEnviroScreen?

CalEnviroScreen is a science-based mapping tool that helps identify California communities that are most affected by many sources of pollution, and that are often especially vulnerable to pollution's effects. CalEnviroScreen uses environmental, health, and socioeconomic information to produce a numerical score for each census tract in the state.

The results are depicted on maps so that different communities can be compared to one another. A census tract with a high score is one that experiences higher pollution burden and vulnerability than census tracts with low scores. CalEnviroScreen ranks census tracts based on data that are available from state and federal government sources. CalEnviroScreen 3.0 is the most current version and was released in January 2017.

Who developed CalEnviroScreen?

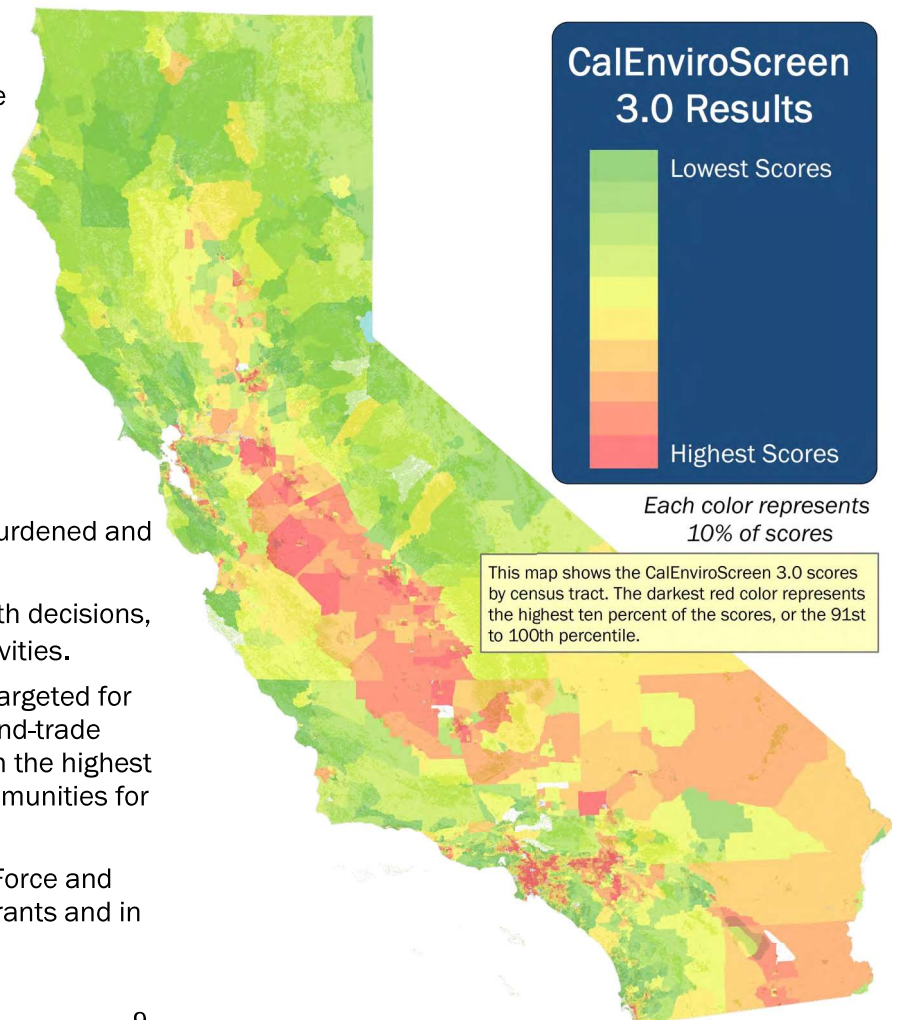
- ◇ Office of Environmental Health Hazard Assessment (OEHHA)
- ◇ California Environmental Protection Agency (CalEPA)

Uses of CalEnviroScreen

- ◇ To identify California's most environmentally burdened and vulnerable communities.
- ◇ To assist CalEPA's boards and departments with decisions, such as prioritizing resources and cleanup activities.
- ◇ Disadvantaged communities in California are targeted for investment of proceeds from the State's cap-and-trade program. CalEPA designated census tracts with the highest CalEnviroScreen scores as disadvantaged communities for investing cap-and-trade proceeds.
- ◇ Used by CalEPA's Environmental Justice Task Force and other state entities as guidance in allocating grants and in other decisions.

The CalEnviroScreen Model

- ◇ Is made up of a suite of 20 statewide indicators of pollution burden and population characteristics associated with increased vulnerability to pollution's health effects.
- ◇ Uses a weighted scoring system to derive average pollution burden and population characteristics scores for each census tract.
- ◇ Calculates a final CalEnviroScreen score for a given census tract relative to the other tracts in the state by multiplying the pollution burden and population characteristics components together.
- ◇ The score measures the relative pollution burdens and vulnerabilities in one census tract compared to others and is not a measure of health risk.





CalEnviroScreen 3.0

Data Used in CalEnviroScreen

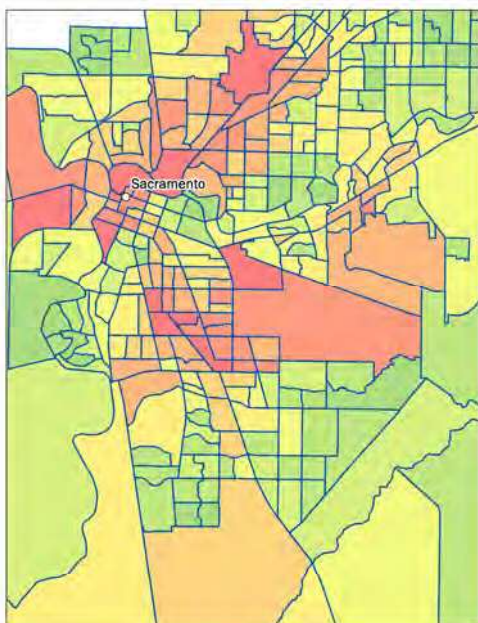
Indicators in CalEnviroScreen are measures of either environmental conditions, in the case of **pollution burden** indicators, or health and vulnerability factors for **population characteristic** indicators.

CalEnviroScreen indicators fall into four broad groups:

Exposures	Contact with pollution
Environmental Effects	Adverse environmental conditions caused by pollution
Sensitive Populations	Populations with biological traits that may magnify the effects of pollution exposures
Socioeconomic Factors	Community characteristics that result in increased vulnerability to pollution

Geographic Scale

Census tracts from the US Census Bureau (2010 census) are used to represent the locations of communities across California. The average size of a census tract is around **4,000 people** and represents a relatively fine scale of analysis. Below are the results by census tract in the Sacramento area.



Focus of CalEnviroScreen

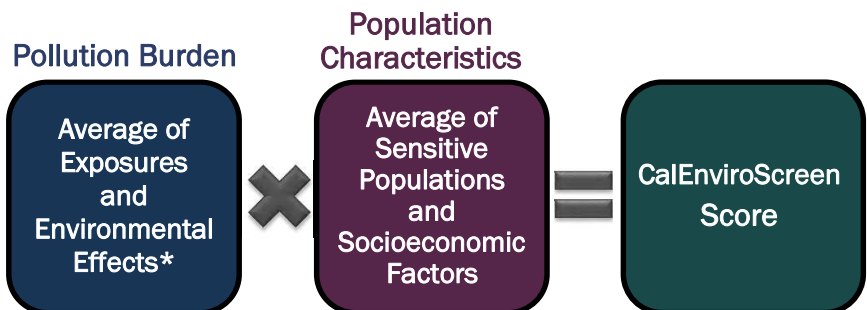
"...exposures, public health or environmental effects from the combined emissions and discharges, in a geographic area, including environmental pollution from all sources, whether single or multi-media, routinely, accidentally, or otherwise released. Impacts will take into account sensitive populations and socioeconomic factors, where applicable and to the extent data are available."

Definition of "cumulative impacts" adopted by CalEPA in 2005

Indicators

Pollution Burden	Population Characteristics
Exposures <ul style="list-style-type: none"> Ozone PM2.5 Diesel PM Pesticide Use Traffic Drinking Water Contaminants Toxic Releases from Facilities 	Sensitive Populations <ul style="list-style-type: none"> Asthma Cardiovascular Disease Low Birth-Weight Infants
Environmental Effects <ul style="list-style-type: none"> Solid Waste Sites and Facilities Cleanup Sites Groundwater Threats Impaired Water Bodies Hazardous Waste Generators and Facilities 	Socioeconomic Factors <ul style="list-style-type: none"> Poverty Unemployment Educational Attainment Linguistic Isolation Housing Burdened Low Income Households

CalEnviroScreen Formula



*The Environmental Effects component is weighted one-half when combined with the Exposures component.

How to learn more and access the tool:

Website: <http://oehha.ca.gov/calenviroscreen>

Email: CalEnviroScreen@oehha.ca.gov

The CalEnviroScreen 3.0 report (in English and Spanish), maps and additional data:

<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>



Map Area
San Diego Region

