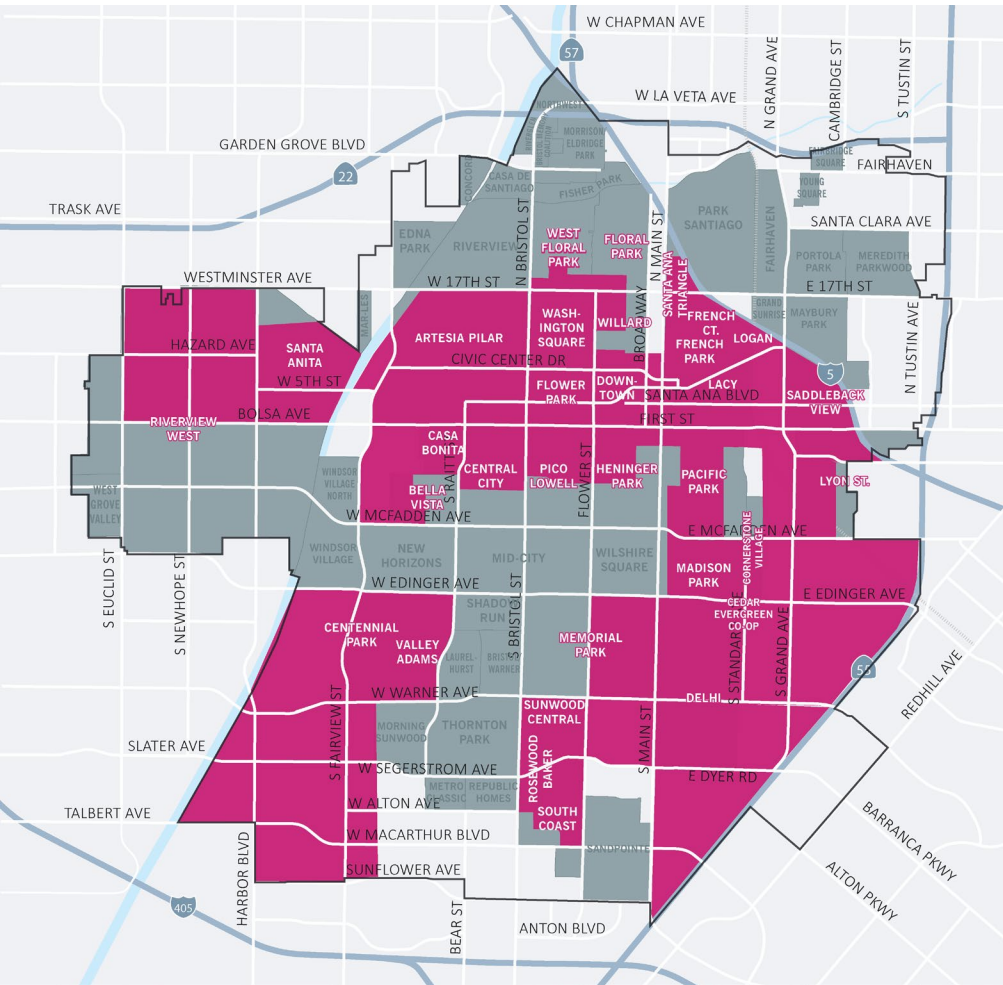




# ENVIRONMENTAL JUSTICE BACKGROUND & ANALYSIS FOR THE GENERAL PLAN UPDATE

City of Santa Ana | Updated October 2021 (Initial Publication July 2020, March 2021)



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City of Santa Ana

*Prepared by:*  
PlaceWorks



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# SB 1000 Legal Background

Senate Bill 1000, the Planning for Healthy Communities Act, was signed into law in September 2016. SB 1000 mandates that, after January 1, 2018, cities and counties adopt an Environmental Justice element in their general plans or integrate environmental justice policies, objectives, and goals into other elements when two or more general plan elements are being updated. The new environmental justice goals, policies, and objectives must do the following:

- Reduce the unique or compounded health risks in disadvantaged communities by reducing pollution exposure and promoting public improvements, public services, community amenities, food access, safe and sanitary homes, and physical activity.
- Promote civil engagement in the public decision-making process.
- Prioritize improvements and programs that address the needs of disadvantaged communities.



# SB 1000- Legal Background

SB 1000's definition of a disadvantaged community include areas that: 1) are disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation; and 2) have concentrations of people with low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment. Additionally, the term "community" can be defined or understood as various geographic places, ranging from a neighborhood to a small unincorporated area or to a small region.

"Disadvantaged communities" are defined as areas identified by the California Environmental Protection Agency pursuant to Section 39711 of the Health and Safety Code or low-income areas that are disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation.

Note: There are other provisions in State law and programs that reference the term "disadvantaged communities", such as GHG emissions cap-and-trade program (SB 535 and AB 1550) and the Integrated Regional Water Management fund. These laws and programs generally define "disadvantaged communities" as lower income, without consideration of other factors such as pollution exposure.



# SB 1000- Legal Background

While the law does not define the phrase “disproportionately affected by environmental pollution,” there are some sources of relevant data that could be considered:

CalEnviroScreen – <https://oehha.ca.gov/calenviroscreen>

Public Health Alliance, Health Disadvantage Index – <http://phasocal.org/ca-hdi/>

UC Davis, Regional Opportunity Index – <http://interact.regionalchange.ucdavis.edu/roi/>

PolicyLink, National Equity Atlas – <http://nationalequityatlas.org/>

HUD, Opportunity Index – <http://opportunity.census.gov/>

NHI, Environmental Justice Strategy – <https://www.transportation.gov/policy/transportation-policy/environmental-justice-strategy>



# Environmental Justice Analysis For Santa Ana

## Methodology

The California Communities Environmental Health Screening Tool, or CalEnviroScreen (CES), was developed by the Office of Environmental Health Hazards Assessment on behalf of CalEPA. CES is a method for identifying communities that are disproportionately burdened by pollution and/or have a disproportionately vulnerable population. In accordance with SB 1000, jurisdictions can use this tool to help identify areas within their communities where environmental justice concerns may arise. Goals, policies, and programs can then be developed to address concerns.

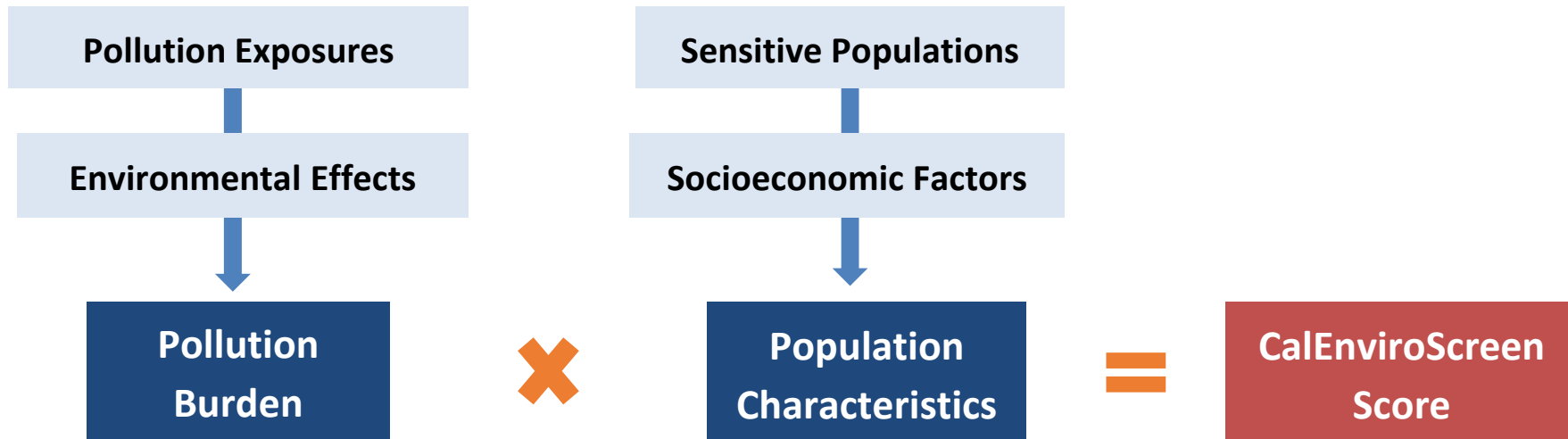




# Environmental Justice Analysis For Santa Ana

## Methodology

CalEnviroScreen scores are calculated from the scores for two groups of indicators: pollution burden and population characteristics. Pollution burden represents the potential exposures to pollutants and the adverse environmental conditions caused by pollution. Population characteristics represent biological traits, health status, or community characteristics that can result in increased vulnerability to pollution.

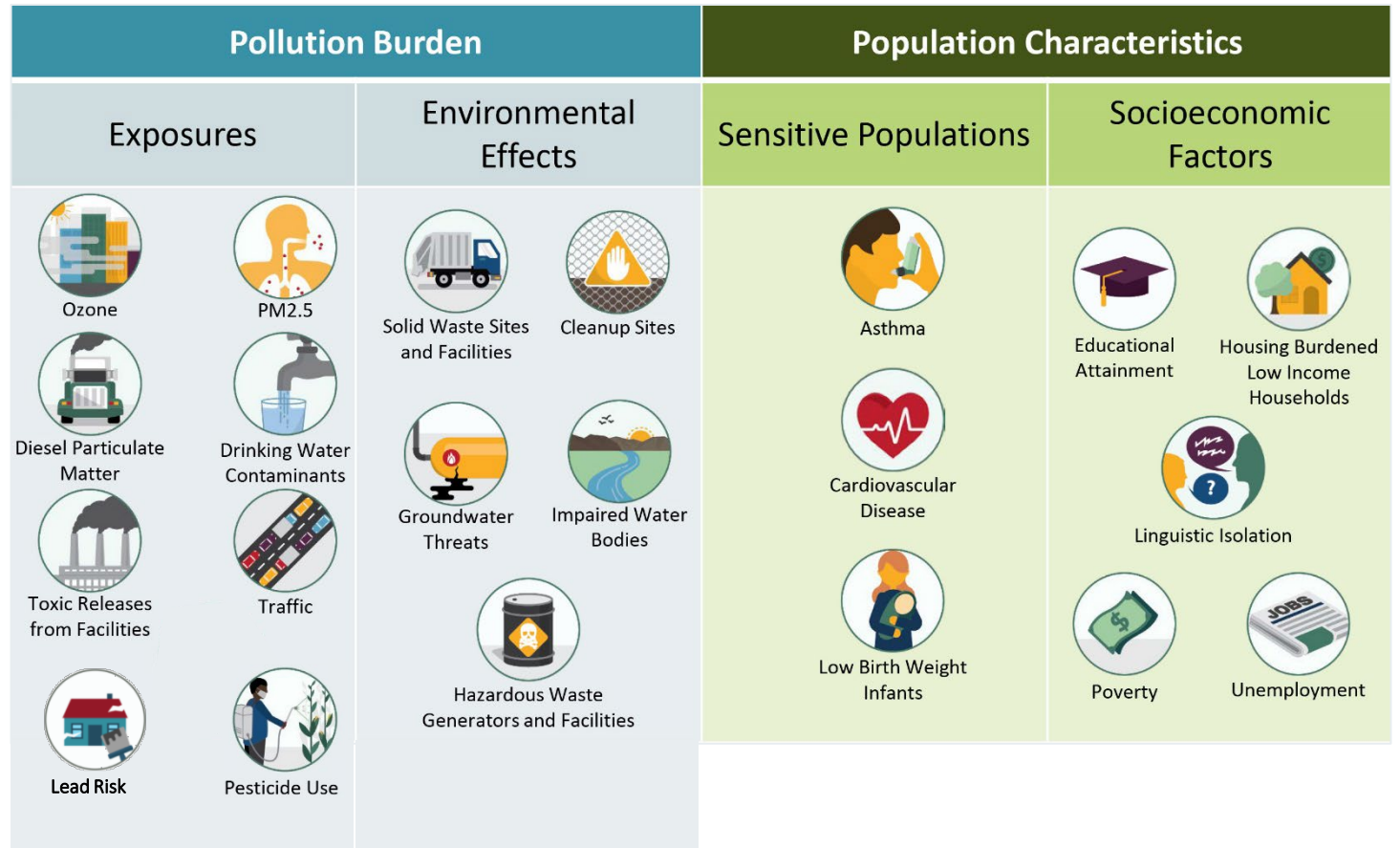




# Environmental Justice Analysis For Santa Ana

## Methodology

The CES tool measures 21 different indicators related to people's exposure to pollution and quality of life. CES uses a census tract as a proxy for community. The results for each census tract are then measured against every other census tract in California. The outcome is a scale that sorts census tracts from the least impacted to the most impacted --- as a ranked percentile --- for each indicator.





## Methodology

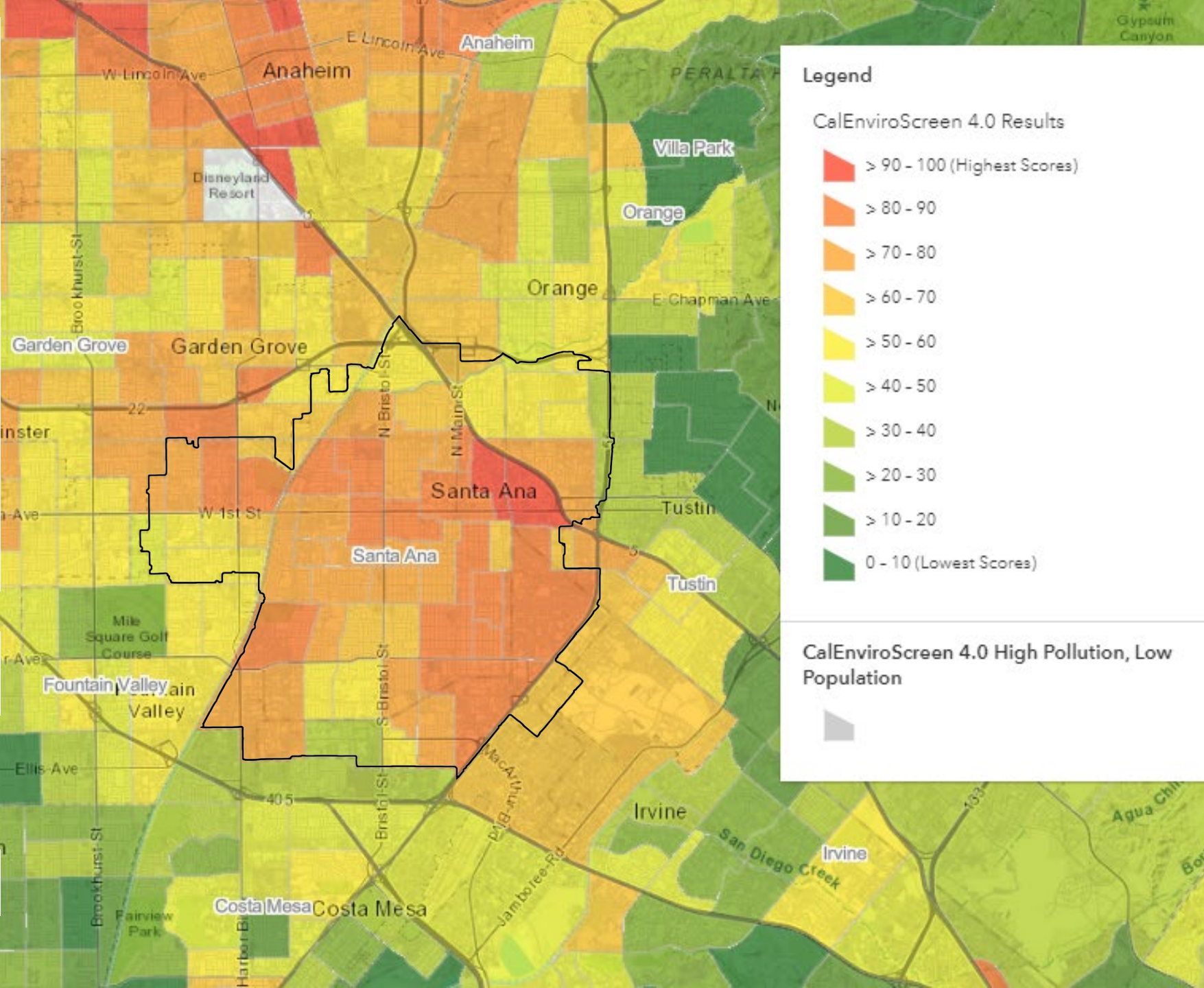
The combined ranked percentile scores of these 21 indicators are then combined and ranked again as two population and pollution burden categories, and as a combined or composite score.

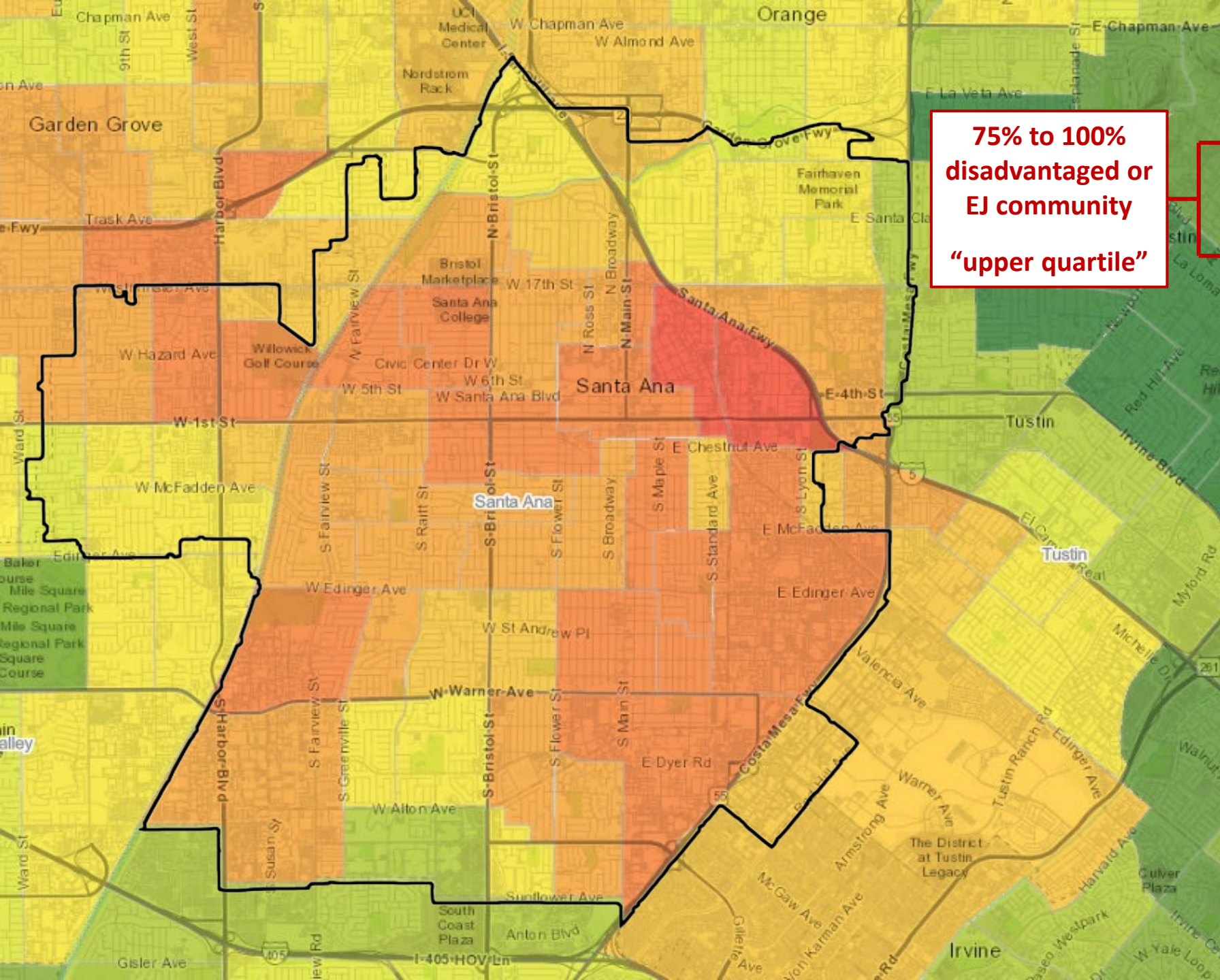
This map shows the composite scores for each census tract. Those ranked in the top 25%---shown with values between 75 and 100 percent---are considered to be a disadvantaged or environmental justice community. This top 25<sup>th</sup> percentile score is also referred to as an upper quartile score.

**Tracts ranked from 75% to 100% are a disadvantaged or EJ community**

**Combined scores compared to identify lowest to highest burden**

*Note: The City's approach is consistent with CalEPA methodology.*





**75% to 100%  
disadvantaged or  
EJ community  
“upper quartile”**

**Legend**

CalEnviroScreen 4.0 Results



**Tracts ranked from 75% to 100% are a disadvantaged or EJ community**

**Combined scores compared to identify lowest to highest burden**

*Note: The City's approach is consistent with CalEPA methodology.*



# EJ Communities in the City of Santa Ana

Based on a combination of CES scores and local issues raised in community outreach, the main priorities\* are:



Diesel Emissions



Air Quality\*\*



Groundwater Contamination



Cleanup Sites



Solid Waste Sites



Lead Risk



Linguistic Isolation



Housing Burden



Low Birth Weight Infants



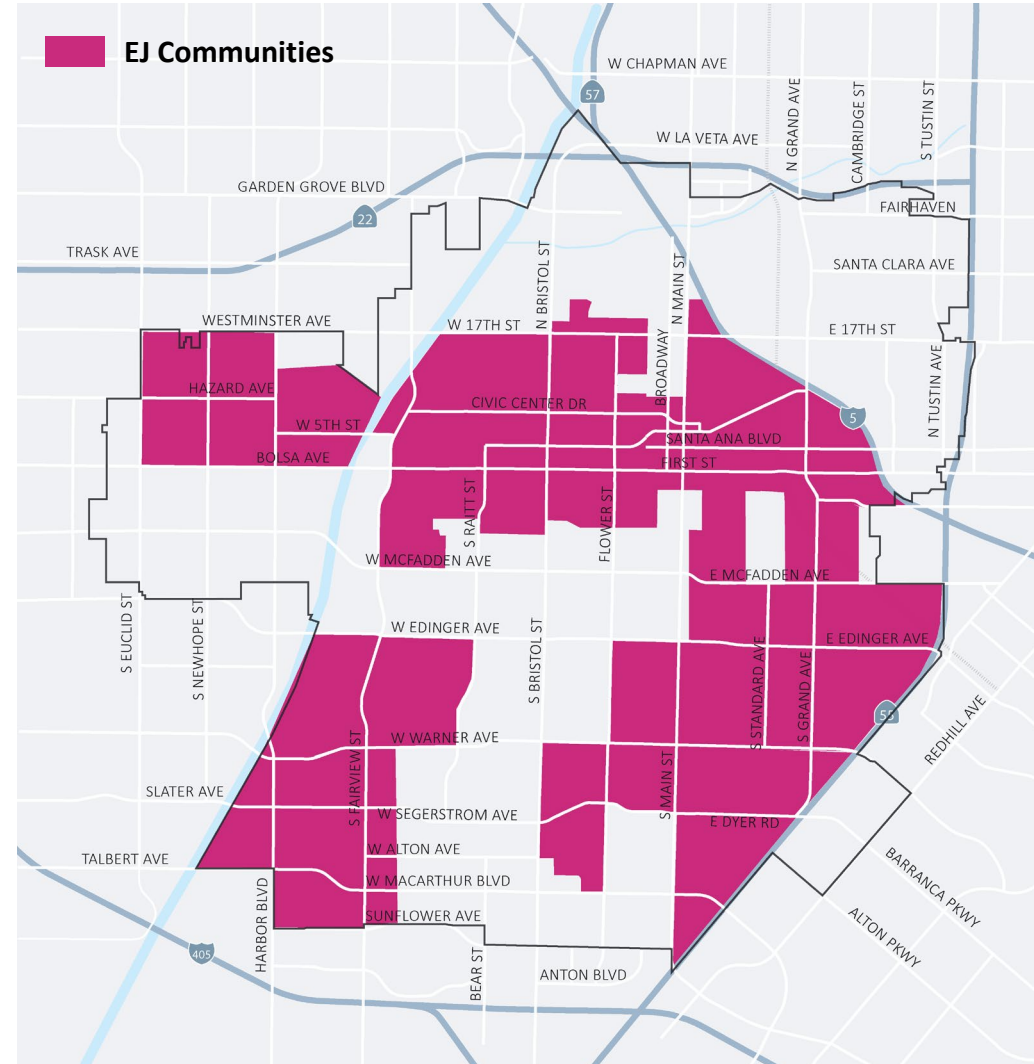
Poverty



Education

\* The first row of issues is related to pollution burden, with the second row related to population characteristics. The issues are not otherwise listed in any specific order of severity or importance. All of the above issues have scores in the upper quartile (75-100%) for multiple census tracts. The majority of the above issues were also referenced by the community at meetings, workshops, and/or individual comments. For maps and additional discussion, see pages 18-64.

\*\* The symbol shown for Air Quality is used by CES to represent fine particle pollution (PM2.5). On this page, the City also uses this symbol (as the simplest and clearest option) to communicate a trio of air quality/air pollution issues: Ozone, PM2.5, and Toxic Releases.



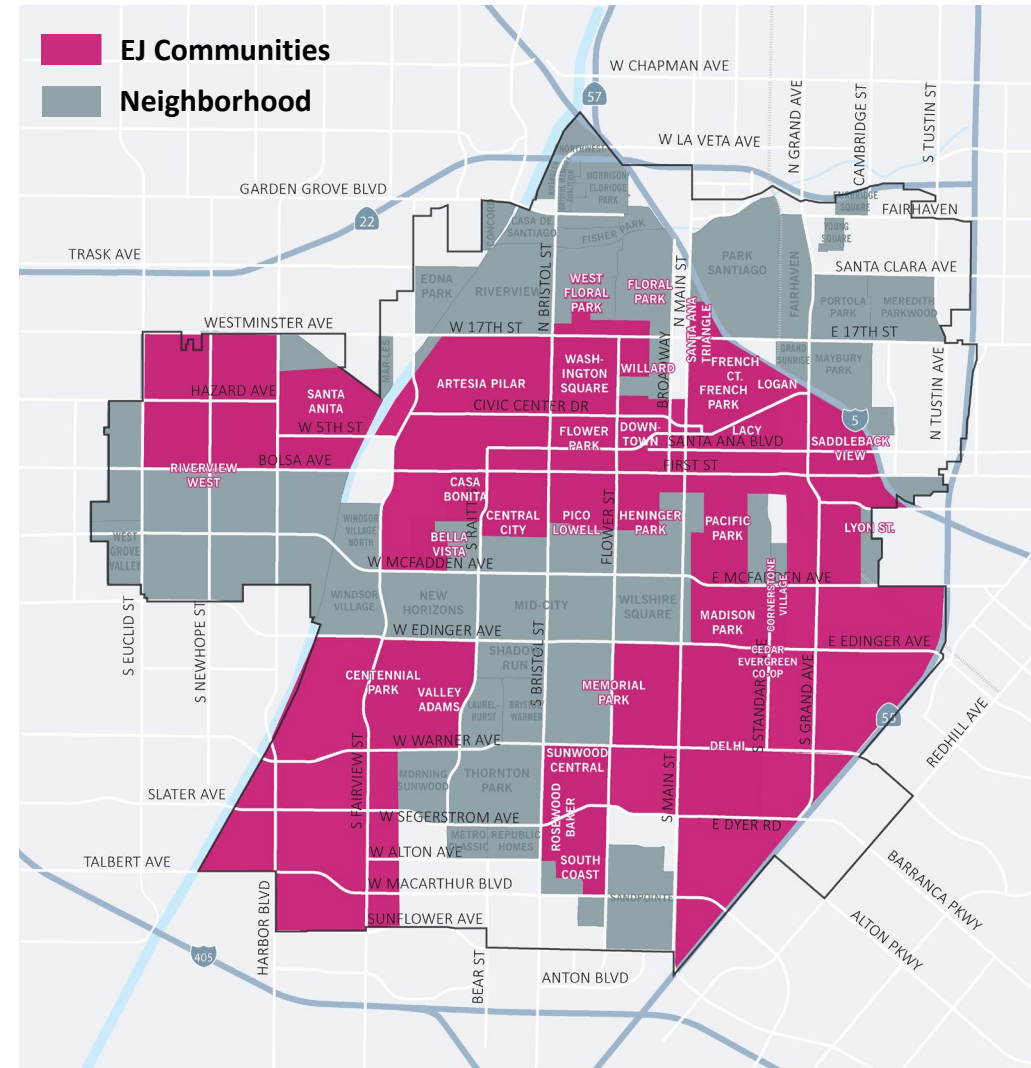


# EJ Communities in the City of Santa Ana

This map shows how the 24 EJ census tracts overlap with the City's Neighborhood Map.

The following neighborhoods are partially or entirely within one of these 24 EJ areas:

- Artesia Pilar ● Bella Vista ● Casa Bonita ● Cedar Evergreen ● Centennial ● Central City ● Cornerstone Village ● Delhi ● Downtown ● Floral Park ● Flower Park ● French Court ● French Park ● Heninger Park ● Lacy ● Logan ● Lyon St ● Madison Park ● Memorial Park ● Pacific Park ● Pico Lowell ● Riverview West ● Rosewood Baker ● Saddleback View ● Santa Ana Triangle ● Santa Anita ● South Coast ● Sunwood Central ● Valley Adams ● Washington Square ● West Floral Park ● Willard





# CalEnviroScreen Score Summary

The following tables provide a summary of CalEnviroScreen scores for each of the 24 EJ census tracts that fall in the upper quartile (75-100%). The tables provide the score for the combined pollution indicators, combined population indicators, and overall composite score. The tables also identify the pollution and population factors that contributed the most to the composite score.



# CalEnviroScreen Score Summary

Census Tract	General Location	Neighborhoods	Low Income*	Percentile and Quartile Rank			Scores in the Upper Quartile	
				Composite Score	Pollution Score	Population Score	Pollution Factors	Population Factors
6059074003	Southeast	Delhi	No	86	99	56	AQ   DPM   TD   L   CS   GW   HZ	LB
6059074300	Southeast	Delhi, Madison Park	Yes	89	93	73	AQ   L   CS   GW   HZ   SW	LB   ED   HB
6059074200	Southeast	Delhi, Madison Park, Memorial Park	Yes	81	82	71	AQ   GW   L   HZ	ED   LI   POV
6059074005	Southeast	Sunwood Central, Rosewood Baker, South Coast	Yes	76	79	65	AQ   L	ED   LI
6059074108	Southwest	Centennial Park	Yes	82	89	66	AQ   L   CS   HZ	LB   ED
6059074106	Southwest	--	Yes	76	89	56	AQ   CS   GW   HZ	LB   ED
6059074109	Southwest	Valley Adams	Yes	77	81	65	AQ   L   HZ	ED   HB

Ranking: Quartile 1 = Good Quartile 2 = Moderate Quartile 3 = Poor Quartile 4 = Challenged

Variables in the CES model:			
<b>Pollution Exposure</b> AQ = Air Quality (reflects a combination of Ozone, PM2.5, and Toxic Releases) DPM = Diesel Particulate Matter TD = Traffic Density L = Lead	<b>Environmental Effects</b> CS = Toxic Cleanup Sites GW: Groundwater Threats HZ = Hazardous Waste SW = Solid Waste Sites/Facilities	<b>Sensitive Population</b> LB = Low Birth Weight	<b>Socioeconomic Factors</b> LI = Linguistic Isolation POV = Poverty HB = Housing Burden ED = Educational Attainment UE = Unemployment

Source: OEHHA, CalEnviroScreen, version 4, 2021

\*Low Income identified as AB 1550 Low-income Communities, <https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/lowincomemapfull.htm>

Indicators not ranked in upper quartile: drinking water contaminants; pesticide use; impaired water bodies; asthma; cardiovascular disease



# CalEnviroScreen Score Summary

Census Tract	General Location	Neighborhoods	Low Income*	Percentile and Quartile Rank			Scores in the Upper Quartile	
				Composite Score	Pollution Score	Population Score	Pollution Factors	Population Factors
6059089004	West	Riverview West	Yes	82	77	77	AQ   DPM   L	ED   LI   POV   HB
6059089001	West	Riverview West	Yes	80	70	79	AQ	ED   LI   POV
6059089105	West	Santa Anita	Yes	81	65	83	AQ   TD   L	ED   LI   POV

Ranking: Quartile 1 = Good Quartile 2 = Moderate Quartile 3 = Poor Quartile 4 = Challenged

Variables in the CES model:			
<b>Pollution Exposure</b> AQ = Air Quality (reflects a combination of Ozone, PM2.5, and Toxic Releases) DMP = Diesel Particulate Matter TD = Traffic Density L = Lead	<b>Environmental Effects</b> CS = Toxic Cleanup Sites GW: Groundwater Threats HZ = Hazardous Waste SW = Solid Waste Sites/Facilities	<b>Sensitive Population</b> LB = Low Birth Weight	<b>Socioeconomic Factors</b> LI = Linguistic Isolation POV = Poverty HB = Housing Burden ED = Educational Attainment UE = Unemployment

Source: OEHHA, CalEnviroScreen, version 4, 2021

\*Low Income identified as AB 1550 Low-income Communities, <https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/lowincomemapfull.htm>

Indicators not ranked in upper quartile: drinking water contaminants; pesticide use; impaired water bodies; asthma; cardiovascular disease



# CalEnviroScreen Score Summary

Census Tract	General Location	Neighborhoods	Low Income*	Percentile and Quartile Rank			Scores in the Upper Quartile	
				Composite Score	Pollution Score	Population Score	Pollution Factors	Population Factors
6059074403	East	Cornerstone Village, Lyon St	Yes	81	94	57	AQ   TD   CS   HZ	ED   LI   POV   HB
6059074406	East	Lyon St, Saddleback View	Yes	93	94	79	AQ   DPM   TD   CS   HZ   SW   L	ED   LI   POV   HB   LB
6059074602	East	Madison Park, Pacific Park	Yes	82	83	72	AQ   CS   HZ   L	ED   LI   POV   HB
6059074502	East	Cedar Evergreen, Madison Park	Yes	88	90	76	AQ   CS   GW   HZ   L	ED   LI   POV   HB
6059074405	East	French Court, French Park, Lacy, Logan, Pacific Park	Yes	91	94	77	AQ   DPM   TD   CS   HZ   SW   L	ED   LI   POV   HB

Ranking: Quartile 1 = Good Quartile 2 = Moderate Quartile 3 = Poor Quartile 4 = Challenged

Variables in the CES model:			
<b>Pollution Exposure</b>	<b>Environmental Effects</b>	<b>Sensitive Population</b>	<b>Socioeconomic Factors</b>
AQ = Air Quality (reflects a combination of Ozone, PM2.5, and Toxic Releases)	CS = Toxic Cleanup Sites	LB = Low Birth Weight	LI = Linguistic Isolation
DMP = Diesel Particulate Matter	GW: Groundwater Threats		POV = Poverty
TD = Traffic Density	HZ = Hazardous Waste		HB = Housing Burden
L = Lead	SW = Solid Waste Sites/Facilities		ED = Educational Attainment
			UE = Unemployment

Source: OEHHA, CalEnviroScreen, version 4, 2021

\*Low Income identified as AB 1550 Low-income Communities, <https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/lowincomemapfull.htm>

Indicators not ranked in upper quartile: drinking water contaminants; pesticide use; impaired water bodies; asthma; cardiovascular disease





# CalEnviroScreen Score Summary

Census Tract	General Location	Neighborhoods	Low Income*	Percentile and Quartile Rank			Scores in the Upper Quartile	
				Composite Score	Pollution Score	Population Score	Pollution Factors	Population Factors
6059075002	Central	Downtown, French Park, Heninger Park, Lacy, Pacific Park, Willard	Yes	90	83	86	AQ   DPM   L   CS   HZ	LB   ED   LI   POV   HB
6059074901	Central	Flower Park, Heninger Park, Pico Lowell	Yes	88	76	87	AQ   L   CS   HZ	ED   LI   POV   UE
6059075201	Central	Artesia Pilar	Yes	84	81	78	AQ   L   HZ	LB   ED   LI   POV   UE   HB
6059074801	Central	Artesia Pilar, Central City	Yes	85	83	77	AQ   L   HZ	ED   LI   POV
6059075202	Central	Artesia Pilar	Yes	82	84	72	AQ   L   CS   HZ	ED   LI   UE   HB
6059075004	Central	French Court, Santa Ana Triangle	Yes	83	79	76	AQ   DPM   L   TD	ED   LI   POV   HB
6059074805	Central	Bella Vista	Yes	77	63	79	AQ	ED   LI   POV   HB
6059075100	Central	Flower Park, Washington Square, Willard, Floral Park, West Floral Park	Yes	77	83	64	AQ   L   CS   HZ	ED   LI
6059074802	Central	Casa Bonita, Artesia Pilar	Yes	76	88	58	AQ   L   CS   HZ	ED   LI   POV

Ranking: Quartile 1 = Good Quartile 2 = Moderate Quartile 3 = Poor Quartile 4 = Challenged

Variables in the CES model:			
<b>Pollution Exposure</b>	<b>Environmental Effects</b>	<b>Sensitive Population</b>	<b>Socioeconomic Factors</b>
AQ = Air Quality (reflects a combination of Ozone, PM2.5, and Toxic Releases)	CS = Toxic Cleanup Sites	LB = Low Birth Weight	LI = Linguistic Isolation
DMP = Diesel Particulate Matter	GW: Groundwater Threats		POV = Poverty
TD = Traffic Density	HZ = Hazardous Waste		HB = Housing Burden
L = Lead	SW = Solid Waste Sites/Facilities		ED = Educational Attainment
			UE = Unemployment

Source: OEHHA, CalEnviroScreen, version 4, 2021

\*Low Income identified as AB 1550 Low-income Communities, <https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/lowincomemapfull.htm>

Indicators not ranked in upper quartile: drinking water contaminants; pesticide use; impaired water bodies; asthma; cardiovascular disease



# CalEnviroScreen Mapping

The following pages contain a snapshot of the maps from CalEnviroScreen Version 4.0 for census tracts in Santa Ana. The maps show the overall composite results, the combined pollution burden score, the combined population characteristics score, and the scores for each individual indicator. Additional narrative follows each individual indicator map about the indicator and its significance for Santa Ana.

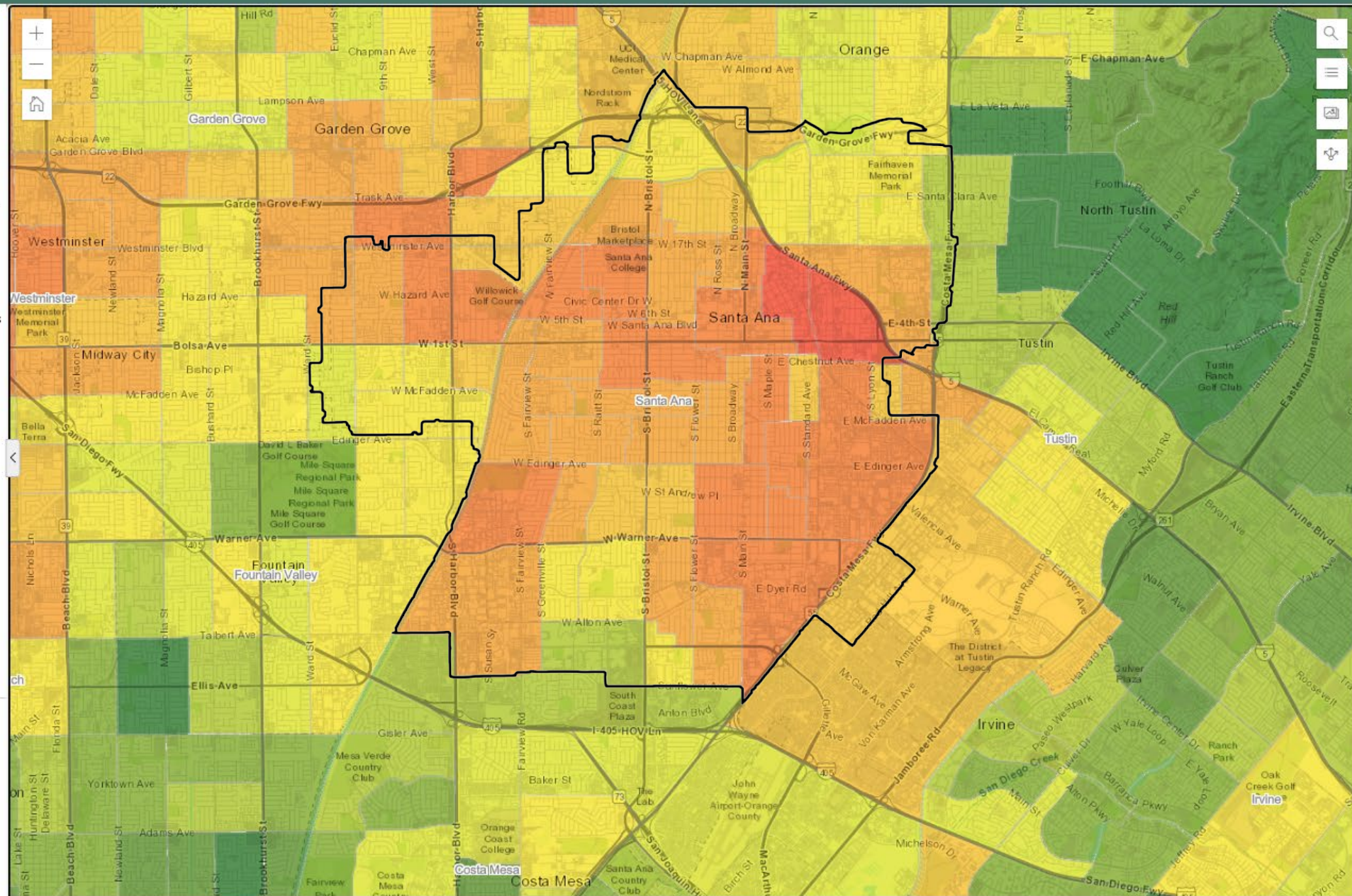
For more information on CalEnviroScreen and the combined or individual maps and indicators, visit:

[www.oehha.ca.gov/calenviroscreen](http://www.oehha.ca.gov/calenviroscreen).

The CalEnviroScreen 4.0 tool shows cumulative impacts in California communities by census tract.

**How to use this map**

- Use your mouse or touchpad to pan around.
- Zoom in/out with a mouse wheel or the +/- icons.
- Search by location or census tract number with the search icon.
- Click on a census tract to view additional information in the pop-up window.
- Dock the pop-up window to the side of the screen by clicking the dock icon.
- Export a map view that includes the legend and popup using the screenshot widget.
- Learn more about CalEnviroScreen 4.0 and how this map was created [here](#)



**Overall Percentile**

CalEnviroScreen 4.0 Results

- >90 - 100 (Highest Scores)
- >80 - 90
- >70 - 80
- >60 - 70
- >50 - 60
- >40 - 50
- >30 - 40
- >20 - 30
- >10 - 20
- 0 - 10 (Lowest Scores)

CalEnviroScreen 4.0 High Pollution, Low Population



Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS | Header, P1, P2, P3, P4, H1, and P5 Tables from U.S. Census Bureau's 2020 Public Law 94-171 files; P2, P3, P4, H1, and P5 Tables from U.S. Census Bureau's 2020 Public Law 94-171 files. Powered by Esri



# Pollution Burden

OEHHA identifies pollution burdens, evaluating pollution exposure in the air and water, primarily as the result of human activities. These characteristics are used to identify environmental justice communities because of the potential effects of pollution on vulnerable and sensitive populations. This section provides maps and summaries of the following pollution indicators:

- Air Quality: Ozone
- Air Quality: PM2.5
- Diesel Particulate Matter
- Children’s Lead Risk from Housing
- Drinking Water Contaminants
- Pesticide Use
- Toxic Releases from Facilities
- Traffic Density
- Cleanup Sites
- Groundwater Threats
- Hazardous Waste Generators and Facilities
- Impaired Water Bodies
- Solid Waste Sites and Facilities

## Pollution Burden

- Ozone
- PM2.5
- Diesel Particulate Matter
- Drinking Water Contaminants
- Children's Lead Risk from Housing
- Pesticide Use
- Toxic Releases from Facilities
- Traffic Impacts
- Cleanup Sites
- Groundwater Threats
- Hazardous Waste
- Impaired Waters
- Solid Waste Sites

## Population Characteristics

- Asthma
- Cardiovascular Disease
- Low Birth Weight
- Education
- Housing Burden
- Linguistic Isolation
- Poverty
- Unemployment

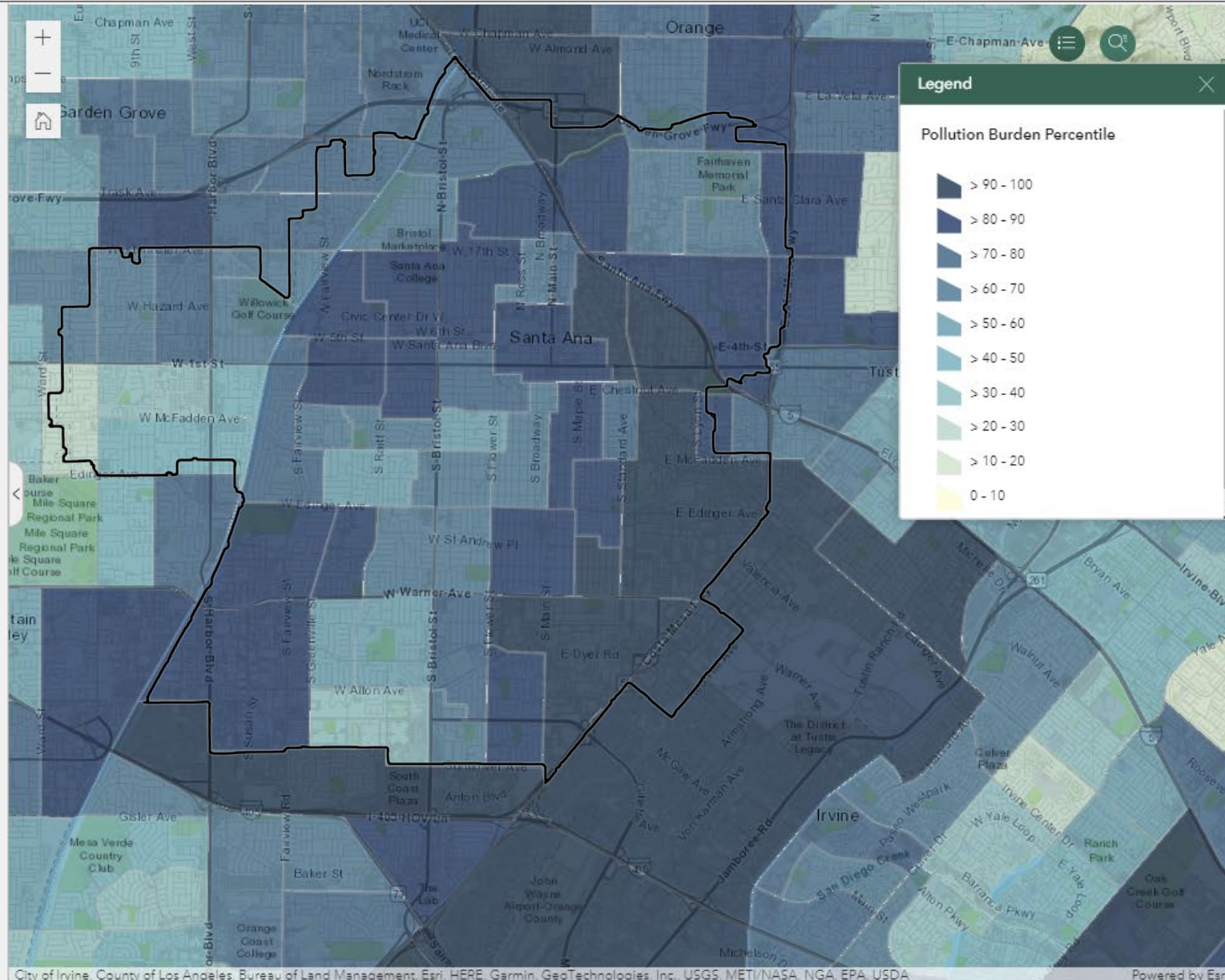
Overall CalEnviroScreen scores are calculated from the scores for two groups of indicators: Pollution Burden and Population Characteristics.

This map shows the combined Pollution Burden scores, which is made up of indicators from the Exposures and Environmental Effects components of the CalEnviroScreen model. Pollution Burden represents the potential exposures to pollutants and the adverse environmental conditions caused by pollution.

To explore this map, zoom to a location or type an address in the search bar. Click on a census tract to learn more about the indicator data. The indicator maps can be viewed by clicking on the indicators to the left.

A report with detailed description of indicators and methodology and downloadable results is available at the [CalEnviroScreen 4.0 website](https://oehha.ca.gov/calenviroscreen/maps-data).

<https://oehha.ca.gov/calenviroscreen/maps-data>





Pollution Burden

Ozone

- PM2.5
- Diesel Particulate Matter
- Drinking Water Contaminants
- Children's Lead Risk from Housing
- Pesticide Use
- Toxic Releases from Facilities
- Traffic Impacts
- Cleanup Sites
- Groundwater Threats
- Hazardous Waste
- Impaired Waters
- Solid Waste Sites

Population Characteristics

- Asthma
- Cardiovascular Disease
- Low Birth Weight
- Education
- Housing Burden
- Linguistic Isolation
- Poverty
- Unemployment



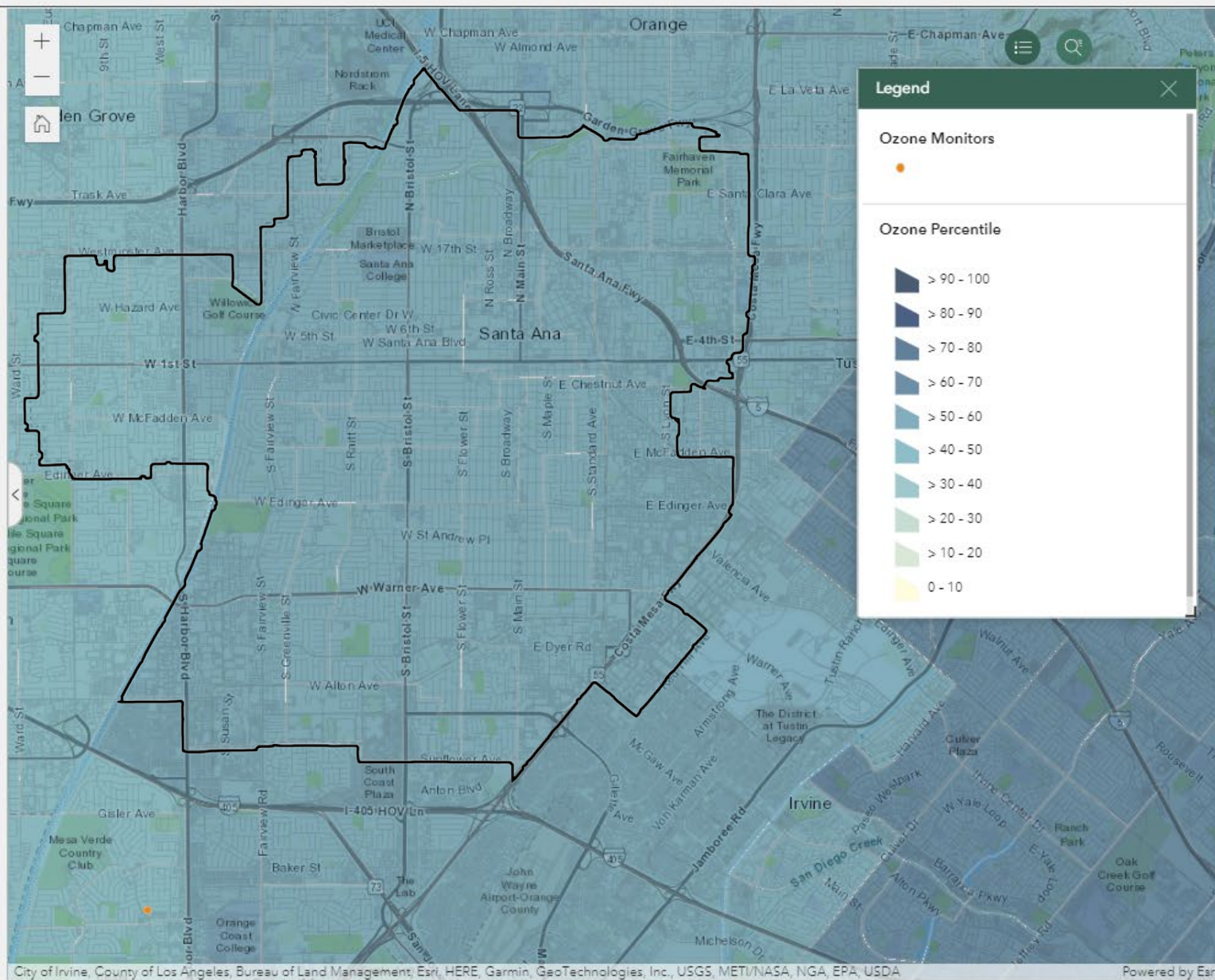
What is ozone?

Ozone is the main ingredient of smog. At ground level, ozone is formed when pollutants chemically react in the presence of sunlight. The main sources of ozone are trucks, cars, planes, trains, factories, farms, construction, and dry cleaners.

Ozone can irritate the lungs, cause inflammation, and make chronic illnesses worse, even at low levels of exposure. Children and the elderly are sensitive to the effects of ozone. Ozone levels are highest in the afternoon and on hot days. People who spend a lot of time outdoors may also be affected by ozone.

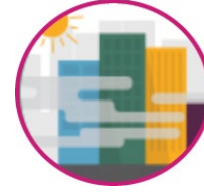
More information can be found in the Ozone chapter in the CalEnviroScreen 4.0 report.

<https://oehha.ca.gov/calenviroscreen/maps-data>





# Analysis of Pollution Indicators | Ozone



Ozone pollution causes numerous adverse health effects, including respiratory irritation and exacerbation of lung disease. The health impacts of ozone and other criteria air pollutants (particulate matter (PM), nitrogen dioxide, carbon monoxide, sulfur dioxide, and lead) have been considered in the development of health-based standards. Of the six criteria air pollutants, ozone and particle pollution pose the most widespread and significant health threats. The California Air Resources Board maintains a wide network of air monitoring stations that provides information that may be used to better understand exposures to ozone and other pollutants across the state.

The City of Santa Ana does not have a significant ozone issue in which census tracts rank within the upper quartile (>74%). Most census tracts have an ozone percentile score ranked in the mid-50th or low-60th percentiles.

Pollution Burden

- Ozone
- PM2.5**
- Diesel Particulate Matter
- Drinking Water Contaminants
- Children's Lead Risk from Housing
- Pesticide Use
- Toxic Releases from Facilities
- Traffic Impacts
- Cleanup Sites
- Groundwater Threats
- Hazardous Waste
- Impaired Waters
- Solid Waste Sites

Population Characteristics

- Asthma
- Cardiovascular Disease
- Low Birth Weight
- Education
- Housing Burden
- Linguistic Isolation
- Poverty
- Unemployment



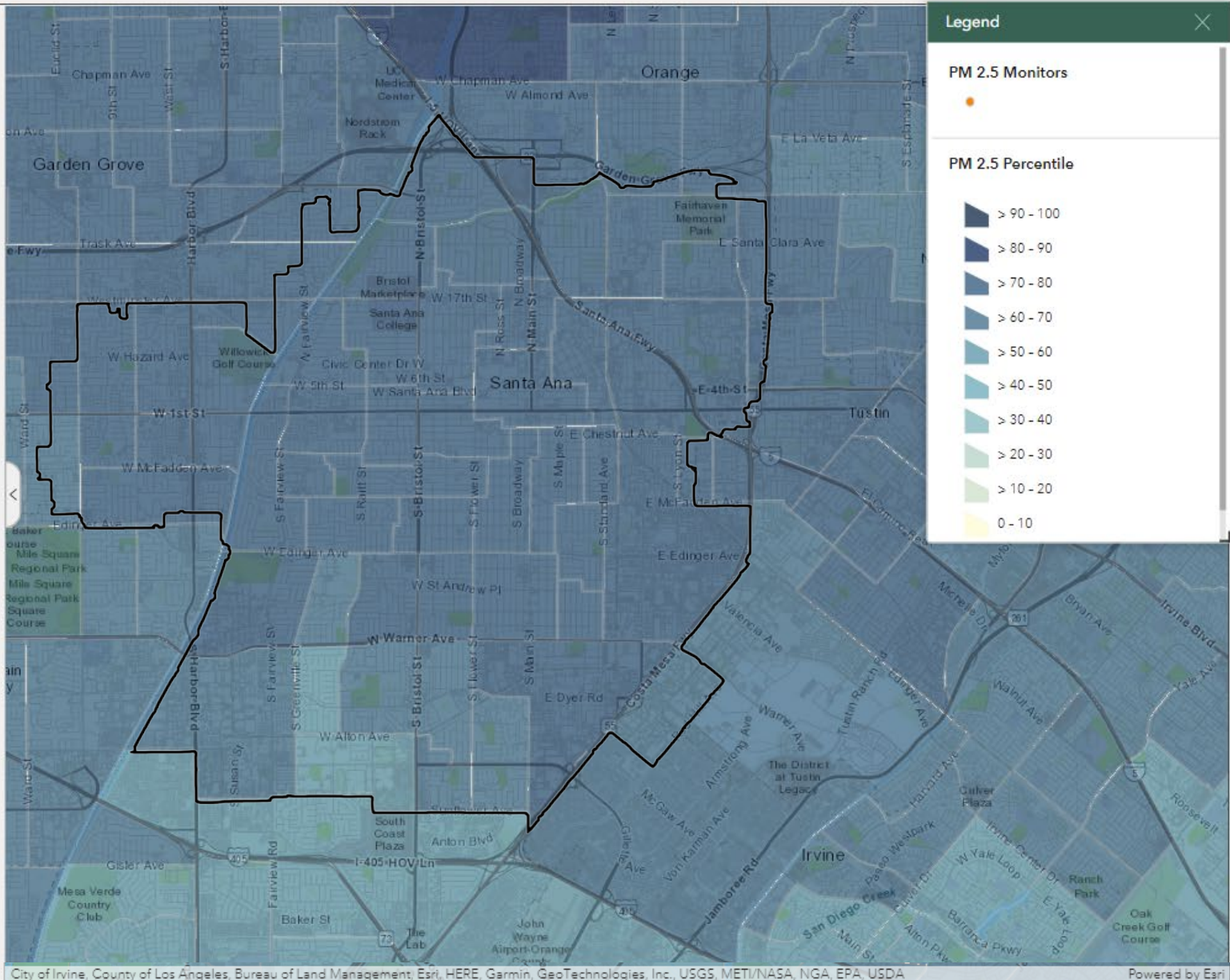
**What is PM2.5?**

Particulate matter or PM2.5 is very small airborne particle pollution, less than 2.5 micrometers, which is less than the thickness of a human hair. PM2.5 is a mixture of particles that can include organic chemicals, dust, soot and metals.

These particles can come from cars and trucks, factories, wood burning, and other activities. They can travel deep into the lungs because they are so small and cause various health problems including heart and lung disease.

Children, the elderly, and people suffering from heart or lung disease, asthma, or chronic illness are most sensitive to the effects of PM2.5 exposure.

More information can be found in the PM2.5 chapter in the CalEnviroScreen 4.0 report.



City of Irvine, County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, METI/NASA, NGA, EPA, USDA. Powered by Esri





# Analysis of Pollution Indicators | PM2.5



Particulate matter pollution, and fine particle pollution in particular (Particulate Matter 2.5 or PM2.5), has been shown to cause numerous adverse health effects, including heart and lung disease. PM2.5 contributes to substantial mortality across California. The health impacts of PM2.5 and other criteria air pollutants (ozone, nitrogen dioxide, carbon monoxide, sulfur dioxide, and lead) have been considered in the development of health-based standards. Of the six criteria air pollutants, particle pollution and ozone pose the most widespread and significant health threats. The California Air Resources Board maintains a wide network of air monitoring stations that provides information that may be used to better understand exposures to PM2.5 and other pollutants across the state.

The City of Santa Ana does not have a significant PM2.5 issue in which census tracts rank within the upper quartile (>74%). Most census tracts have a PM2.5 percentile score ranked in the 50th and 60th percentiles.

*Note: The symbol for PM2.5 is also used on page 11 (as the simplest and clearest option) to communicate a trio of air quality/air pollution issues: Ozone, PM2.5, and Toxic Releases.*

**Pollution Burden**

- Ozone
- PM2.5
- Diesel Particulate Matter**
- Drinking Water Contaminants
- Children's Lead Risk from Housing
- Pesticide Use
- Toxic Releases from Facilities
- Traffic Impacts
- Cleanup Sites
- Groundwater Threats
- Hazardous Waste
- Impaired Waters
- Solid Waste Sites

**Population Characteristics**

- Asthma
- Cardiovascular Disease
- Low Birth Weight
- Education
- Housing Burden
- Linguistic Isolation
- Poverty
- Unemployment

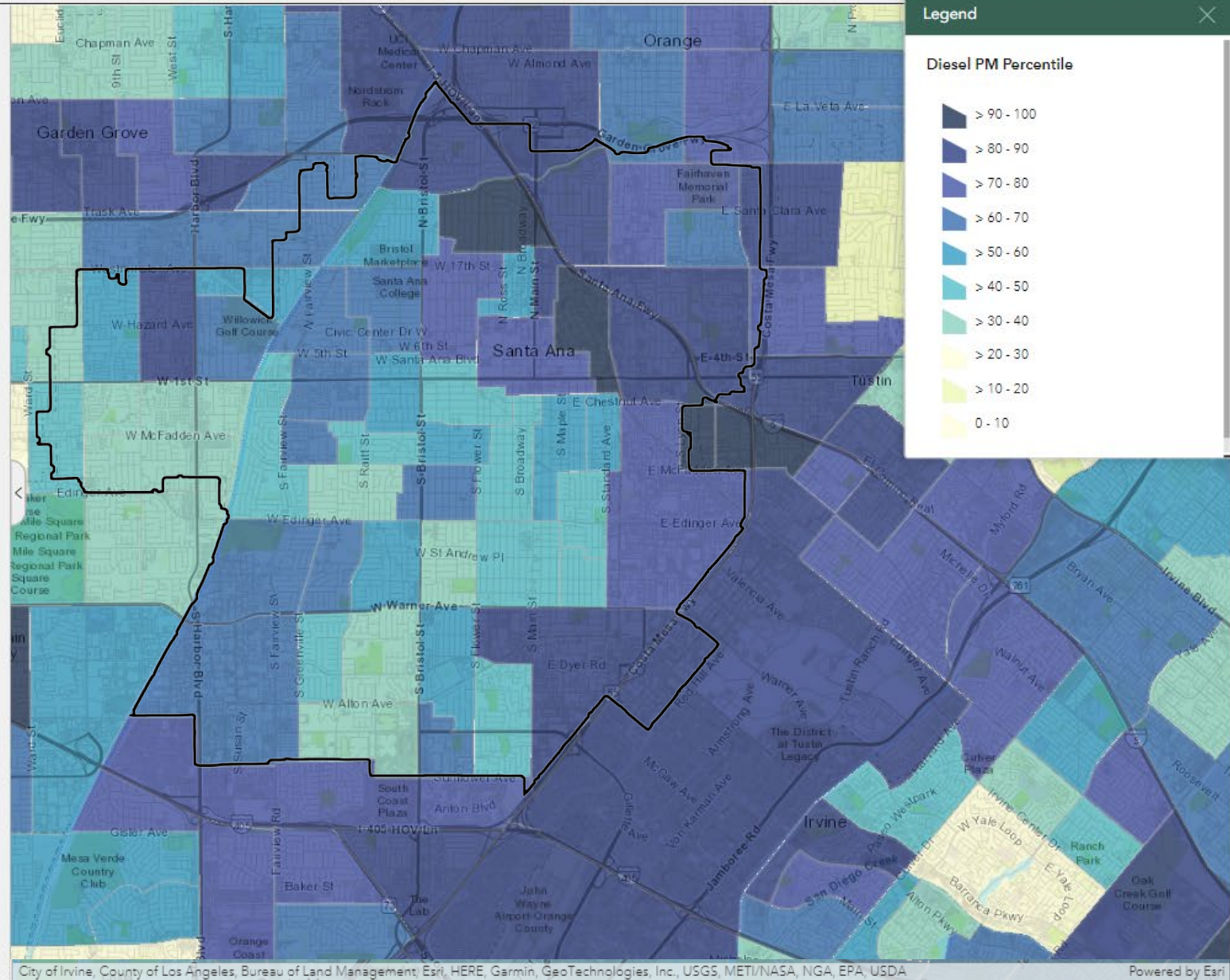


**What is diesel particulate matter?**

Exhaust from trucks, buses, trains, ships and other equipment with diesel engines contains a mixture of gases and solid particles. These solid particles are known as diesel particulate matter (diesel PM). Diesel PM contains hundreds of different chemicals. Many of these are harmful to health. The highest levels of diesel PM are near ports, rail yards and freeways.

The particles in diesel PM can reach deep into the lung, where they can contribute to health problems including eye, throat and nose irritation, heart and lung disease, and lung cancer. Children and the elderly are most sensitive to the effects of diesel PM.

More information can be found in the Diesel PM chapter in the CalEnviroScreen 4.0 report.



City of Irvine, County of Los Angeles, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, METI/NASA, NGA, EPA, USDA. Powered by Esri



# Analysis of Pollution Indicators | Diesel PM



Diesel particulate matter (PM) is the particle phase of diesel exhaust emitted from diesel engines such as trucks, buses, cars, trains, and heavy-duty equipment. Diesel PM is concentrated near ports, rail yards and freeways. Exposure to diesel PM has been shown to have numerous adverse health effects including irritation to the eyes, throat and nose, cardiovascular and pulmonary disease, and lung cancer. People that live or work near heavily traveled roadways, ports, railyards, bus yards, or trucking distribution centers may experience a high level of exposure. Children and those with existing respiratory disease, particularly asthma, appear to be especially susceptible to the harmful effects of exposure to airborne PM from diesel exhaust.

In Santa Ana, the census tracts with the highest levels of diesel PM are in the east, adjacent to freeways. The following neighborhoods (that are also EJ communities), have a percentile score for diesel PM above 70%: Delhi, Riverview West, Lyon St, Saddleback View, French Court, French Park, Lacy, Logan, Heninger Park, Pacific Park, Santa Ana Triangle, Willard, and Downtown. These neighborhoods are located near or adjacent to Interstate 5 and/or State Route 55, thereby exposing residents to the higher levels of diesel PM that elsewhere in the city. The following neighborhoods are not EJ communities, but also exhibit a percentile score above 80% for diesel PM (Park Santiago, Fairhaven, Young Square, Portola Park, and Meredith Parkwood), due to their proximity to State Route 22 and Interstate 5.

**Pollution Burden**

- Ozone
- PM2.5
- Diesel Particulate Matter
- Drinking Water Contaminants
- Children's Lead Risk from Housing**
- Pesticide Use
- Toxic Releases from Facilities
- Traffic Impacts
- Cleanup Sites
- Groundwater Threats
- Hazardous Waste
- Impaired Waters
- Solid Waste Sites

**Population Characteristics**

- Asthma
- Cardiovascular Disease
- Low Birth Weight
- Education
- Housing Burden
- Linguistic Isolation
- Poverty
- Unemployment

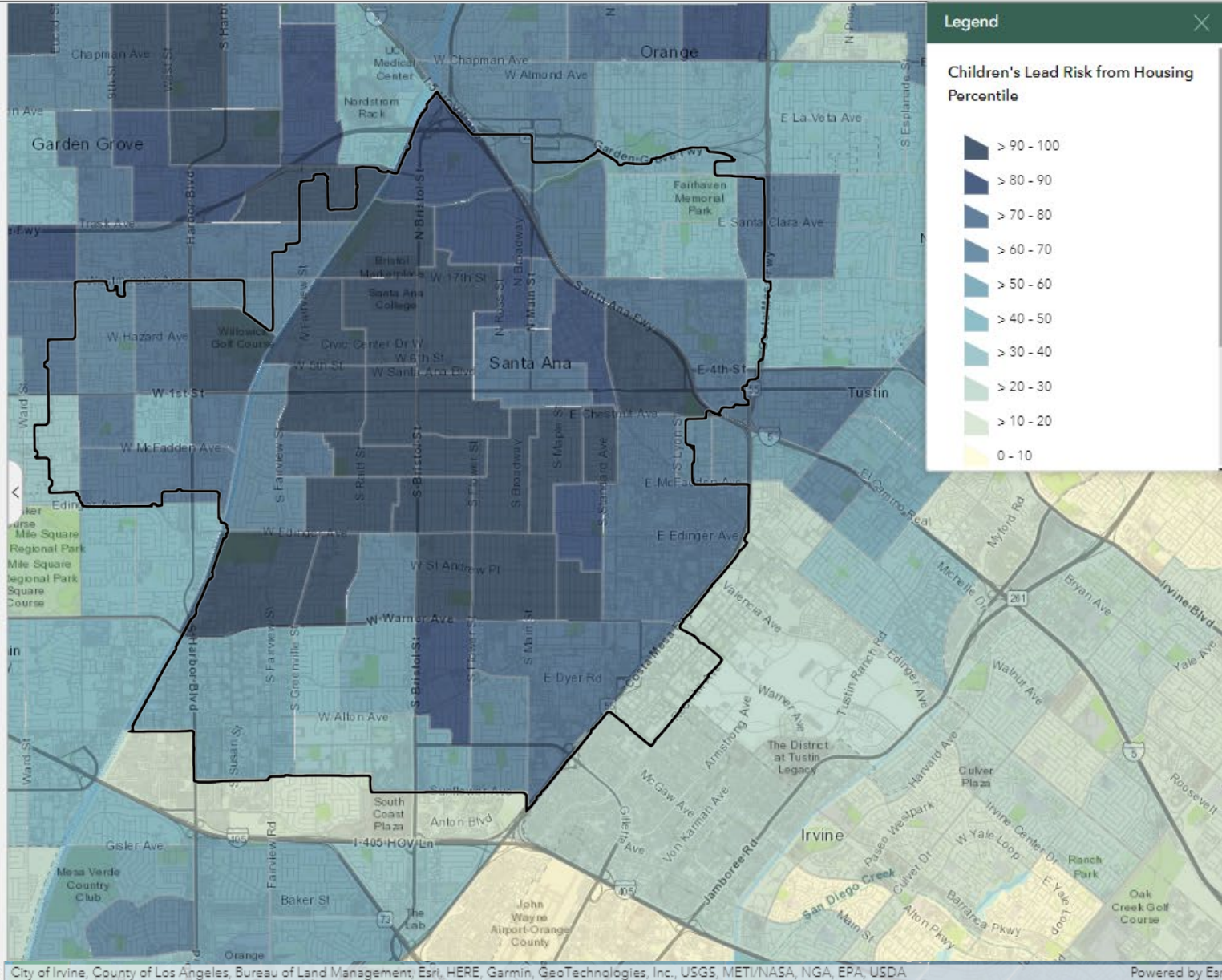


**What is lead?**

Lead is a toxic metal that occurs naturally in the environment. However, the highest levels of lead present in the environment are a result of human activities. Historically, lead has been used in house paint, plumbing, and as a gasoline additive. While lead levels have declined over the past five decades in the United States, it still persists in older housing. Exposure to lead through paint is the most significant source of lead exposure for children.

There are no known safe levels of lead exposure. Young children are especially susceptible to the effects of lead exposure and can suffer adverse health effects, particularly in the brain and nervous system. This increased susceptibility is due to children's unique exposure pathways, developing brains, and differences in the absorption of ingested lead. Children's exposure to lead even at low levels can lead to a higher likelihood of lower IQ and educational performance outcomes, and symptoms of attention deficit hyperactivity disorder (ADHD).

More information can be found in the **Children's Lead Risk from Housing** chapter in the CalEnviroScreen 4.0 report.





# Analysis of Pollution Indicators | Lead Risk



Lead is a toxic heavy metal that occurs naturally in the environment. However, the highest levels of lead present in the environment are a result of human activities. Historically, lead has been used in house paint, plumbing, and as a gasoline additive. While lead levels have declined over the past five decades in the United States, it persists in older housing.

Poverty is a known modifier of old housing-related lead exposure risk. It is also reasonable to assume that housing units in lower-income neighborhoods are less likely to have undergone renovations and abatements to reduce lead-based paint than those in higher-income neighborhoods. Children are most sensitive to the effects of lead exposure, which can adversely affect brain development, and result in blood, kidney, and endocrine toxicity.

The proposed indicator of children's lead risk from housing was calculated using the percentage of households within a census tract with a likelihood of lead-based paint (LBP) hazards due to housing age, combined with the percentage of low-income households with children.

The City of Santa Ana has significant lead risk in central areas of the city, with most census tracts ranked in the upper 90<sup>th</sup> and 80<sup>th</sup> percentiles. Census tracts in the west, southwest, southeast, and east also fall within the upper quartile (>74%).

**Pollution Burden**

- Ozone
- PM2.5
- Diesel Particulate Matter
- Drinking Water Contaminants**
- Children's Lead Risk from Housing
- Pesticide Use
- Toxic Releases from Facilities
- Traffic Impacts
- Cleanup Sites
- Groundwater Threats
- Hazardous Waste
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**Population Characteristics**

- Asthma
- Cardiovascular Disease
- Low Birth Weight
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- Housing Burden
- Linguistic Isolation
- Poverty
- Unemployment

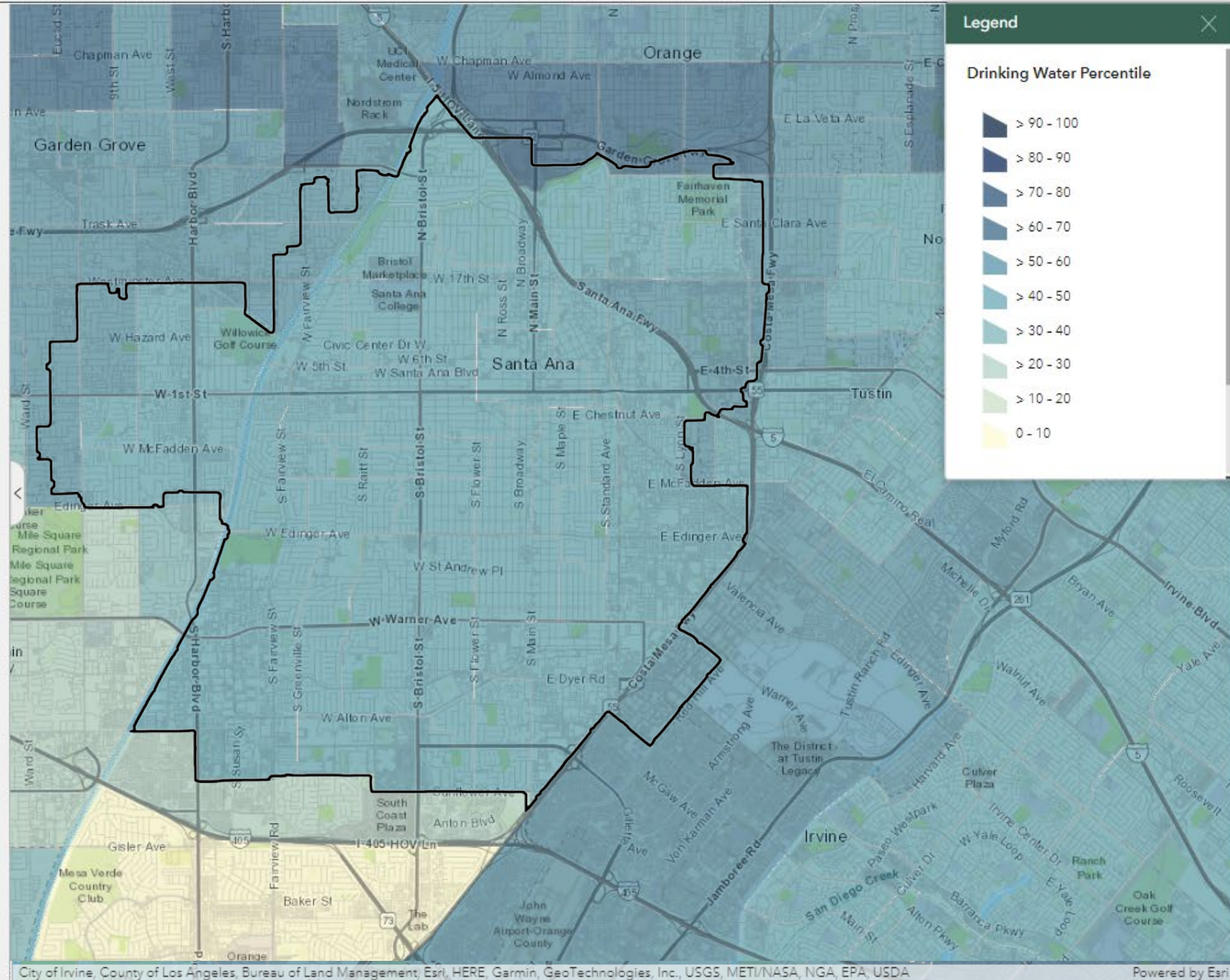


**What are drinking water contaminants?**

Most drinking water in California meets health standards. However, drinking water sometimes becomes contaminated with chemicals or bacteria above the standards. Both natural and human sources can contaminate drinking water. Natural sources include rocks, soil, wildlife and fires. Human sources include factories, sewage, and runoff from farms.

One common contaminant, arsenic, occurs naturally in some rocks and soil and is often found in groundwater in California. It can cause cancer. Nitrate from fertilizer or manure can leach into groundwater and contaminate wells. Nitrate can cause a blood disorder in infants called blue baby syndrome.

More information can be found in the Drinking Water chapter in the CalEnviroScreen 4.0 report.





# Analysis of Pollution Indicators | Drinking Water Contaminates



California water systems have a high rate of compliance with drinking water standards. In 2014, systems serving only about 2.9 percent of the state's population were in violation of one or more drinking water standards (SWRCB, 2016). The drinking water contaminant index used in CalEnviroScreen 3.0 is not a measure of compliance with these standards. The drinking water contaminant index is a combination of contaminant data that takes into account the relative concentrations of different contaminants and whether multiple contaminants are present. The indicator does not indicate whether water is safe to drink.

The City of Santa Ana does not have a significant contaminated drinking water issue in which census tracts rank within the upper quartile (>74%). Most census tracts have a drinking water contamination percentile ranked in the 30th and 40th percentiles.

**Pollution Burden**

- Ozone
- PM2.5
- Diesel Particulate Matter
- Drinking Water Contaminants
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**Population Characteristics**

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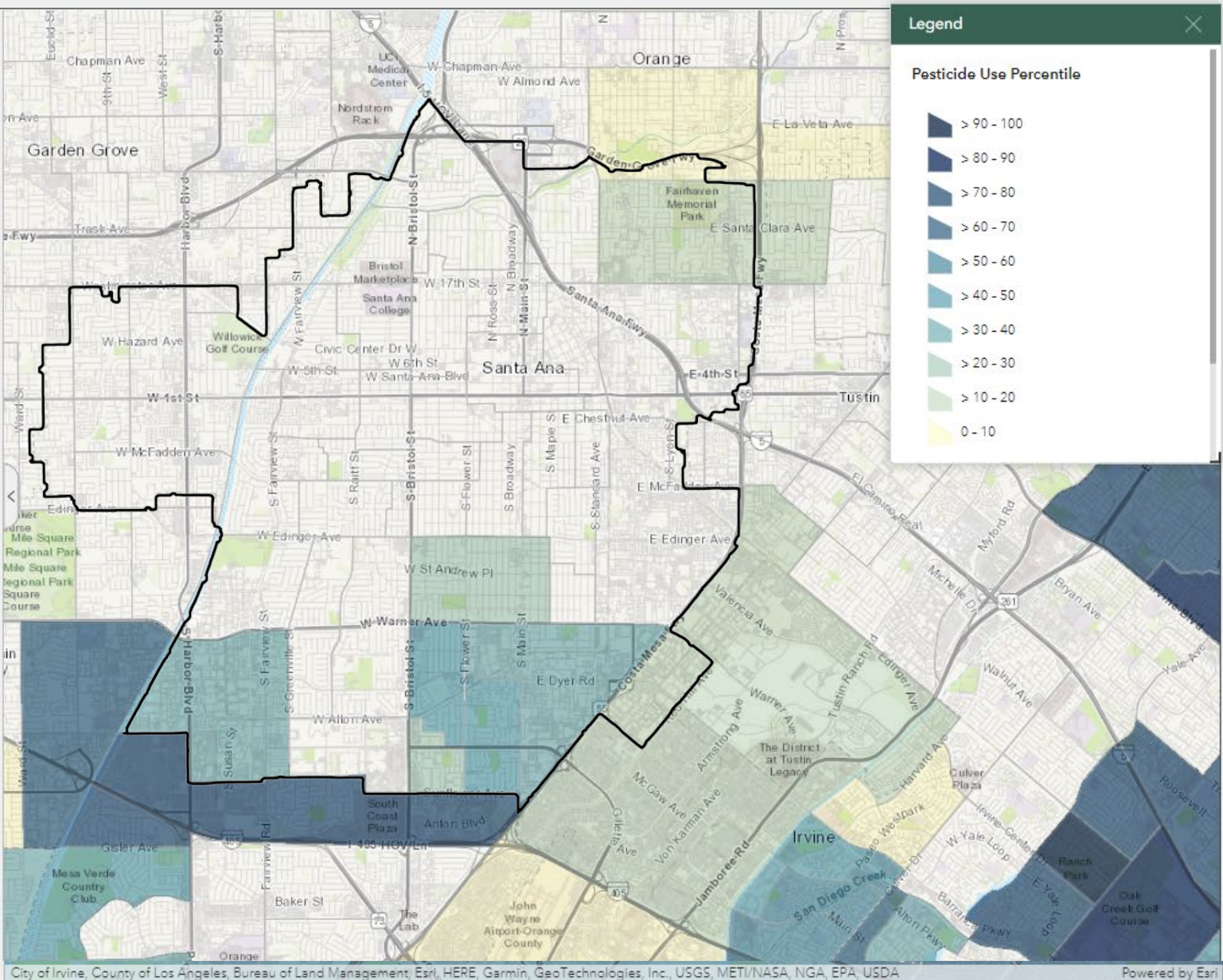


**What are pesticides?**

Pesticides are chemicals used to control insects, weeds and plant diseases. Over 1,000 pesticides are registered for use in California. They are applied to fields by air, by farm machinery, or by workers on the ground.

Farmworker families and other people who live near fields can be exposed to pesticides, both outdoors and inside homes. Exposure to high levels of some pesticides can cause illness right away or conditions such as birth defects or cancer later in life.

More information can be found in the **Pesticide** chapter in the CalEnviroScreen 4.0 report.



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# Analysis of Pollution Indicators | Pesticides



Communities near agricultural fields, primarily farm worker communities, may be at risk for exposure to pesticides. Drift or volatilization of pesticides from agricultural fields can be a significant source of pesticide exposure. Complete statewide data on human exposures to pesticides do not exist. The most robust pesticide information available statewide are data maintained by the California Department of Pesticide Regulation showing where and when pesticides are used across the state. Pesticide use, especially use of volatile chemicals that can easily become airborne, can serve as an indicator of potential exposure. Similarly, unintended environmental damage from the use of pesticides may increase in areas with greater use.

The City of Santa Ana does not have a significant pesticide issue in which census tracts rank within the upper quartile (>74%). EJ Census tracts that have a pesticide percentile ranked in the 30th and 40th percentile.

**Pollution Burden**

- Ozone
- PM2.5
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**Population Characteristics**

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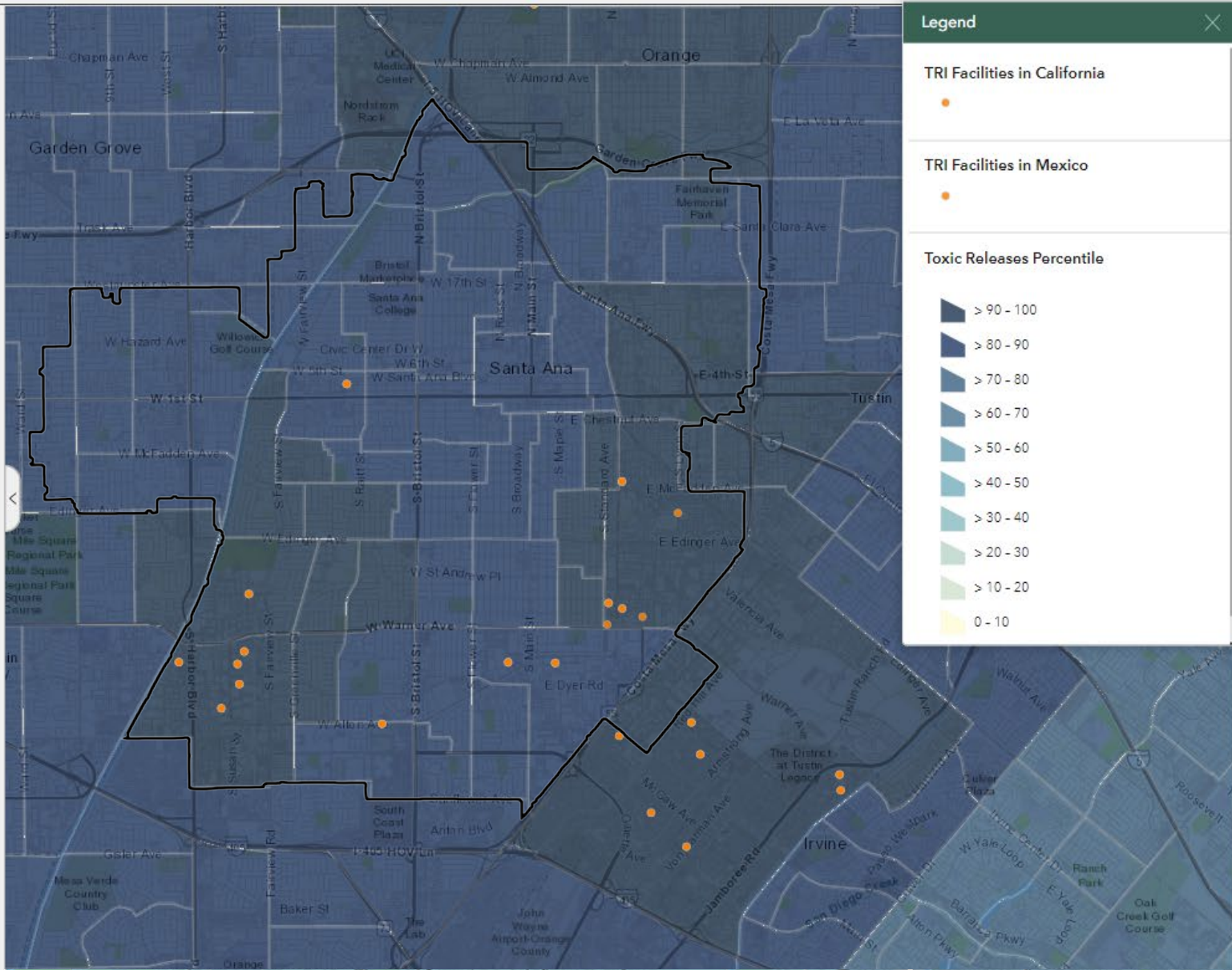


**What are toxic releases?**

Facilities that make or use toxic chemicals can release these chemicals into the air. Information is available on the amount of chemicals released for over 500 chemicals for large facilities in the United States.

These chemicals are sometimes detected in the air of communities nearby. People living near facilities may breathe contaminated air regularly or if contaminants are released during an accident.

More information can be found in the Toxic Releases chapter in the CalEnviroScreen 4.0 report.



**Legend**

- TRI Facilities in California
- TRI Facilities in Mexico

**Toxic Releases Percentile**

- > 90 - 100
- > 80 - 90
- > 70 - 80
- > 60 - 70
- > 50 - 60
- > 40 - 50
- > 30 - 40
- > 20 - 30
- > 10 - 20
- 0 - 10

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**Pollution Burden**

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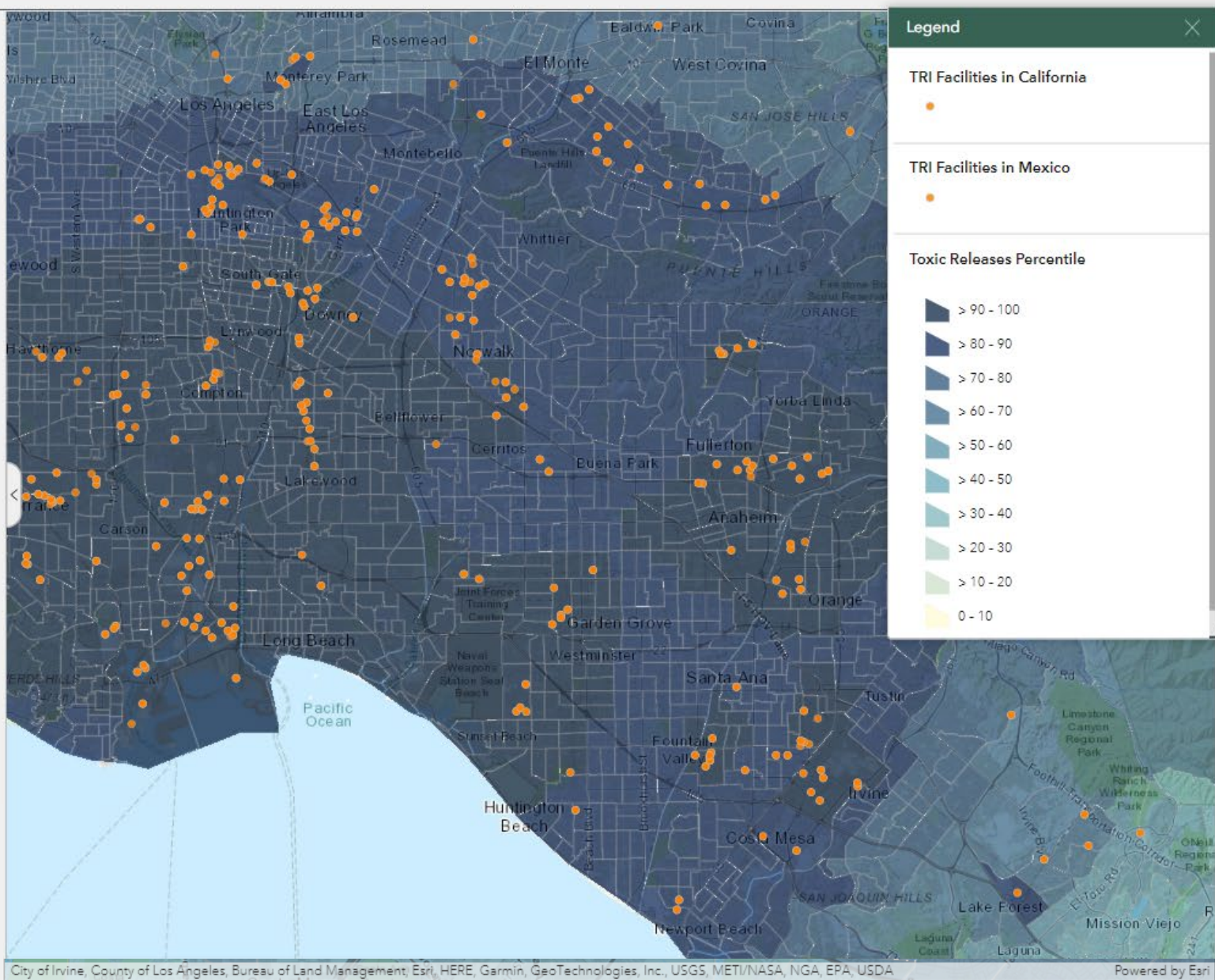
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More information can be found in the Toxic Releases chapter in the CalEnviroScreen 4.0 report.

**The issue of toxic releases is not unique to Santa Ana and, as shown here. Many cities in Orange and LA counties are largely or entirely in the 90<sup>th</sup> to 100<sup>th</sup> percentile.**





# Analysis of Pollution Indicators | Toxic Releases



Toxic releases have been detected in the air from communities nearby facilities that make or use toxic chemicals. People living near facilities may breathe contaminated air regularly and suffer from poor air quality if contaminants are released during an accident. People of color and low-income residents are more likely to live in areas with higher toxic chemical releases and as a result are at greater risk for health-related issues. The U.S. Environmental Protection Agency maintains a toxic substance inventory of on-site releases to air, water, and land and underground injection of any classified chemical, as well as quantities transferred off-site.

Data shows that most of Orange County is negatively impacted by a high concentration of toxic releases, with a percentile ranking of 80-100% compared to other census tracts in the state. The entire city of Santa Ana ranks in the 90th to 100th percentile in terms of toxic releases, similar to many cities in LA and Orange counties.

Zoning regulations are established to help reduce exposure to air pollution to sensitive land uses, such as schools, housing, and medical facilities. New or relocated industrial uses near schools should be built further than 500 feet, as cited in the 2017 California Air Resources Board Land Use Handbook. In Santa Ana, heavy industrial areas are also usually surrounded by general industrial or light industrial or separated by freeways or flood waterways. However, there are heavy industrial areas located less than 500 feet from Century High School and from a single-family neighborhood in the Lacy neighborhood.

**Pollution Burden**

- Ozone
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**Population Characteristics**

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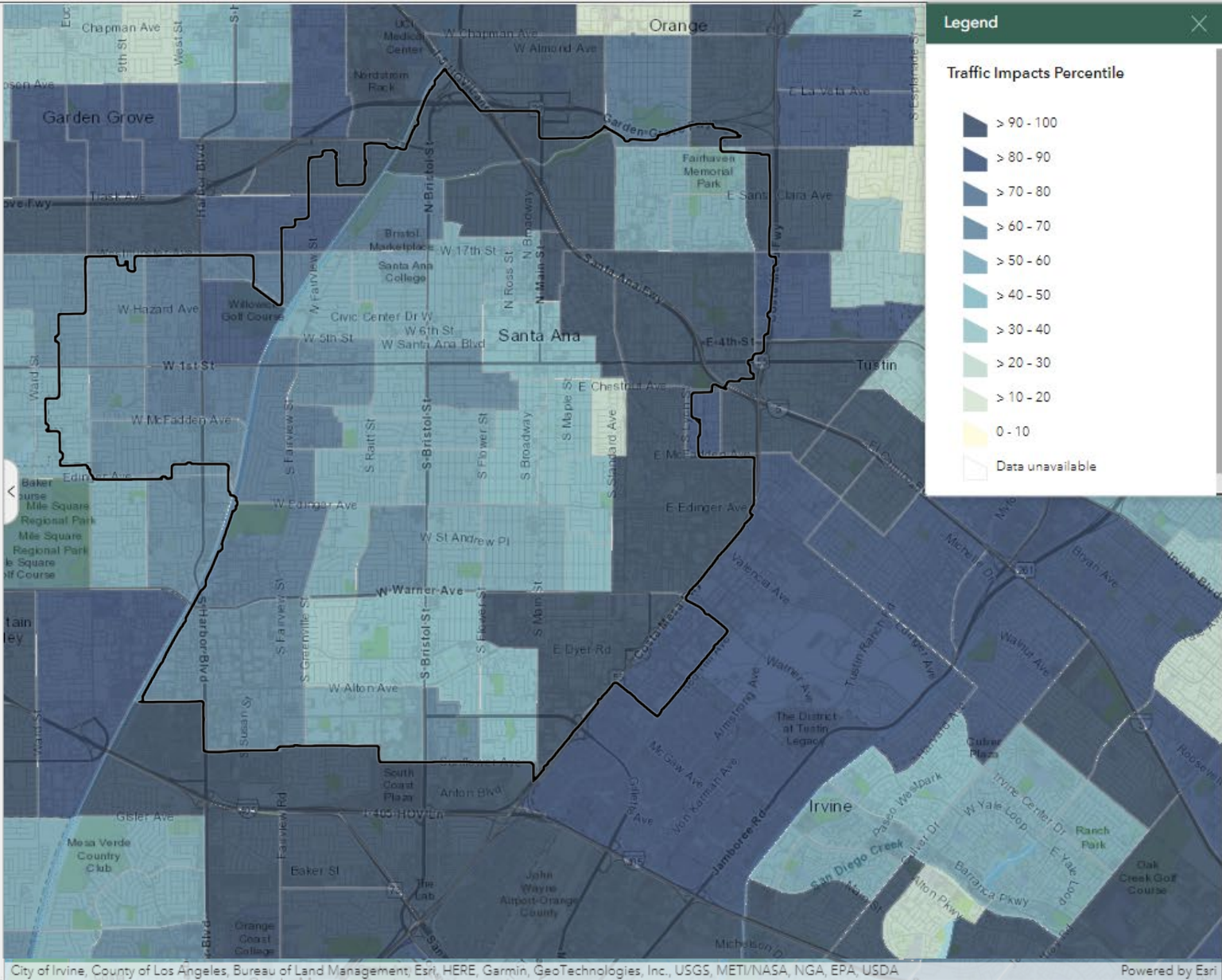


**What are traffic impacts?**

California has the biggest network of freeways in the country. Its cities are known for heavy traffic. Traffic density is a measure of the number of vehicles on the roads in an area.

While California has strict vehicle-emissions standards, exhaust from cars and trucks is the main source of air pollution in much of the state. Major roads and highways can bring air pollutants and noise into nearby neighborhoods. Children who live or go to schools near busy roads have higher rates of asthma than children in areas farther from roads.

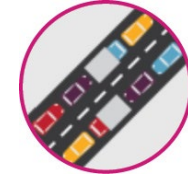
More information can be found in the [Traffic Impacts](#) chapter in the CalEnviroScreen 4.0 report.



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# Analysis of Pollution Indicators | Traffic Density



Traffic density is a measure of the number of vehicles on the roads in an area. The indicator uses information on the amount of traffic on major roads as well as some local roads and the length of the roads in or near each census tract. Traffic density is calculated by dividing the traffic volumes by the total road length for the annual year. While California has strict vehicle-emissions standards, exhaust from cars and trucks is the main source of air pollution in much of the state. Non-whites, Latinos, low income people, and people who speak a language other than English often live in or near areas with high traffic volumes.

Traffic density is concentrated in the east and southeast areas of the city and in EJ communities including neighborhoods Delhi, Cornerstone Village, French Court, French Park, Lacy, Logan, Lyon St, Pacific Park, and Saddleback View. These areas are near Interstate 5 and State Route 55, and also near major corridors with high truck traffic such as Warner Ave, Grand Ave, Main St, and Edinger Ave. Major roads and highways can bring air pollutants and noise into nearby neighborhoods. Exhaust fumes contain toxic chemicals that can damage DNA, cause cancer, make breathing difficult, and cause low weight and premature births. Children who live or go to schools near busy roads have higher rates of asthma and other lung diseases than children in areas farther from roads.



Pollution Burden

- Ozone
- PM2.5
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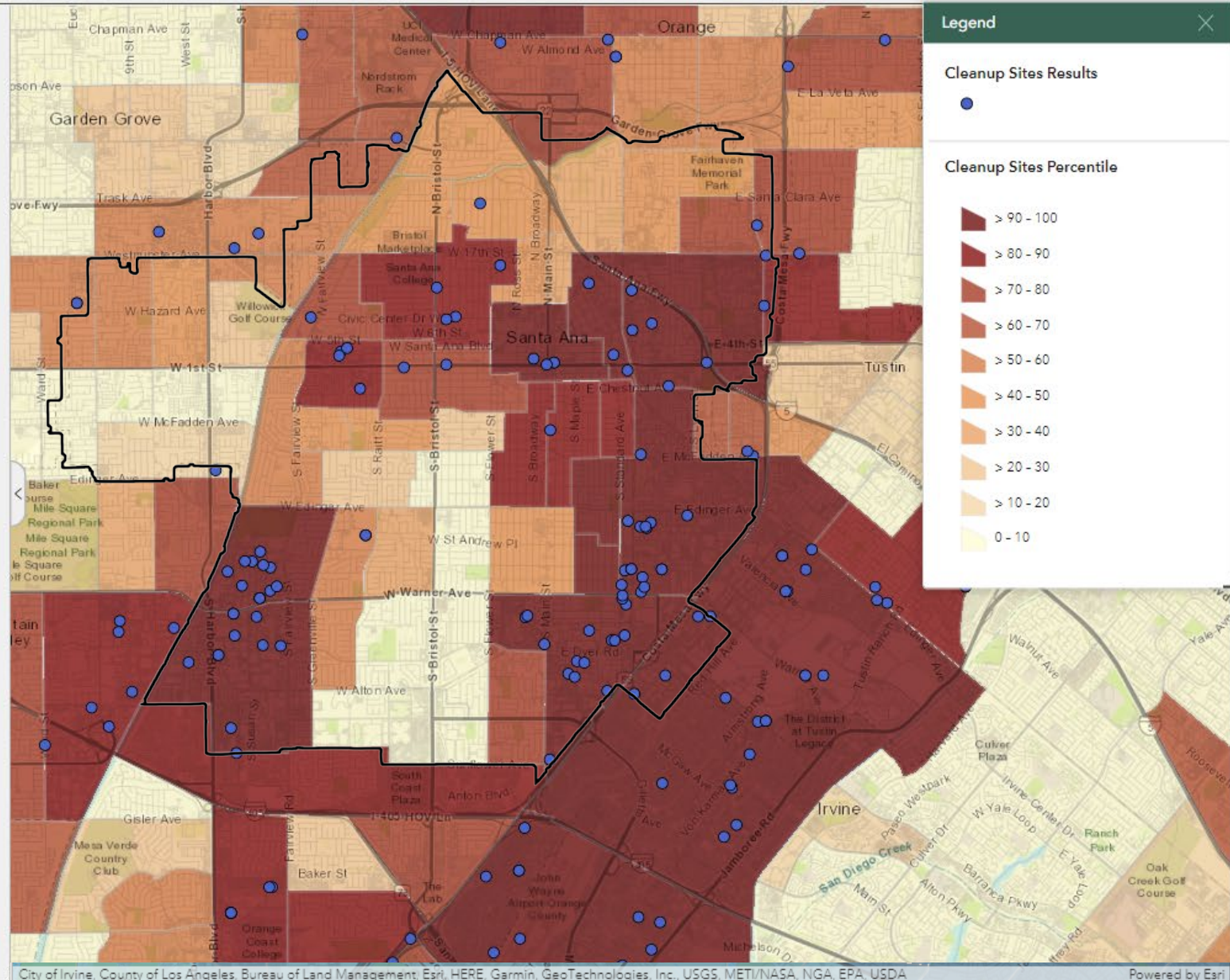


What are Cleanup Sites?

Cleanup sites are places that are contaminated with hazardous chemicals and require clean up by the property owners or government. Chemicals at cleanup sites can move through the air or groundwater. People living near these sites have a greater potential to be exposed to chemicals from the sites than people living further away.

Some studies have shown that neighborhoods with cleanup sites are generally poorer and have more people of color than other neighborhoods. The land may take many years or decades to clean up, reducing possible benefits to the community.

More information can be found in the [Cleanups](#) chapter in the CalEnviroScreen 4.0 report.



**Legend**

**Cleanup Sites Results**

- 

**Cleanup Sites Percentile**

- > 90 - 100
- > 80 - 90
- > 70 - 80
- > 60 - 70
- > 50 - 60
- > 40 - 50
- > 30 - 40
- > 20 - 30
- > 10 - 20
- 0 - 10

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# Analysis of Pollution Indicators | Toxic Clean Up Sites



Cleanup sites are places that are contaminated with harmful chemicals. The Department of Toxic Substances Control tracks cleanups of contaminated sites in California. The indicator combines the sites in or near each census tract to account for the type of site it is and how close it is to where people may live. Chemicals in the buildings, soil or water at cleanup sites can move into nearby communities through the air or by movement of water. Scientists have found toxic metals in house dust and pesticides in the blood of people who live near contaminated sites.

Studies have shown that neighborhoods with cleanup sites are generally low-income and of color. All environmental justice communities in Santa Ana are impacted by toxic clean-up sites. Most clean-up sites are located within environmental justice communities, with a majority located in the south and east areas of the city. People living near these sites are more likely to be exposed to chemicals from the sites. It generally takes many years for a site to be certified as clean, and cleanup work is often delayed due to cost, litigation, concerns about liability or detection of previously unrecognized contaminants.





Pollution Burden

- Ozone
- PM2.5
- Diesel Particulate Matter
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Population Characteristics

- Asthma
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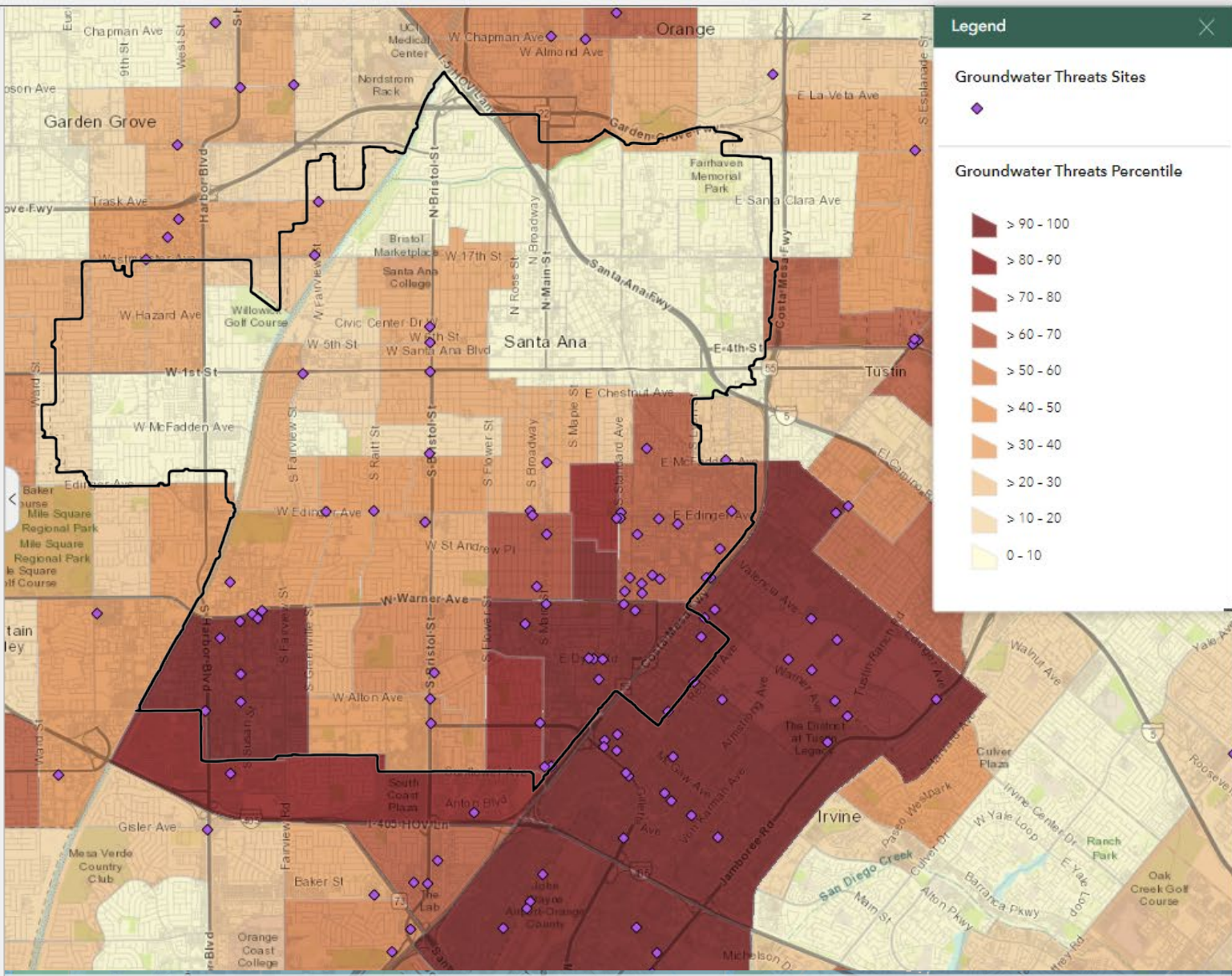


What are Groundwater Threats?

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.

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.

More information can be found in the [Groundwater Threats](#) chapter in the CalEnviroScreen 4.0 report.



**Legend**

**Groundwater Threats Sites**

- ◆

**Groundwater Threats Percentile**

- > 90 - 100
- > 80 - 90
- > 70 - 80
- > 60 - 70
- > 50 - 60
- > 40 - 50
- > 30 - 40
- > 20 - 30
- > 10 - 20
- 0 - 10

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# Analysis of Pollution Indicators | Groundwater Threats



Groundwater threats may occur when leaks from containers and tanks that contain hazardous chemicals contaminate the soil and pollute groundwater. Common pollutants of soil and groundwater include gasoline and diesel fuel from gas stations, as well as solvents, heavy metals and pesticides. The State Water Resources Control Board maintains a database of places where groundwater may be threatened by certain sources of pollution. This indicator is calculated by considering the number of groundwater cleanup sites, the weight of each site, and the distance to the census tract.

Groundwater threats in Santa Ana are significant in the east and south east areas, which include the neighborhoods of Delhi, Cedar Evergreen, Cornerstone Village, Lyon St, Madison Park, and Memorial Park. These areas are located near or within light and heavy industrial uses.

**Pollution Burden**

- Ozone
- PM2.5
- Diesel Particulate Matter
- Drinking Water Contaminants
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- Pesticide Use
- Toxic Releases from Facilities
- Traffic Impacts
- Cleanup Sites
- Groundwater Threats
- Hazardous Waste**
- Impaired Waters
- Solid Waste Sites

**Population Characteristics**

- Asthma
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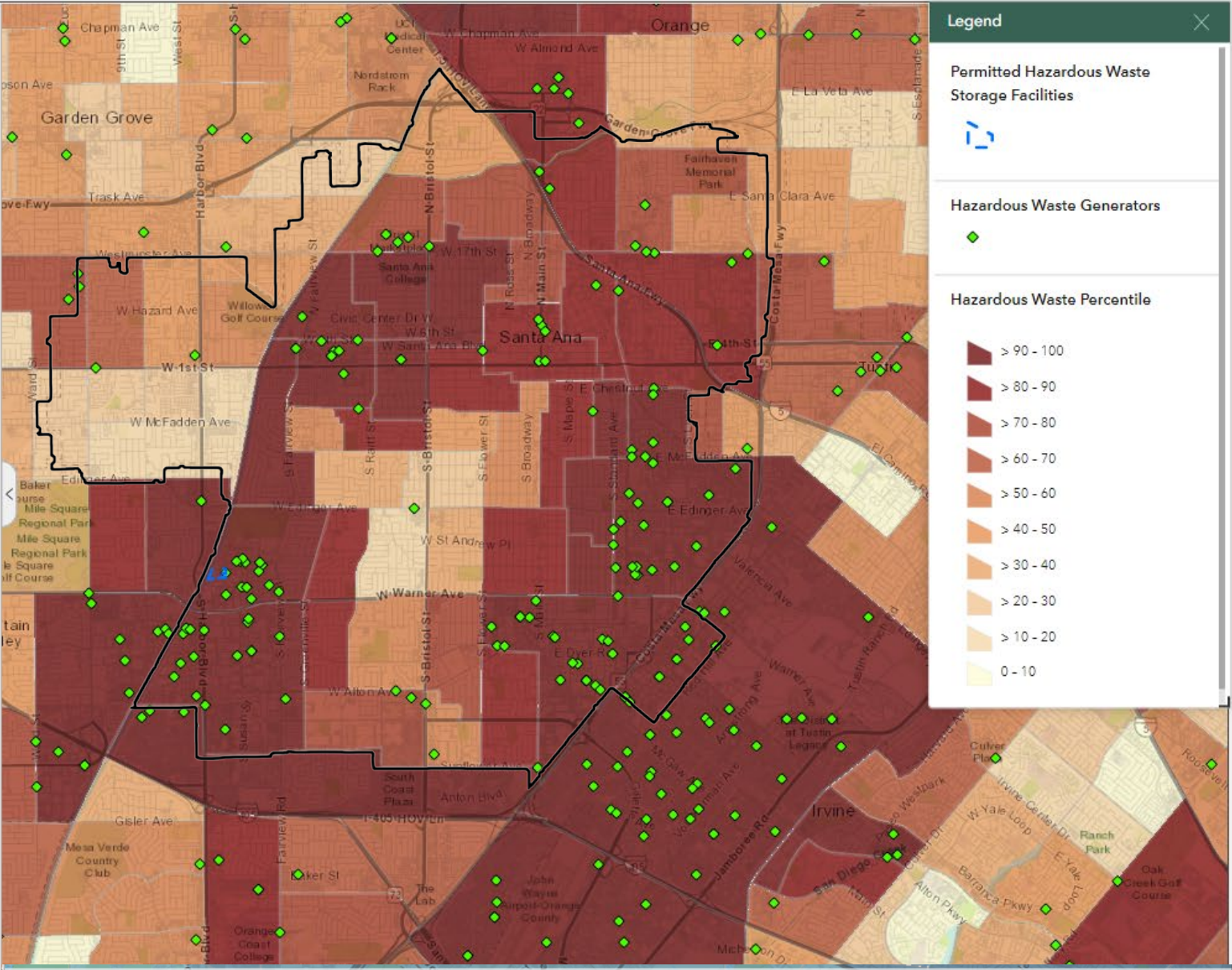
**What is Hazardous Waste?**

Hazardous waste contains chemicals that may be harmful to health. Only certain facilities are allowed to treat, store or dispose of this type of waste. Hazardous waste can range from used automotive oil to highly toxic waste materials produced by factories and businesses. Hazardous waste is transported from businesses that generate waste to permitted facilities for recycling, treatment, storage or disposal.

Studies have found that hazardous waste facilities are often located near poor neighborhoods and communities of color.

Hazardous waste facilities often are cause for concerns about effects on health and the environment in the communities where they operate.

More information can be found in the Hazardous Waste chapter in the CalEnviroScreen 4.0 report.



**Legend**

---

**Permitted Hazardous Waste Storage Facilities**

Permitted Hazardous Waste Storage Facilities

---

**Hazardous Waste Generators**

Hazardous Waste Generators

---

**Hazardous Waste Percentile**

- > 90 - 100
- > 80 - 90
- > 70 - 80
- > 60 - 70
- > 50 - 60
- > 40 - 50
- > 30 - 40
- > 20 - 30
- > 10 - 20
- 0 - 10

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# Analysis of Pollution Indicators | Hazardous Waste



Hazardous waste is transported from businesses that generate waste to permitted facilities for recycling, treatment, storage or disposal. Contamination of air, water and soil near waste generators and facilities can harm the environment as well as people. The Department of Toxic Substances Control maintains information on where hazardous waste is generated and the facilities that handle it. This indicator is calculated by considering the number of permitted treatment, storage and disposal facilities or generators of hazardous waste, the weight of each generator or site, and the distance to the census tract.

Studies have found that hazardous waste facilities are often located near low-income neighborhoods and communities of color. Hazardous waste is significant in nearly all environmental justice communities in Santa Ana. Hazardous waste includes a range of different types of waste, such as automotive oil as well as highly toxic waste materials produced by factories and businesses.

## Pollution Burden

- Ozone
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## Population Characteristics

- Asthma
- Cardiovascular Disease
- Low Birth Weight
- Education
- Housing Burden
- Linguistic Isolation
- Poverty
- Unemployment

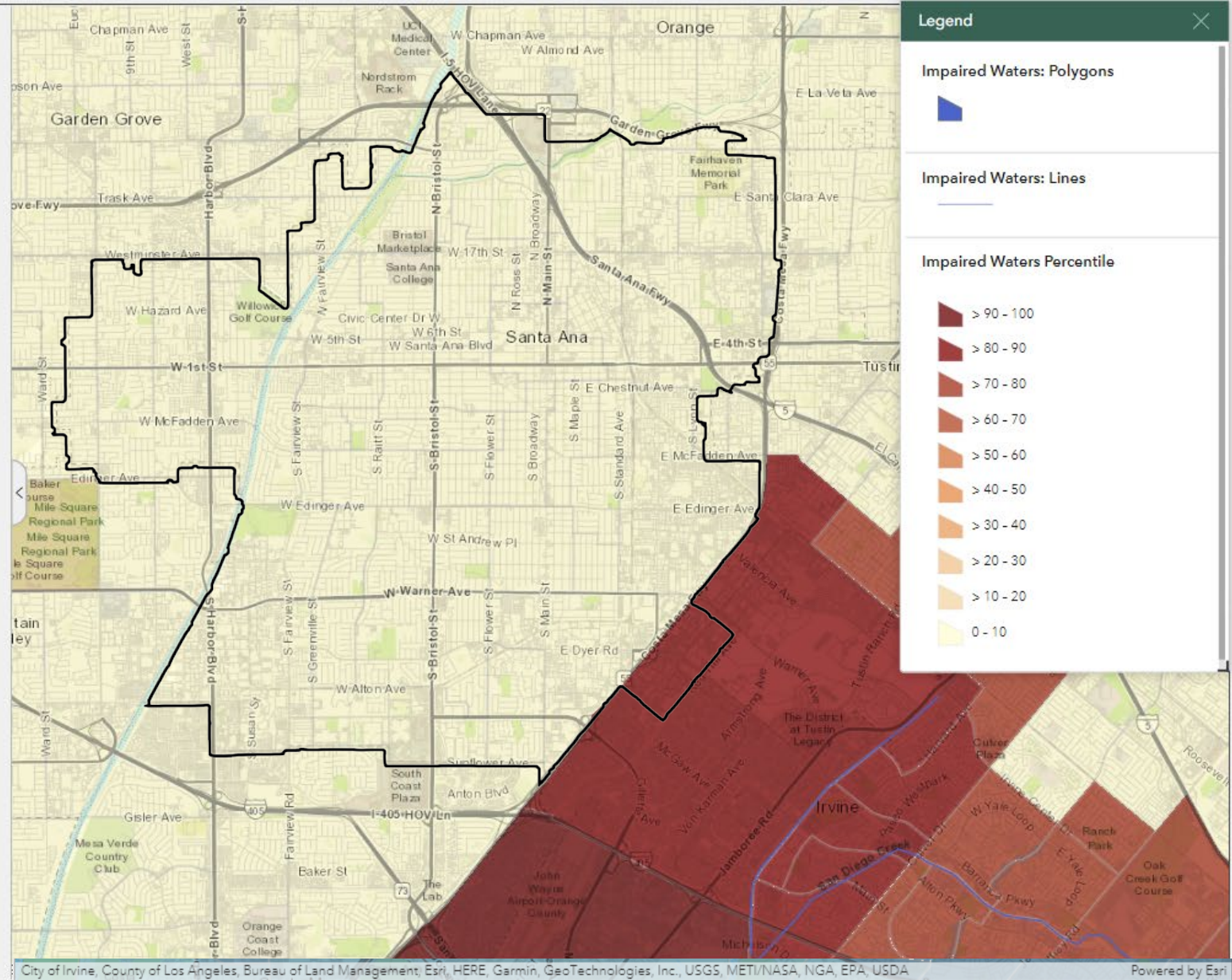


### What are Impaired Water Bodies?

Water bodies like streams, rivers or lakes are used for recreation and fishing or may provide water for drinking or irrigation. When water bodies are contaminated by pollutants, they are considered impaired. These impairments can harm wildlife habitats and prevent recreational and other uses of the water body.

Certain groups such as tribal or low-income communities may depend on the fish and wildlife in nearby water bodies more than the general public.

More information can be found in the **Impaired Water Bodies** chapter in the CalEnviroScreen 4.0 report.





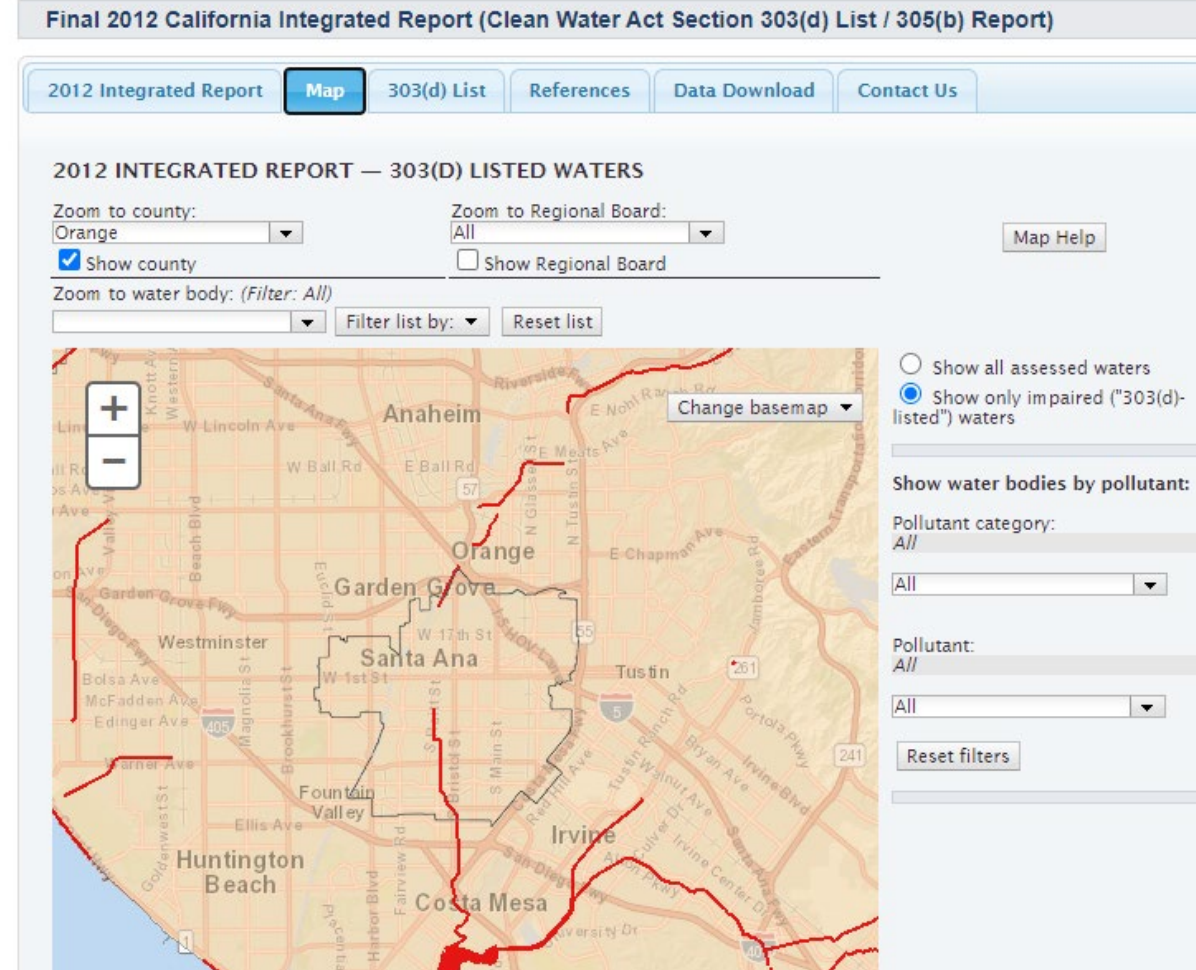
# Analysis of Pollution Indicators | Impaired Waters



Contamination of California streams, rivers, and lakes by pollutants can compromise the use of the water body for drinking, swimming, fishing, aquatic life protection, and other beneficial uses. When this occurs, such bodies are considered “impaired.”

According to CA Integrated Water Report of 2012, in Santa Ana, there are two impaired water bodies contaminated with bacteria (with affected area in parentheses): Santa Ana River Reach 2 (20 square miles) and Santa Ana Delhi Channel (6.8 square miles).

However, the City of Santa Ana does not have a significant impaired waters issue in which census tracts rank within the upper quartile (>74%). Census tracts that have an impaired waters percentile did not rank higher than in the 15<sup>th</sup> percentile.



**Pollution Burden**

- Ozone
- PM2.5
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**Solid Waste Sites**

**Population Characteristics**

- Asthma
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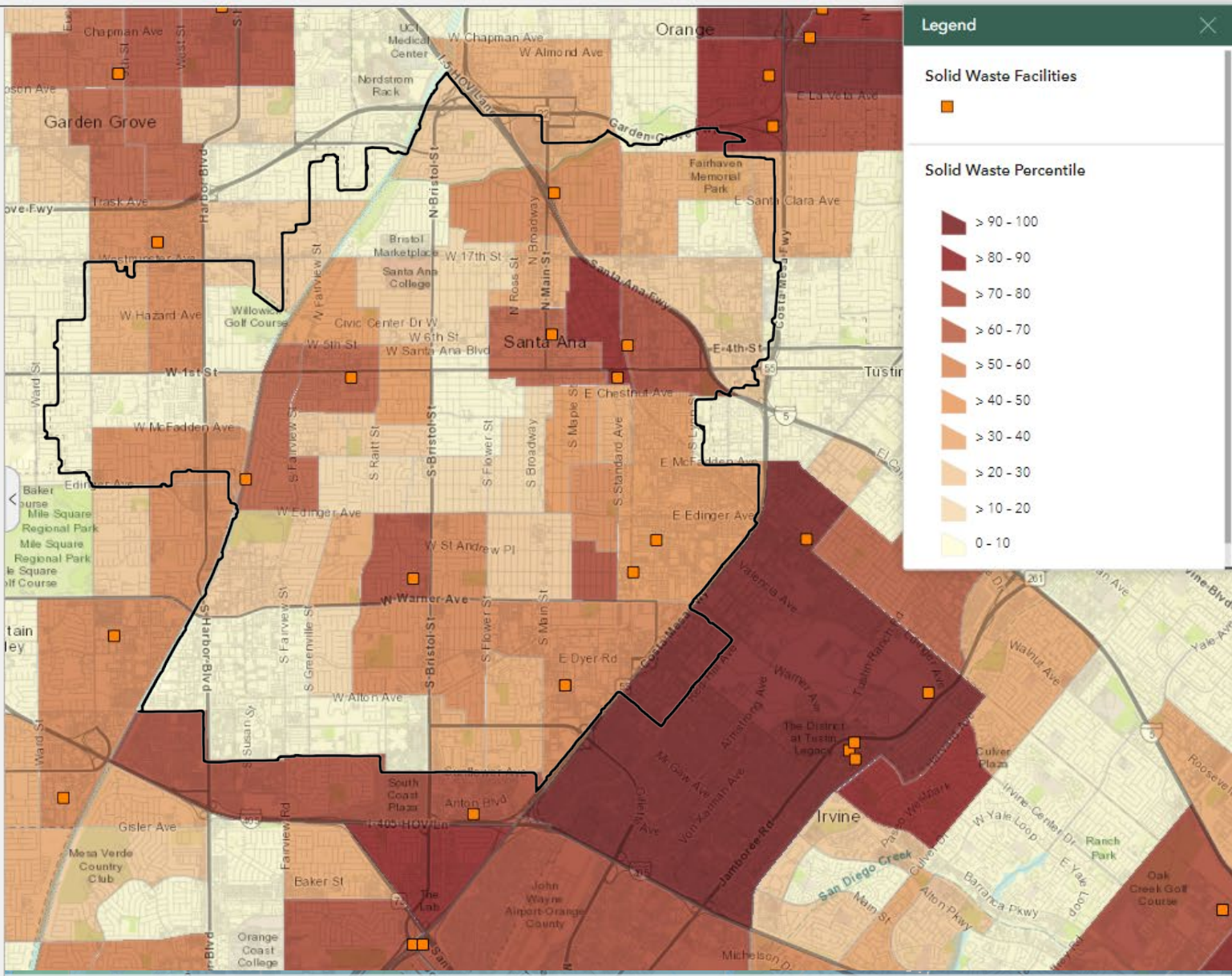


**What is Solid Waste?**

Solid waste facilities are places where household garbage and similar kinds of waste are collected, processed, or stored. These include landfills and composting or recycling facilities. The waste material may come from homes, factories or businesses. Most of these operations require permits.

Regulated facilities as well as illegal sites that do not comply with the law can harm the environment and potentially expose people to hazardous substances. Solid waste facilities can also raise concern in a community about odors, insect pests, vermin, and truck traffic. The communities near solid waste facilities are usually home to poor and communities of color.

More information can be found in the Solid Waste chapter in the CalEnviroScreen 4.0 report.



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# Analysis of Pollution Indicators | Solid Waste Facilities



Solid waste facilities are places where household garbage and other types of waste from industry or commercial sources are collected, processed, or stored. Facilities or sites include landfills, transfer stations, and composting facilities. The communities near solid waste facilities are usually home to poor and minority residents. CalRecycle maintains information on solid waste facilities across the state. This indicator is calculated by considering the number of solid waste facilities including illegal sites, the weight of each, and the distance to the census tract.

Solid waste facilities are significant in nearly all environmental justice communities in Santa Ana. Regulated facilities as well as illegal sites that do not follow the law can harm the environment and expose people to hazardous chemicals. Solid waste facilities can release toxic gases into the air, even after they are closed. Chemicals in waste can leach into the soil around the facility. These chemicals may eventually pose a health risk to people nearby. Composting, recycling and waste treatment facilities may produce odors, attract pests, and increase local truck traffic.





# Population Characteristics

OEHHA identifies population characteristics, such as health conditions, community characteristics, and socioeconomic conditions. These characteristics are used to identify environmental justice communities because they can increase communities' vulnerability to environmental pollution. This section provides maps and summaries of the following population characteristics:

- Asthma
- Cardiovascular Disease
- Low Birth Weight
- Education
- Housing Burden
- Linguistic Isolation
- Poverty
- Unemployment



Pollution Burden

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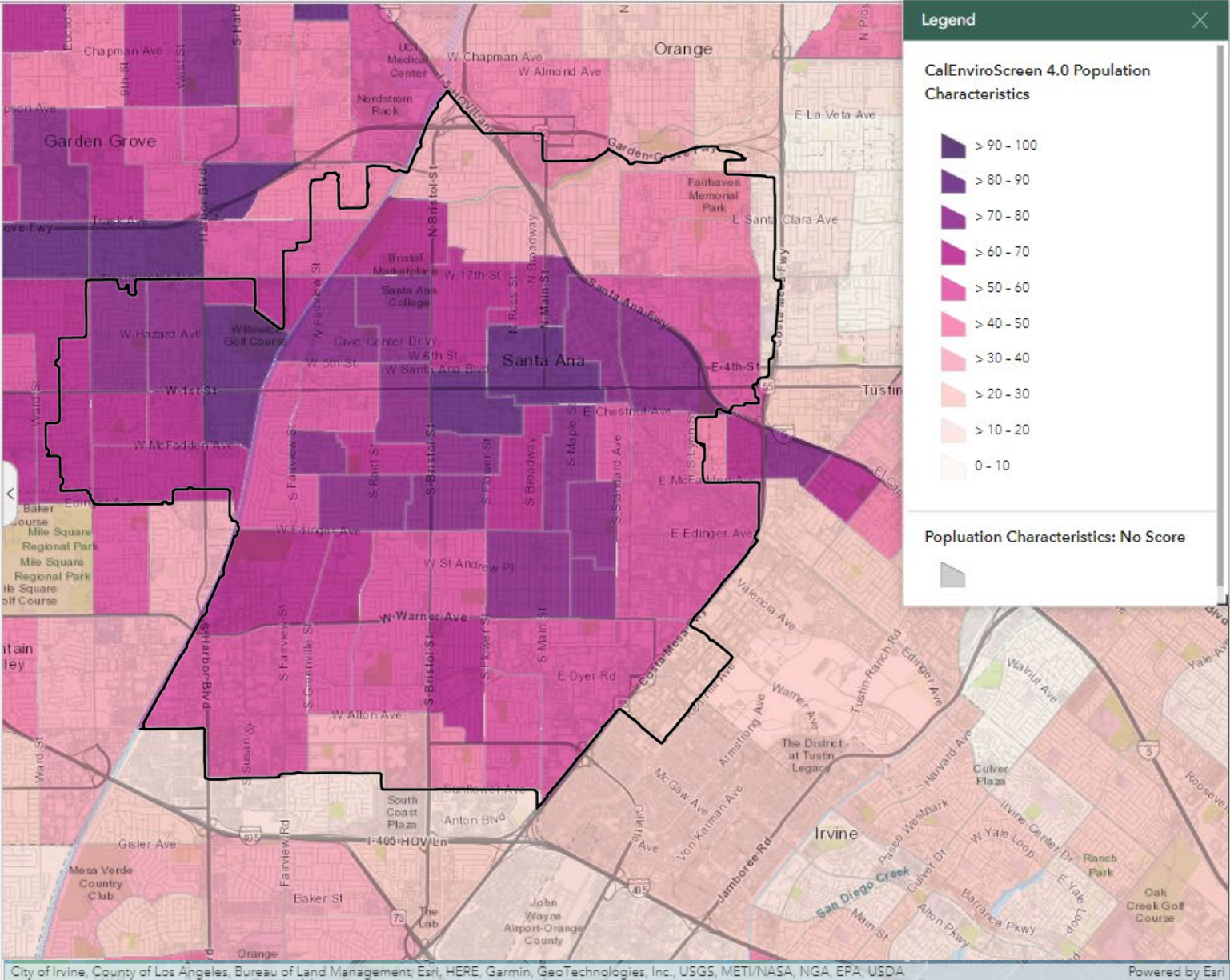
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- Poverty
- Unemployment

Overall CalEnviroScreen scores are calculated from the scores for two groups of indicators: **Pollution Burden and Population Characteristics**.

This map shows the combined Population Characteristics scores, which is made up of indicators from the Sensitive Populations and Socioeconomic Factors components of the CalEnviroScreen model. Population Characteristics represent physiological traits, health status, or community characteristics that can result in increased vulnerability to pollution.

To explore this map, zoom to a location or type an address in the search bar. Click on a census tract to learn more about the indicator data. All indicator maps can be viewed by clicking on the indicators on the left.

A report with detailed description of indicators and methodology and downloadable results are available at the [CalEnviroScreen 4.0 website](#).



**Legend**

CalEnviroScreen 4.0 Population Characteristics

- > 90 - 100
- > 80 - 90
- > 70 - 80
- > 60 - 70
- > 50 - 60
- > 40 - 50
- > 30 - 40
- > 20 - 30
- > 10 - 20
- 0 - 10

Population Characteristics: No Score

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**Pollution Burden**

- Ozone
- PM2.5
- Diesel Particulate Matter
- Drinking Water Contaminants
- Children's Lead Risk from Housing
- Pesticide Use
- Toxic Releases from Facilities
- Traffic Impacts
- Cleanup Sites
- Groundwater Threats
- Hazardous Waste
- Impaired Waters
- Solid Waste Sites

**Population Characteristics**

- Asthma
- Cardiovascular Disease
- Low Birth Weight
- Education
- Housing Burden
- Linguistic Isolation
- Poverty
- Unemployment

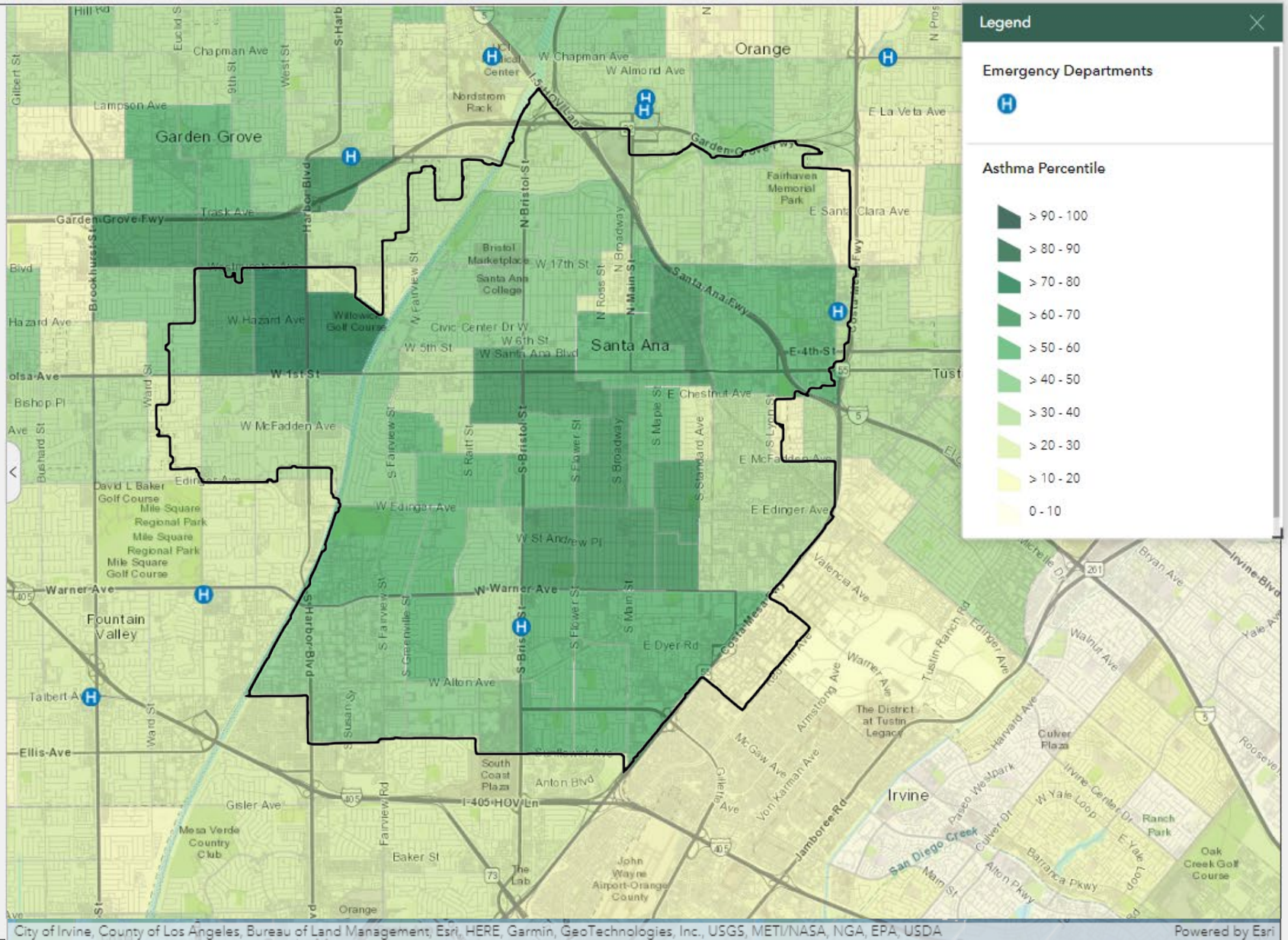


**What is Asthma?**

Asthma is a disease that affects the lungs and makes it hard to breathe. Symptoms include breathlessness, wheezing, coughing, and chest tightness. The causes of asthma are unknown but both genetic and environmental factors can be involved.

Five million Californians have been diagnosed with asthma at some point in their lives. People with asthma can be especially susceptible to pneumonia, flu and other illnesses. Outdoor air pollution can trigger asthma attacks.

More information can be found in the Asthma chapter in the CalEnviroScreen 4.0 report.





# Analysis of Population Indicators | Asthma



Asthma is a chronic lung disease characterized by episodic breathlessness, wheezing, coughing, and chest tightness. While the causes of asthma are poorly understood, it is well established that exposure to traffic and outdoor air pollutants, including particulate matter, ozone, and diesel exhaust, can trigger asthma attacks. Nearly three million Californians currently have asthma and about five million have had it at some point in their lives. Children, the elderly and low-income Californians suffer disproportionately from asthma (California Health Interview Survey, 2009). Although well-controlled asthma can be managed as a chronic disease, asthma can be a life-threatening condition, and emergency department visits for asthma are a very serious outcome, both for patients and for the medical system.

The City of Santa Ana does not have a significant asthma issue in which census tracts rank within the upper quartile (>74%). Most census tracts have an asthma percentile ranked in the 40th and 50th percentiles.

**Pollution Burden**

- Ozone
- PM2.5
- Diesel Particulate Matter
- Drinking Water Contaminants
- Children's Lead Risk from Housing
- Pesticide Use
- Toxic Releases from Facilities
- Traffic Impacts
- Cleanup Sites
- Groundwater Threats
- Hazardous Waste
- Impaired Waters
- Solid Waste Sites

**Population Characteristics**

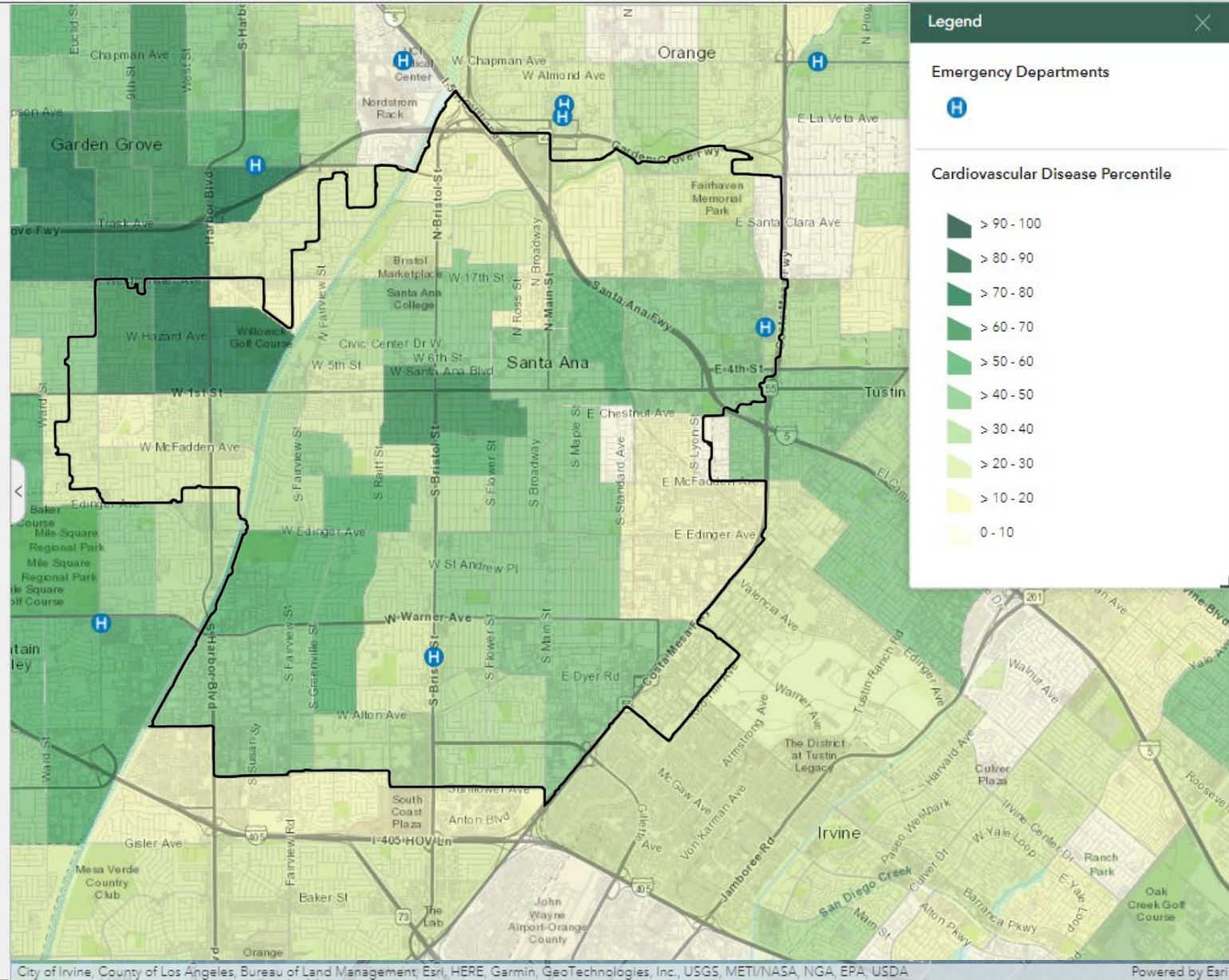
- Asthma
- Cardiovascular Disease**
- Low Birth Weight
- Education
- Housing Burden
- Linguistic Isolation
- Poverty
- Unemployment



**What is cardiovascular disease?**

Cardiovascular disease refers to conditions that involve blocked or narrowed blood vessels of the heart. A heart attack is the most common result of cardiovascular disease. Many people survive and return to normal life after a heart attack, but quality of life may be reduced. There are many risk factors for developing cardiovascular disease including diet, lack of exercise, smoking and exposure to air pollution. Exposure to outdoor air pollution following a heart attack has been shown to increase the risk of death. In addition to people with a past heart attack, the effects of air pollution may also be greater in the elderly and people with other preexisting health conditions.

More information can be found in the Cardiovascular Disease chapter in the CalEnviroScreen 4.0 report.



**Legend**

**Emergency Departments**

H

**Cardiovascular Disease Percentile**

- > 90 - 100
- > 80 - 90
- > 70 - 80
- > 60 - 70
- > 50 - 60
- > 40 - 50
- > 30 - 40
- > 20 - 30
- > 10 - 20
- 0 - 10

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# Analysis of Population Indicators | Cardiovascular Disease



Cardiovascular disease (CVD) refers to conditions that involve blocked or narrowed blood vessels that can lead to a heart attack or other heart problems. CVD is the leading cause of death both in California and the United States. There are many risk factors for developing CVD including diet, lack of exercise, smoking, and air pollution. Short term exposure to air pollution, and specifically particulate matter, has been shown to increase the risk of cardiovascular mortality shortly following a heart attack. There is also growing evidence that long term exposure to air pollution may result in premature death for people that have had a heart attack. In addition to people with a previous AMI (area median income), the effects of pollution on cardiovascular disease may be more pronounced in the elderly and people with other preexisting health conditions.

The City of Santa Ana does not have a significant cardiovascular disease issue in which census tracts rank within the upper quartile (>74%). Census tracts have a cardiovascular disease percentile ranked as low as the 6th percentile to the low 70th percentile.

**Pollution Burden**

- Ozone
- PM2.5
- Diesel Particulate Matter
- Drinking Water Contaminants
- Children's Lead Risk from Housing
- Pesticide Use
- Toxic Releases from Facilities
- Traffic Impacts
- Cleanup Sites
- Groundwater Threats
- Hazardous Waste
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- Solid Waste Sites

**Population Characteristics**

- Asthma
- Cardiovascular Disease
- Low Birth Weight**
- Education
- Housing Burden
- Linguistic Isolation
- Poverty
- Unemployment

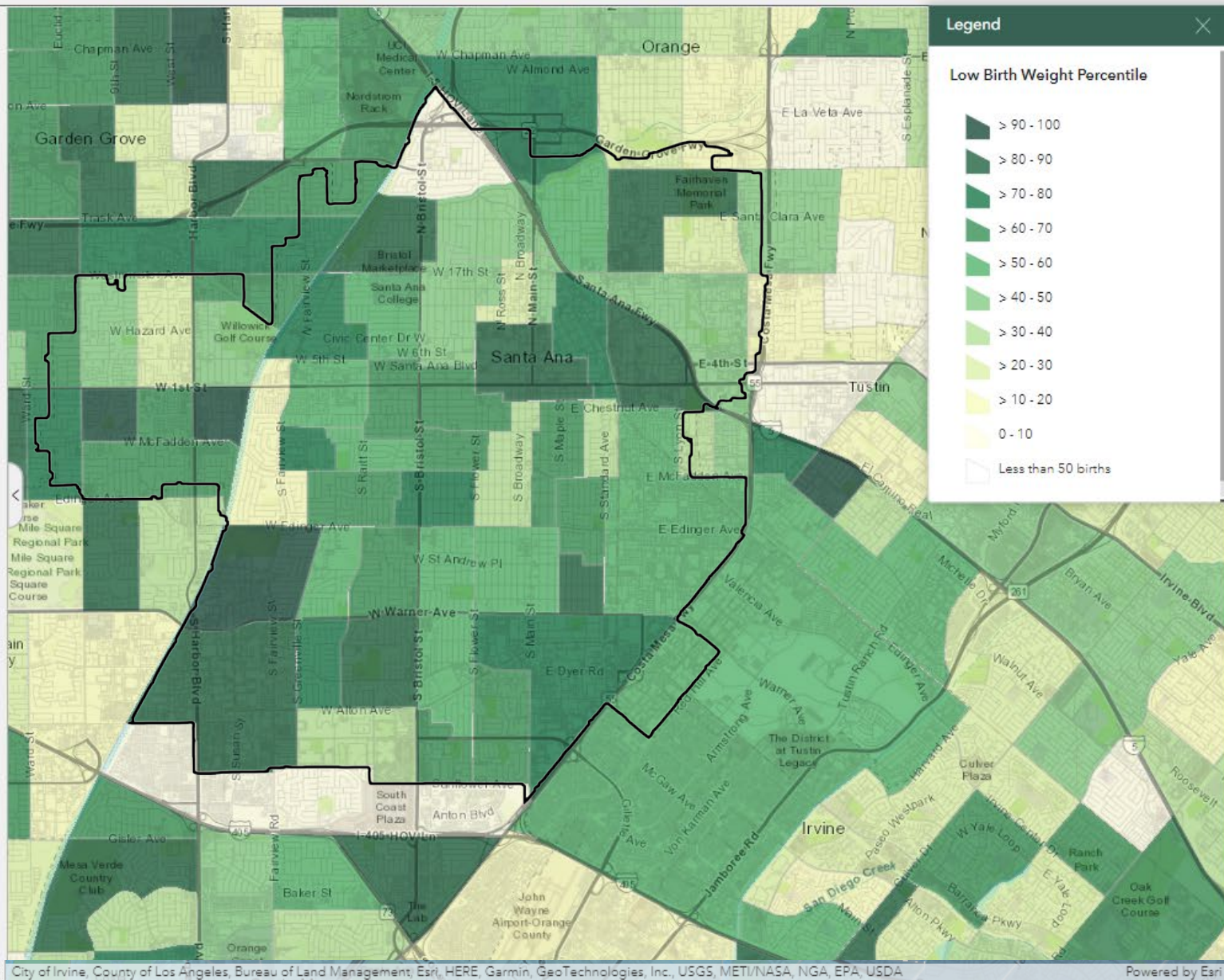


**What is low birth weight?**

Babies who weigh less than about five and a half pounds (or 2500 grams) at birth are considered low birth weight. Poor nutrition, lack of prenatal care, stress and smoking by the mother are known to increase the risk of having a low birth weight baby. Studies suggest that pollution could also be a factor.

Low birth-weight babies may face a greater risk of developing asthma or other chronic diseases later in life. They are also more likely to die as infants than babies who are not born low weight.

More information can be found in the Low Birth Weight chapter in the CalEnviroScreen 4.0 report.





# Analysis of Population Indicators | Low Birth Weight



Babies who weigh less than about five and a half pounds (2500 grams) at birth are considered low birth weight. Many factors, including poor nutrition, lack of prenatal care, stress and smoking by the mother, can increase the risk of having a low birth-weight baby. The California Department of Public Health collects information on where low birth weight infants are born in California. The indicator is the percentage of low weight births, averaged over a seven-year period (2006-2012).

Low birth weight is significant in environmental justice communities throughout Santa Ana, including neighborhoods of Delhi, Madison Park, Centennial Park, Lyon St, Saddleback View, Artesia Pilar, Downtown, French Park, Heninger Park, Lacy, Pacific Park, and Willard. The culmination of pollution exposure, poverty, and other socioeconomic factors may increase the chance of low birth rate. Low birth weight babies may develop asthma or other chronic diseases later in life, and they are more likely to die as infants than babies who weigh more.



**Pollution Burden**

- Ozone
- PM2.5
- Diesel Particulate Matter
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**Population Characteristics**

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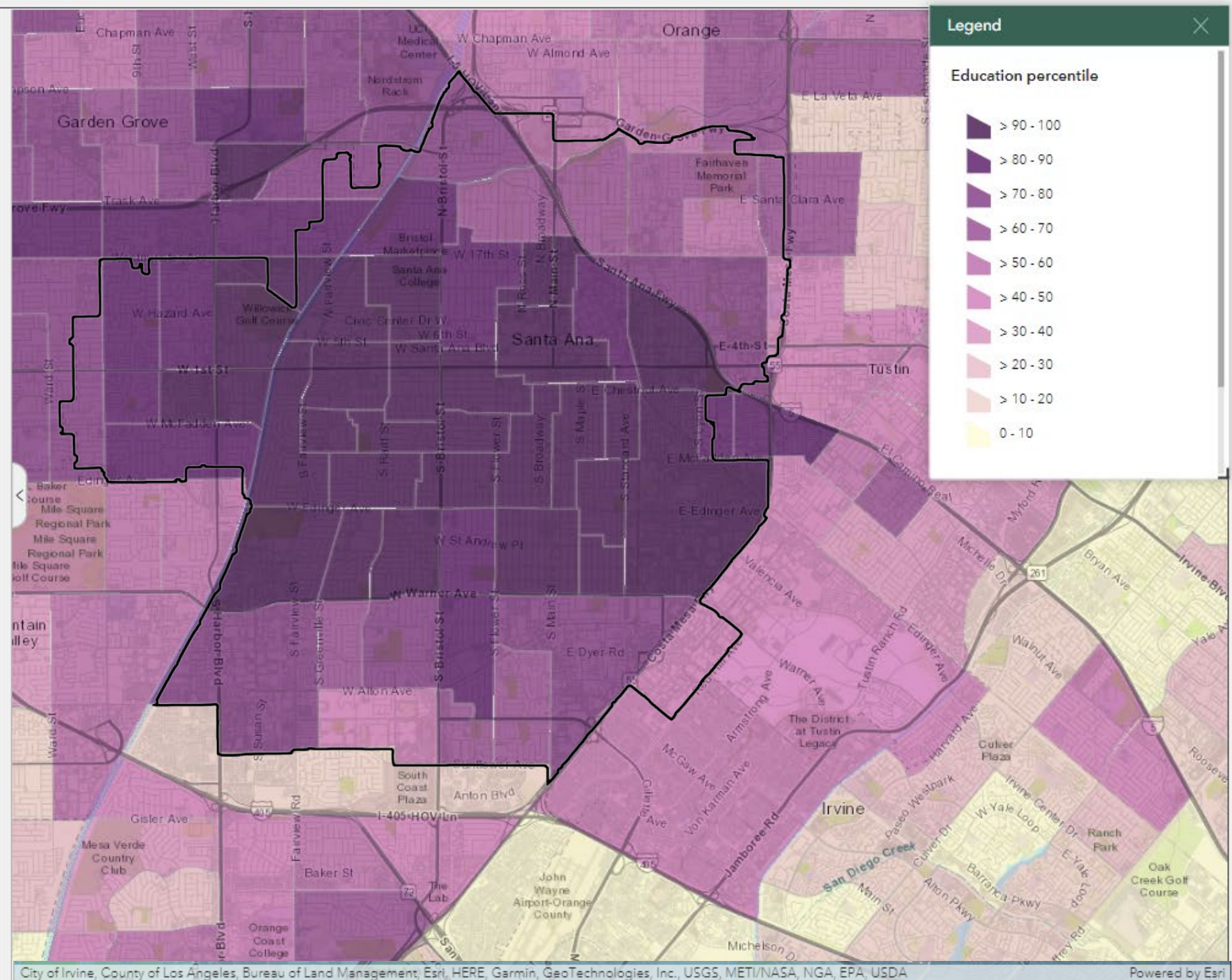
**What is low educational attainment?**

Educational attainment is the highest level of education a person has completed. People with more education usually earn more than people with less education. California has a high percentage of people without high school degrees compared to the rest of the United States, which makes education important to consider.

Many studies have found that the health effects of air pollution are worse among people with low educational attainment.

More information can be found in the [Educational Attainment](#) chapter in the CalEnviroScreen 4.0 report.

Low educational attainment refers to the population over 25 years of age with less than a high school diploma



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# Analysis of Population Indicators | Education



Educational attainment is the highest level of education a person has completed. The U.S. Census Bureau's American Community Survey maintains information on the rates of educational attainment by determining the percent of the population over age 25 with less than a high school education. People with more education usually earn more than people with less education and are more likely to live a healthier and longer life.

In Santa Ana, nearly all environmental justice communities have lower levels of educational attainment. The map shows the percentage of the population with less than a high school education. In Santa Ana, a majority of census tracts are in the 80th percentiles (80<sup>th</sup> to 89<sup>th</sup> percentile, indicated by the second darkest shade of purple). This means that the majority of Santa Ana has a larger percent of people over 25 years of age with less than a high school diploma compared to 80 to 89 percent of all census tracts in California.

Educational attainment is an important independent predictor of health. Studies have found that communities of more educated people are less polluted. Adults with less education have more pollution-related health problems. The ways in which lower educational attainment can decrease health status are not completely understood, but may include economic hardship, stress, fewer occupational opportunities, lack of social support, and reduced access to health-protective resources such as medical care, prevention and wellness initiatives, and nutritious food.

**Pollution Burden**

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**Population Characteristics**

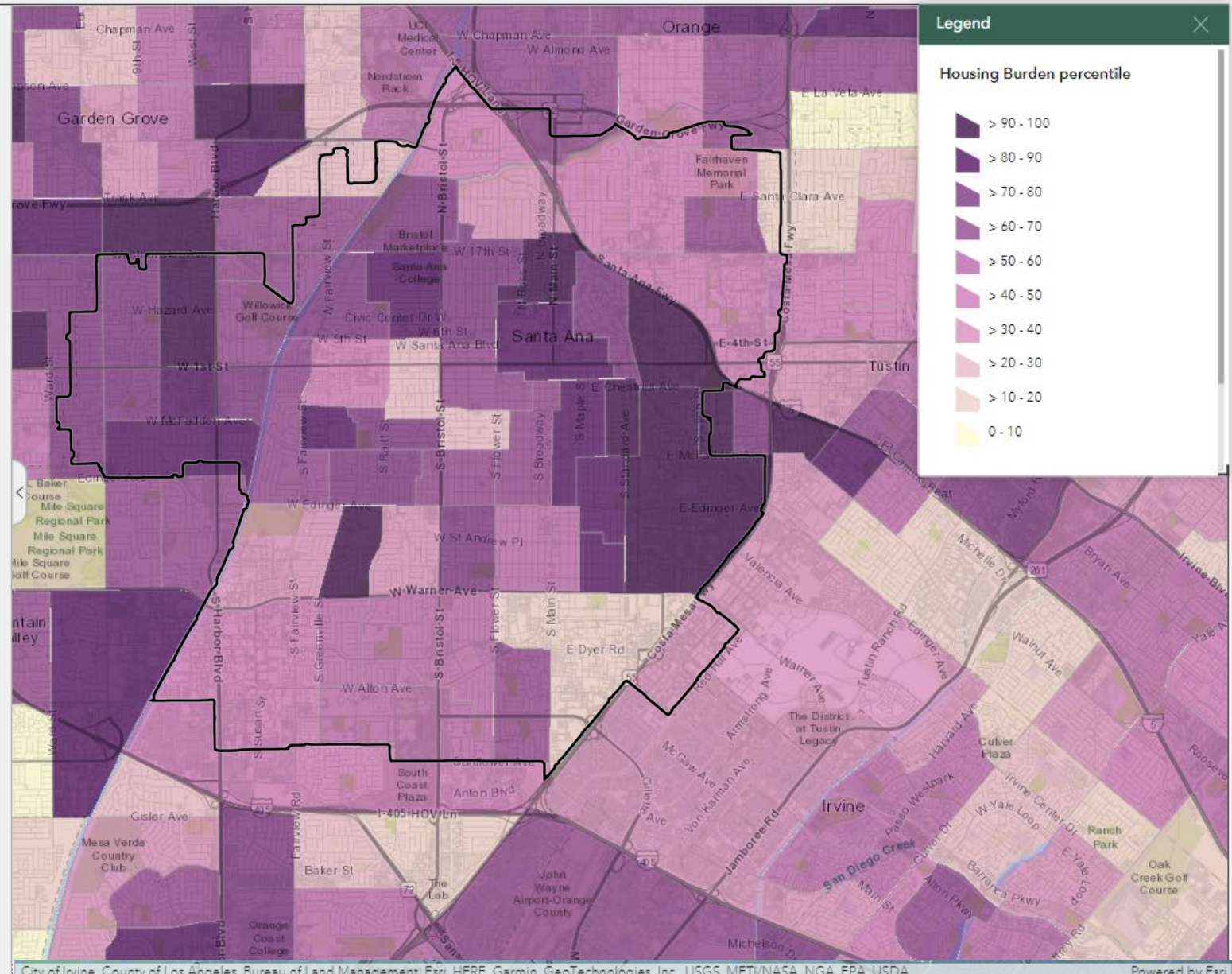
- Asthma
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**What are housing burdened low income households?**

Housing-burdened low-income households are households that are both low income and highly burdened by housing costs. California has very high housing costs relative to much of the country, which can make it hard for many to afford housing. Households with lower incomes may spend a larger proportion of their income on housing and may suffer from housing-induced poverty.

Housing affordability is an important determinant of health and well-being. Low-income households with high housing costs may suffer adverse health impacts. More information can be found in the Housing Burden chapter in the CalEnviroScreen 4.0 report.



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# Analysis of Population Indicators | Housing Burden



Housing burdened low income households are households that are both low income and highly burdened by housing costs. Data from the Housing and Urban Development Comprehensive Housing Affordability Strategy is used for the indicator to determine the percent of households in a census tract that are both low income (making less than 80% of their county's median family income) and severely burdened by housing costs (paying greater than 50% of their income for housing costs). Households with lower incomes may spend a larger proportion of their income on housing and may suffer from housing-induced poverty.

Housing burden is significant for environmental justice communities throughout Santa Ana, including the neighborhoods of Artesia Park, Bella Vista, Delhi, Cornerstone Village, Cedar Evergreen, French Court, French Park, Lacy, Logan, Lyon St, Madison Park, Downtown, Heninger Park, Pacific Park, Saddleback View, Santa Ana Triangle, Riverview West, Willard, and Valley Adams. Housing affordability is an important determinant of health and well-being.

Pollution Burden

- Ozone
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Population Characteristics

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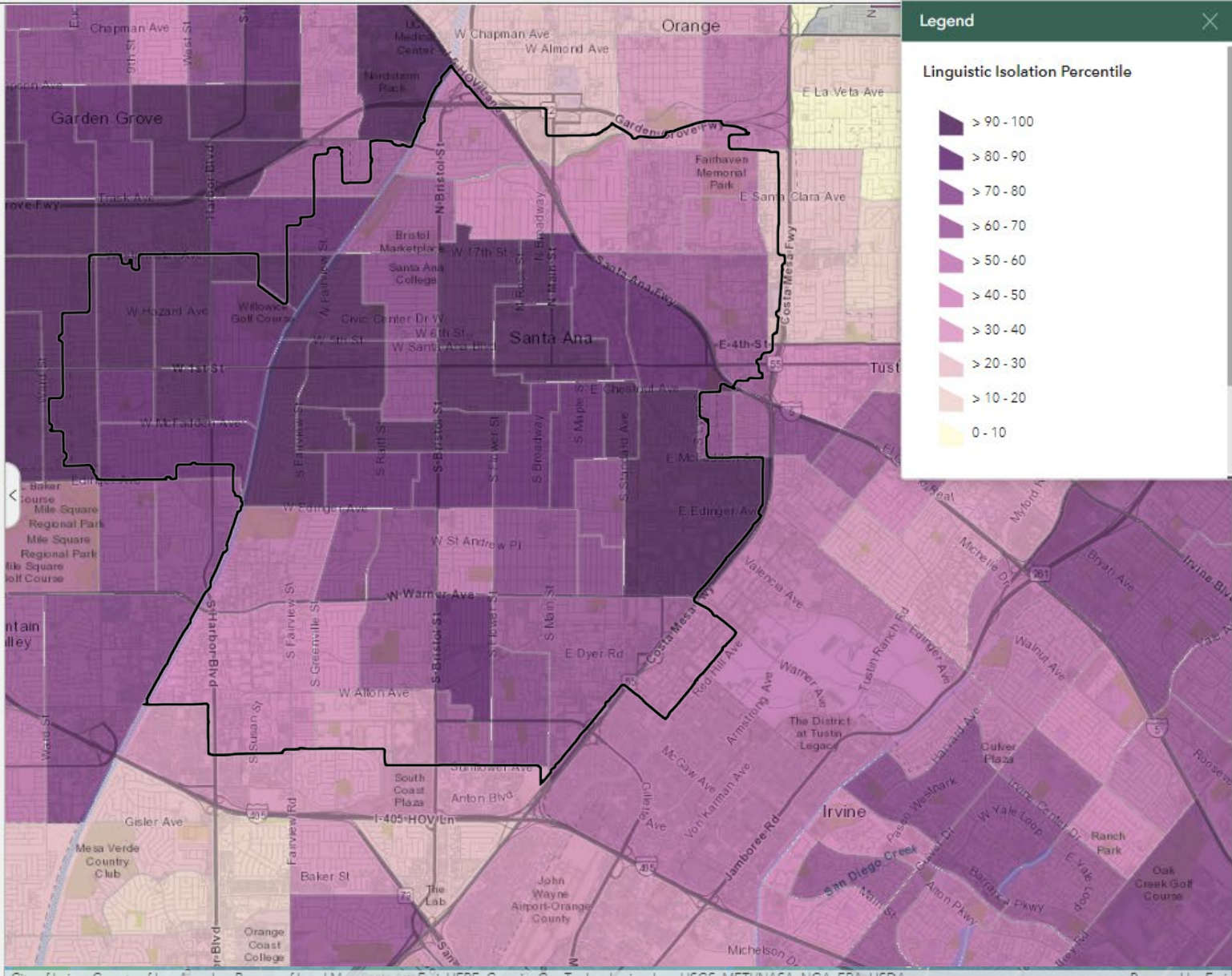


What is linguistic isolation?

Linguistic isolation is a term used by the U.S. Census Bureau for limited English-speaking households. More than 40 percent of Californians speak a language other than English at home. About half of those do not speak English well or at all.

Adults who are not able to speak English well often have trouble talking to the people who provide social services and medical care. Linguistically isolated households may also not hear or understand important information when there is an emergency like an accidental chemical release or spill.

More information can be found in the [Linguistic Isolation chapter](#) in the CalEnviroScreen 4.0 report.



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# Analysis of Population Indicators | Linguistic Isolation



Linguistic isolation is a term used by the U.S. Census Bureau for limited English-speaking households. The U.S. Census Bureau's American Community Survey maintains information on the rate of linguistic isolation. The indicator is the percent of limited speaking households, which are households where no one over age 14 speaks English well.

Linguistic isolation is significant in nearly all environmental justice communities in Santa Ana. Adults who are not able to speak English well often have trouble talking to the people who provide social services and medical care. As a result, they might not get the health care and information they need. Linguistically isolated households may not hear or understand important information when there is an emergency like an accidental chemical release or spill.

- Pollution Burden**
- Ozone
  - PM2.5
  - Diesel Particulate Matter
  - Drinking Water Contaminants
  - Children's Lead Risk from Housing
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- Population Characteristics**
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  - Linguistic Isolation
  - Poverty**
  - Unemployment



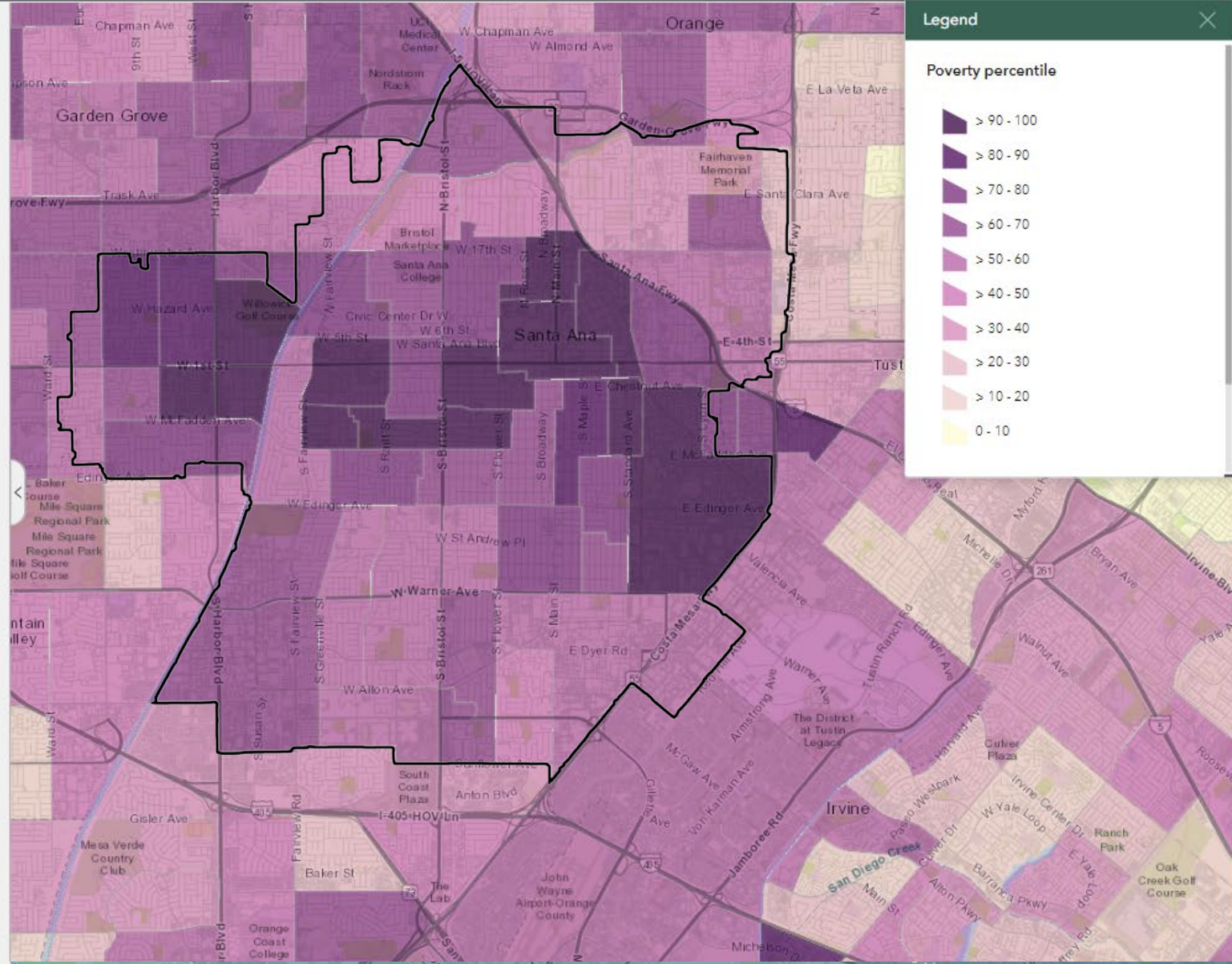
**What is poverty?**

The U.S. Census Bureau determines the federal poverty level each year. The poverty level is based on the size of the household and the age of family members. If a person or family's total income before taxes is less than the poverty level, the person or family are considered in poverty.

Many studies have found that people living in poverty are more likely than others to become ill from pollution.

More information can be found in the **Poverty** chapter in the CalEnviroScreen 4.0 report.

OEHHA defines households in poverty as those living two times below the federal poverty level



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# Analysis of Population Indicators | Poverty



The U.S. Census Bureau determines the Federal Poverty Level each year. The poverty level is based on the size of the household and the ages of family members. If a person or family's total income before taxes is less than the poverty level, the person or family are considered in poverty. Because the cost of living in California is higher than the national average, OEHHA uses twice the federal poverty level as a threshold.

The data used in CES 3.0 reflects data from the years 2011-2015, at which point the poverty rate was 20.4 percent for Orange County. According to the Public Policy Institute of California estimates for 2016-2018, the poverty rate was 19.7 percent in Orange County, with a poverty threshold of roughly \$36,800 for a family of four that rents in Santa Ana.

Poverty is an issue for nearly all environmental justice communities in Santa Ana. Low-income communities are more likely to be exposed to pollution and to suffer from health effects as a result of that exposure. Income can affect health when people cannot afford healthy living and working conditions, nutritious food and necessary medical care.



**Pollution Burden**

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**Population Characteristics**

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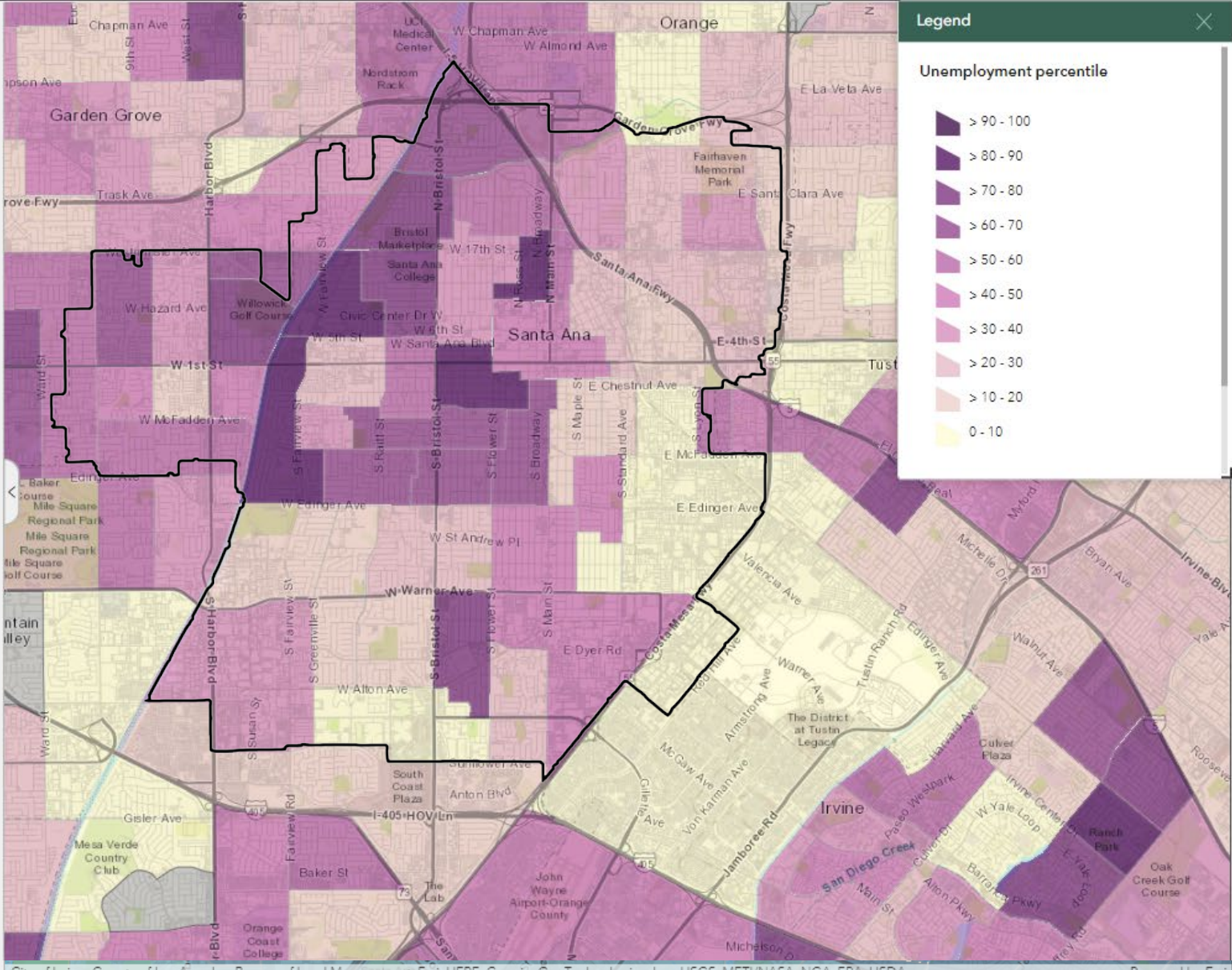


**What is unemployment?**

The U.S. Census Bureau counts people who are over 16 years old, out of work and able to work but not working as unemployed. This does not include students, active duty military, retired people or people who have stopped looking for work.

Stress from long-term unemployment can lead to chronic illnesses, such as heart disease, and can shorten a person's life.

More information can be found in the **Unemployment** chapter in the CalEnviroScreen 4.0 report.



**Legend**

**Unemployment percentile**

- > 90 - 100
- > 80 - 90
- > 70 - 80
- > 60 - 70
- > 50 - 60
- > 40 - 50
- > 30 - 40
- > 20 - 30
- > 10 - 20
- 0 - 10

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# Analysis of Population Indicators | Unemployment



Because low socioeconomic status often goes hand-in-hand with high unemployment, the rate of unemployment is a factor commonly used in describing disadvantaged communities. On an individual level, unemployment is a source of stress, which is implicated in poor health reported by residents of such communities. Lack of employment and resulting low income often oblige people to live in neighborhoods with higher levels of pollution and environmental degradation.

Unemployment is significant for environmental justice communities in the central areas of Santa Ana, including neighborhoods of Flower Park, Heninger Park, Pico Lowell, and Artesia Pilar.



# Compendium of Environmental Justice Goals, Policies, and Implementation Actions

Consistent with our General Plan Shared Vision and Core Values, the potential changes will emphasize policies and actions to:

- Reduce the unique or compounded health risks in disadvantaged communities by reducing pollution exposure and promoting public improvements, public services, community amenities, food access, safe and sanitary homes, and physical activity
- Promote civil engagement in the public decision-making process
- Prioritize improvements and programs that address the needs of disadvantaged communities

Based on the above, the following pages list relevant policies and implementation actions from the City's Draft Policy Framework in six categories:

- Reducing exposure to pollution
- Improving public facilities
- Promoting healthy food
- Creating safe and sanitary housing
- Increasing physical activity
- Enhancing civil engagement



# Reducing exposure to pollution

Develop strategies and support regulations that will help reduce exposure to air pollution and hazardous materials.

A clear view of the mountains over Santa Ana  
Photo courtesy of Lisandro Orozco





# Reducing Exposure to Pollution

## CONSERVATION ELEMENT (CN)

### POLICIES

**Policy CN-1.2 Climate Action Plan.** Consistency with emission reduction goals highlighted in the Climate Action Plan shall be considered in all major decisions on land use and investments in public infrastructure.

**Policy CN-1.5 Sensitive Receptor Decisions.** Consider potential impacts of stationary and non-stationary emission sources on existing and proposed sensitive uses and opportunities to minimize health and safety risks. Develop and adopt new regulations on the siting of facilities that might significantly increase pollution near sensitive receptors within environmental justice area boundaries.

**Policy CN-1.8 Promote Alternative Transportation.** Promote use of alternate modes of transportation in the City of Santa Ana, including pedestrian, bicycling, public transportation, car sharing programs, and emerging technologies.

**Policy CN-1.9 Public Investment Alternative Transportation Infrastructure.** Continue to invest in infrastructure projects that support public transportation and alternate modes of transportation in the City of Santa Ana, including pedestrian, bicycling, public transportation, car sharing programs, and emerging technologies.

**Policy CN-1.15 Community Emissions Reduction.** Collaborate with the South Coast Air Quality Management District and local stakeholders in advance of designation as a priority community for air monitoring and reduction, and implement measures and strategies identified in other air monitoring and emissions reduction plans that are applicable to and feasible for Santa Ana.

**Policy CN-1.16 Indirect source rules.** Support the development of regional legislation such as the drayage truck rule, advanced clean truck route, and heavy-duty low NOx rule by the South Coast Air Quality Management District.



# Reducing Exposure to Pollution

## CONSERVATION ELEMENT (CN)

### IMPLEMENTATION ACTIONS

**1.1 Air quality planning.** Review existing and monitor the development of new air monitoring and emissions reduction plans prepared by the South Coast Air Quality Management District. Gather and evaluate measures and strategies in such plans for their applicability to and feasibility for Santa Ana

**1.2 Community identification.** Coordinate with the South Coast Air Quality Management District and local stakeholders to pursue a priority community designation for eligible environmental justice areas of the city, with focus on areas with unique needs and pollution burden such as the Delhi Neighborhood area. If such designation is not awarded, seek grant funds for activities such as local air quality monitoring.

**1.4 Health Risk Criteria.** Establish criteria for requiring Health Risk Assessment for existing and new industries including the type of business, thresholds, and scope of assessment. Review existing and establish new regulation to reduce and avoid increased pollution near sensitive receptors within environmental justice area boundaries.

**1.5 Agency Permits.** Monitor South Coast Air Quality Management District permitting and inspection process and the Orange County Health Care Agency to identify businesses in Santa Ana with potential hazardous materials or by-products, with a special focus on environmental justice communities. Serve as a liaison for residents to identify potential emission violations. Share information and data with the community on the City's environmental quality web page.

**1.6 Emissions monitoring.** Coordinate with the South Coast Air Quality Management District to monitor existing air measurements and recommend new air measurements and locations.

**1.7 Truck idling.** Evaluate strategies to reduce truck idling found or reported in areas with sensitive receptors, with a priority placed on environmental justice areas.



# Reducing Exposure to Pollution

## CONSERVATION ELEMENT (CN)

### IMPLEMENTATION ACTIONS (continued)

**1.8 Improve older trucks.** Promote the City's Vehicle Replacement Plan and explore the replacement of older trucks through City participation in regional incentive programs and education of Santa Ana private fleet owners of program opportunities.

**1.9 Indirect source rules.** Support the development of indirect source rules, drayage truck rules, advanced clean truck routes, and heavy-duty low NOx rules by the South Coast Air Quality Management District.

**1.10 Interagency team.** Establish an Environmental Quality interagency team to evaluate, monitor, and make recommendations to address air quality and environmental hazard issues, with special focus on environment justice areas. Publish results and information on the City's website through a dedicated Santa Ana Environmental Quality web page.

**1.11 Public education.** Augment existing outreach programs to improve public awareness of State, regional and local agencies' roles and resources to identify, monitor, and address air quality and other environmental hazards in the community.

**1.12 Data Collection for Emissions Plans.** Coordinate with the South Coast Air Quality Management District to explore ways to initiate data collection efforts for a community emissions reduction and/or community air monitoring plan, including the identification of information needed (new or updated), potential data sources and needed resources, and strategies to engage residents and collect information.

**1.16 City budget.** Evaluate the City's Budget and Financial Policies to include direction for prioritizing public services and improvements within environmental justice area boundaries. Augment budget meeting presentations to include a section dedicated to the status of actions and improvements to address the needs of residents within environmental justice area boundaries.



# Reducing Exposure to Pollution

## OPEN SPACE ELEMENT (OS)

### POLICIES

**Policy OS-2.8 Hazardous Materials.** Reduce or eliminate, as feasible, the use of pesticides and herbicides that negatively impact human health at park facilities and publicly accessible open spaces.





# Reducing Exposure to Pollution

## SAFETY ELEMENT (S)

### POLICIES

**Policy S-2.1 Regional Collaboration.** Consult and collaborate with federal, state, and regional agencies to identify and regulate the disposal and storage of hazardous materials, prevent the illegal transportation and disposal of hazardous waste, and facilitate the cleanup of contaminated sites.

**Policy S-2.2 Hazardous Waste Generators.** Collaborate with appropriate agencies to identify and inventory all users and handlers of hazardous materials to proactively mitigate potential impacts.

**Policy S-2.3 Transportation and Storage.** Coordinate with the County of Orange, the California Department of Transportation, and other relevant parties to enforce state and local laws regulating the storage and transport of hazardous materials within the City of Santa Ana, and limit truck routes through the City to arterials streets away from natural habitats and sensitive land uses.

**Policy S-2.4 Planning and Remediation.** Determine the presence of hazardous materials and/or waste contamination prior to approval of new uses and require that appropriate measures be taken to protect the health and safety of site users and the community.

**Policy S-2.5 Education and Best Practices.** Promote public awareness of best practices for and participation in household hazardous waste management and disposal.

**Policy S-2.6 Existing Sensitive Uses.** Partner and collaborate with property owners, businesses, and community groups to develop strategies to protect and minimize risks from existing hazardous material sites to existing nearby sensitive uses, with priority given to discontinuing such uses within environmental justice area boundaries.



# Reducing Exposure to Pollution

## SAFETY ELEMENT (S)

### IMPLEMENTATION ACTIONS

**2.4 Lead contamination.** Work with local and regional partners, such as Orange County Environmental Justice, Orange County Health Care Agency and University of California at Irvine Public Health, to understand the prevalence, sources, and implications of lead contamination across Santa Ana's soil. Collaborate with environmental justice stakeholders in proposing solutions to remove hazardous lead-contaminated soils in the city and with benchmarks to measure and track effectiveness of proposed programs.

**2.5 Business education.** Collaborate with state and county agencies and trade organizations to educate and inform industrial business owners on permit regulations required for safe facility operations and on best practices.



# Improving Public Facilities

## MOBILITY ELEMENT (M)

### POLICIES

**Policy M-1.7 Proactive Mitigation.** Proactively mitigate potential air quality, noise, congestion, safety, and other impacts from the transportation network on residents and business.

**Policy M-4.9 Air Pollution Mitigation.** Consider land use, building, site planning, and technology solutions to mitigate exposure to transportation-related air pollution.

**Policy M-5.6 Clean Fuels and Vehicles.** Encourage the use of alternative fuel vehicles and mobility technologies through the installation of supporting infrastructure.

### IMPLEMENTATION ACTIONS

**5.8 Air quality improvements.** Participate in inter-jurisdictional efforts to promote improvements in air quality and to meet state and federal mandates through advanced technology and TDM programs.



# Reducing Exposure to Pollution

## LAND USE ELEMENT (LU)

### POLICIES

**Policy LU-3.8 Sensitive Receptors.** Avoid the development of industry and sensitive receptors in close proximity to each other that could pose a hazard to human health and safety, due to the quantity, concentration, or physical or chemical characteristics of the hazardous materials utilized, or the hazardous waste an operation may generate or emit.

**Policy LU-3.9 Noxious, hazardous, dangerous, and polluting uses.** Improve the health of residents, students, and workers by limiting the operation of noxious, hazardous, dangerous, and polluting uses that are in close proximity to sensitive receptors, with priority given to discontinuing such uses within environmental justice area boundaries.

**Policy LU-3.11 Air Pollution Buffers.** Promote landscaping and other buffers to separate existing sensitive uses from rail lines, heavy industrial facilities, and other emissions sources. As feasible, apply more substantial buffers within environmental justice area boundaries.

**Policy LU-3.12 Indoor Air Quality.** Require new sensitive land uses proposed in areas with high levels of localized air pollution to achieve good indoor air quality through landscaping, ventilation systems, or other measures.



# Reducing Exposure to Pollution

## LAND USE ELEMENT (LU)

### IMPLEMENTATION ACTIONS

**3.2 Design guidelines and standards.** Update the zoning code's development and operational standards for industrial zones to address incompatibility with adjacent uses, including minimum distance requirements to buffer heavy industrial uses from sensitive receptors. Conduct a study to evaluate and establish appropriate minimum distances and landscape buffers between polluting industrial uses from sensitive receptors such as residences, schools, day care, and public facilities.

**3.3 Healthy Lifestyles.** Collaborate with residents and industry stakeholders to create a program to incentivize and amortize the removal of existing heavy industrial uses adjacent to sensitive uses.

**3.4 Funding for air filtration.** Seek funding from South Coast Air Quality Management District and other regional sources for the installation of high efficiency air filtration systems in buildings, homes, and schools located in areas with high levels of localized air pollution, especially for those within environmental justice area boundaries.

**3.5 Business Incentive.** Explore economic development incentives and grant funding to encourage existing or draw new business investments in the industrial zones to incorporate more environmentally sustainable practices.

**3.6 Lead paint abatement.** Coordinate with County of Orange Health Care Agency and community organizations to strengthen local programs to eliminate lead-based paint hazards, with priority given to residential buildings within environmental justice area boundaries.

**3.16 Health in Corridors.** Require a Health Risk Assessment to identify best practices to minimize air quality and noise impacts when considering new residential uses within 500 feet of a freeway.

**3.17 Training for safe practice.** Pursue the EPA Renovate Right Program to train local residential contractors for certification as lead renovators to promote safe work practices and prevent lead contamination.



# Reducing Exposure to Pollution

## LAND USE ELEMENT (LU)

### IMPLEMENTATION ACTIONS (continued)

**3.18 Renovations and lead prevention.** Evaluate the feasibility of requiring contractor training and/or certification for safe work practices to conduct residential renovations for pre-1978 structures that may contain existing lead paint.

**3.21 Prevention education.** Collaborate with local organizations such as Orange County Health Care Agency and State Environmental Protection Agency and identify funds to create a Santa Ana Prevent Lead Poisoning Education Program, with special focus on disadvantaged communities and pre-1978 housing stock.

**3.22 Public health outcomes.** Support the Orange County Health Care Agency in their role in investigating public complaints regarding lead hazards, through enforcement of local housing standards to assure healthy outcomes.

**3.23 Agency permits.** Work with South Coast Air Quality Management District and Orange County Health Care Agency to evaluate existing special permit process and criteria for approval, and identify potential policy changes to minimize issuance of special permits with potential health impacts.

**3.24 Public health.** Partner with Orange County Health Care Agency and community serving organizations to evaluate best practices and benefits of preparing a Public Health Plan to address environmental hazards in Santa Ana, with special focus in environmental justice communities. Conduct public meetings to gather information and present preliminary findings.



# Reducing Exposure to Pollution

## LAND USE ELEMENT (LU)

### IMPLEMENTATION ACTIONS (continued)

**3.26 Health conditions.** Work with Orange County Health Care Agency and local stakeholders including Orange County Environmental Justice and UC Irvine Public Health to identify baseline conditions for lead contamination in Santa Ana, monitor indicators of lead contamination, and measure positive outcomes. Collaborate with these organizations to secure grant funds for soil testing and remediation for residential properties in proximity to sites identified with high soil lead levels, with a focus on Environmental Justice census tracts.

**3.27 Groundwater practice.** Coordinate with the State Department of Toxic Substances Control (DTSC) to monitor the Santa Ana Southeast Groundwater Clean Up Project and identify measurable progress to remediate groundwater contamination. Share information with the community on the City's Environmental Quality web page.



# Reducing Exposure to Pollution

## ECONOMIC PROSPERITY ELEMENT (EP)

### POLICIES

**Policy EP-1.9 Avoid Conflict of Uses.** Avoid potential land use conflicts by prohibiting the location of sensitive receptors and noxious land uses in close proximity.

**Policy EP-3.3 Mitigate Impacts.** Promote the development of sustainable and equitable new land use plans that proactively reduces negative impacts on existing residents and businesses.

### IMPLEMENTATION ACTIONS

**3.5 Green business incentives.** Continue to promote and market the Recycling Market Development Zone. Develop an incentive program to encourage nonpolluting industry and clean green technology companies that reduce environmental impacts and the carbon footprint to locate to the city. Encourage existing businesses to invest in technology and best practice to transition to sustainable business practices.





# Improving public facilities

Increase access to community health facilities, parks, community centers, and other public services and facilities, particularly in underserved areas.





# Improving Public Facilities

## COMMUNITY ELEMENT (CM)

### POLICIES

**Policy CM-1.1 Access to Programs.** Provide and maintain access to recreational and cultural programs to serve residential areas. Prioritize the provision of programs for residents living within park deficient or environmental justice areas.

**Policy CM-1.3 Equitable Programs.** Encourage recreational and cultural programs and activities of local interest that are inclusive and affordable to all.

**Policy CM-1.4 Shared Use.** Expand community activities and programs provided through shared use or cooperative agreements at City facilities or partner sites.

**Policy CM-1.5 Equitable Recreational Spaces.** Promote the development and use of municipal buildings, indoor facilities, sports fields, and outdoor spaces for recreation that serve residents throughout the City, with priority given to areas that are underserved and/or within environmental justice area boundaries.

**POLICY CM-3.5 Community Spaces.** Encourage positive community interactions and neighborhood pride to create secure communities and promote safe public spaces.



# Improving Public Facilities

## COMMUNITY ELEMENT (CM)

### POLICIES (continued)

**Policy CM-2.1 Supporting Organizations.** Collaborate with both private and public organizations that support early childhood education programs to optimize and expand service capacity.

**Policy CM-2.2 Educational Facilities Capacity.** Partner with local school districts, non-profit organizations, and other educational providers regarding land use and policy changes to ensure available educational facilities.

**Policy CM-2.6 Educational Funding.** Enhance educational opportunities in the community by expanding and maintaining access to libraries, learning centers, and technology through innovative funding sources.

**Policy CM-3.1 Supporting Health Services.** Collaborate with and provide support to organizations engaged in improving public health and wellness, expanding access to affordable quality health care, and providing medical services for all segments of the community. Encourage greater emphasis on expanding or improving health services to underserved areas and populations.



# Improving Public Facilities

## COMMUNITY ELEMENT (CM)

### IMPLEMENTATION ACTIONS

**1.5 Alternative facilities.** In park deficient and environmental justice areas, identify facilities that are viable alternatives to public parks and municipal facilities for recreational, cultural, and health and wellness programs, including but not limited to school facilities, facilities of faith-based and civic organizations, and privately owned recreation and entertainment facilities. Identify, inventory, and rank other resources for potential park system acquisition, expansion to existing parks, and/or parks development opportunity within the community.

**1.6 Program accessibility.** To ensure residents of environmental justice area boundaries have access to recreational, cultural, and health and wellness programs, establish accessibility corridors that provide attractive, comfortable, and safe pedestrian and bike access to public recreational facilities in the Parks Master Plan (an implementation action of the Open Space Element). Identify public realm improvements needed to create these accessibility corridors. Prioritize investments for accessibility corridors in the city's capital investment program; include investments for accessibility corridors when investments are made in new parks and recreation facilities within environmental justice area boundaries.

**2.1 Facilities to support lifelong learning.** For areas within park deficient and environmental justice areas, conduct, maintain, and publicize an inventory of public, nongovernmental, and private facilities that can be used by organizations to support early childhood education, after school activities, libraries and learning centers, and other meetings and educational opportunities.

**2.2 Public realm.** Identify areas in need of a public realm plan to provide attractive, comfortable, and safe walking corridors to promote accessibility to community programs or activity centers, in conjunction with the City's Active Transportation Plan.



# Improving Public Facilities

## COMMUNITY ELEMENT (CM)

### IMPLEMENTATION ACTIONS (continued)

**3.1 Community health care facilities.** Evaluate options to support existing and potential community health care facilities in environmental justice focus areas through a variety of mechanisms such as reduced permit fees, reduced impact fees, and tax incentives.

**3.2 Pedestrian access to health facilities.** Ensure that new or redeveloped health care facilities include a pedestrian friendly site amenities. In areas where mobile clinics are stationed, ensure the location is safe and accessible for pedestrians, cyclist, and transit-users.



# Improving Public Facilities

## MOBILITY ELEMENT (M)

### POLICIES

**Policy M-1.2 Balanced Multimodal Network.** Provide a balanced and equitable multimodal circulation network that reflects current and changing needs.



# Improving Public Facilities

## PUBLIC SERVICES ELEMENT (PS)

### POLICIES

**Policy PS-1.2 Equitable Distribution.** Ensure public services and facilities reflect changing population needs and are equitably distributed and accessible, with priority assigned to improving areas that are underserved and/or within environmental justice area boundaries.

**Policy PS-1.8 Access for All.** Improve connectivity and ADA accessibility at all public facilities.

**Policy PS-1.11 Safety.** Remove actual and perceived safety concerns that create barriers to physical activity by requiring adequate lighting, street visibility, and areas of clear connectivity, especially for new projects or improvements within environmental justice area boundaries.

### IMPLEMENTATION ACTIONS

**1.4 Fiscal priority for public improvements.** Identify City fiscal and operational procedures and potential thresholds involved in the prioritization of general funds for public programming, service, or infrastructure improvements for residents living within environmental justice area boundaries.



# Improving Public Facilities

## OPEN SPACE ELEMENT (OS)

### POLICIES

**Policy OS-1.1 Park Master Plan.** Create and regularly update a citywide parks master plan to provide guidance for the acquisition, development, maintenance and programming of parks, recreation facilities, trails and open space to meet community needs.

**Policy OS-1.2 Parks and Recreation System.** Provide and support a comprehensive and integrated networks of parks, recreation facilities, trails, and open space that is diverse, with a variety of active and passive recreational opportunities.

**Policy OS-1.12 Shared Use.** Collaborate with school districts, faith-based communities, and community serving organizations to expand shared use facilities through cooperative agreements to maximize recreation options.

**Policy 2.7 Healthy Indoor Options.** Encourage or incentivize new commercial and residential development to provide private indoor recreation space when located in areas with high levels of localized air pollution or if site is adjacent to freeways or heavy industrial uses.

**Policy OS-3.1 Park and Facility Maintenance.** Ensure all park, recreation facilities and open spaces are well maintained.

### IMPLEMENTATION ACTIONS

**2.6 Healthy indoor options.** Explore options to incentivize or require the provision of indoor recreation space, particularly in environmental justice areas that experience high levels of exposure to air pollution.





# Improving Public Facilities

## LAND USE ELEMENT (LU)

### POLICIES

**Policy LU-4.9 Recreational Amenities.** Encourage public, private and commercial recreational facilities in areas that are park and open space deficient.



# Promoting healthy food



Improve the health and wellness of all residents through policies, regulations, and programs that foster healthier food options.



# Promoting Healthy Food

## COMMUNITY ELEMENT (CM)

### POLICIES

**Policy CM-3.6 Healthy Options.** Promote access to affordable, fresh, and healthy food options citywide through efforts such as community gardens, culinary classes, and neighborhood farmers markets.

### IMPLEMENTATION ACTIONS

**3.6 Fresh and healthy foods.** Pursue programs, incentives, and/or grants to encourage small grocery or convenience stores to sell fresh foods in the city, especially those within environmental justice area boundaries. Examples include grants or loans to purchase updated equipment, publicity, or directories of healthy food outlets, or connecting stores to wholesale sources of healthy, local, or organic food



# Promoting Healthy Food

## OPEN SPACE ELEMENT (OS)

### POLICIES

**Policy OS-2.4 Urban Agriculture.** Expand urban agriculture opportunities in private development and public spaces, including home gardens, community gardens, and urban farms. Support healthy food choices through amenities and programs.



# Creating safe and sanitary housing



Add to existing efforts to reduce health hazards associated with construction materials, building standards, and deferred maintenance.



# Creating Safe and Sanitary Housing

## COMMUNITY ELEMENT (CM)

### POLICIES

**Policy CM-3.2 Healthy Neighborhoods.** Continue to support the creation of healthy neighborhoods by addressing public safety, land use conflicts, hazardous soil contamination, incompatible uses, and maintaining building code standards.

### IMPLEMENTATION ACTIONS

**1.7 Rental property outreach.** Augment the Proactive Rental Enforcement Team and Residential Response Team with additional outreach geared toward absentee owners of rental properties. Create and periodically distribute outreach materials in order to educate absentee owners about legal obligations to maintain and upkeep rental properties. Distribute information to tenants about their rights and protection, so they are not penalized for reporting or living in a dwelling unit that does not meet health and safety standards. Translate outreach efforts into Spanish, Vietnamese, and other appropriate languages. Prioritize such outreach for properties within environmental justice area boundaries.

**1.8 Neighborhood rehabilitation.** Continue to seek state and federal funding for neighborhood rehabilitation projects and collaborate with community-based organizations to identify housing issues and improvements needed, especially for housing within environmental justice area boundaries.



# Creating Safe and Sanitary Housing

## LAND USE ELEMENT (LU)

### POLICIES

**Policy LU-3.2 Empower Community.** Facilitate community engagement and dialogue in policy decisions and outcomes affecting land use and development, with supplemental opportunities for proposed planning activities within environmental justice area boundaries.

**Policy LU-4.6 Healthy Living Conditions.** Support diverse and innovative housing types that improve living conditions and promote a healthy environment.

### IMPLEMENTATION

**3.20 Safe housing.** Require all residential rehabilitation projects that use local, or HUD federal funds to comply with the Lead Safe Housing Rule, to remove lead paint hazards, depending on the nature of work and the dollar amount of federal investment in the property.

**3.28 Tenant Protections.** Provide information to residential tenants regarding Landlord Tenant Laws in the State, such as AB 1481, that provide protections against evictions for those who seek action to improve substandard housing and hazardous conditions.

**3.29 Development site history.** Update the City's Development Review application process to require developers to provide information regarding the prior use of the site and history of hazardous materials on the property, in order to identify potential for site contamination from hazardous materials or soil lead contamination to be remediated.



# Creating Safe and Sanitary Housing

## PUBLIC SERVICES ELEMENT (LU)

### POLICIES

**Policy PS-1.9 Supportive Housing.** Collaborate with community stakeholders to identify and encourage the development of suitable sites for housing with support services.





## Increasing physical activity

Establish new opportunities for outdoor and indoor recreation as part of a comprehensive and integrated network of spaces and facilities, with a focus on underserved areas.





# Increasing Physical Activity

## COMMUNITY ELEMENT (CM)

### POLICIES

**Policy CM-1.11 Program Incentives.** Incentivize use of privately owned property to promote recreation, health, wellness, and art and culture programs.

**Policy CM-3.3 Healthy Residential Programs.** Invest in programs and public improvements that educate residents about opportunities to increase their physical activity and improve their health.

**Policy CM-3.7 Active Lifestyles.** Support programs that promote sports, fitness, walking, biking and active lifestyles.

**Policy CM-3.8 Underutilized Spaces.** Repurpose underutilized spaces and City-owned vacant land as a strategy to improve community health and increase the number and accessibility of opportunities for health and recreation activities. Prioritize the redevelopment of such sites within environmental justice area boundaries and other areas underserved by parks and recreation opportunities.

**Policy CM-3.9 Prevention.** Coordinate with the County Health Care Agency to promote healthier communities through education, prevention, and intervention programs, and other activities that address the root causes of health disparities and inequities in Santa Ana.



# Increasing Physical Activity

## COMMUNITY ELEMENT (CM)

### IMPLEMENTATION ACTIONS

**1.3 Collaboration.** Develop intentional, strategic partnerships with public, private, and nonprofit entities to improve health outcomes by leveraging capacity, resources, and programs around mutually beneficial initiatives that promote health, equity, and sustainability in neighborhoods within environmental justice area boundaries. Develop a comprehensive partnership policy providing guidelines that can be used throughout the City organization.

**1.4 Community coordination on underutilized spaces.** Coordinate with community residents, property owners, and other stakeholders to identify vacant and potentially underutilized properties and strategize how such properties could be repurposed into public parks or commercial recreation facilities.

**3.4 Prevention activities.** Coordinate with the County Health Care Agency to identify the root causes of health disparities and inequities in Santa Ana, with additional detail for residents living within environmental justice area boundaries. Identify potential programmatic changes and resources to better address the root causes.



# Increasing Physical Activity

## OPEN SPACE ELEMENT (OS)

### POLICIES

**Policy OS-1.2 Parks and Recreation System.** Provide and support a comprehensive and integrated network of parks, recreation facilities, trails, and open space that is diverse, with a variety of active and passive recreational opportunities.

**Policy OS-1.3 Park Standard.** Establish and maintain public parks, open space and recreation requirements for new residential and nonresidential development to provide sufficient opportunities for Santa Ana residents and visitors. Attain a minimum of two acres of land per 1,000 persons residing in the City of Santa Ana.

**Policy OS-1.4 Park Distribution.** Ensure the City residents have access to public or private parks, recreation facilities, or trails within a 10-minute walking and biking distance of home. Prioritize park provision, programs, and partnerships in park deficient and environmental justice areas.

**Policy OS-2.12 Park and Facility Character.** Ensure that parks and recreation facilities incorporate placemaking elements that foster social connections and community pride such as art, landscaping, murals, and amenities and facilities that reflect site character and local needs.

**Policy OS-2.13 Neighborhood Needs.** Consider unique neighborhood and demographic needs in the development of local parks, open spaces and programs. Balance these unique needs with efforts to ensure affordability and serve residents citywide.

**Policy OS-1.13 Healthy Indoor Options.** Encourage or incentivize new commercial and residential development to provide private indoor recreation space when located in areas with high levels of localized air pollution or if site is adjacent to freeways or heavy industrial uses.



# Increasing Physical Activity

## OPEN SPACE ELEMENT (OS)

### IMPLEMENTATION

**1.7 Public parkland requirements for residential projects.** Update the Residential Development Fee Ordinance for large residential projects to require public parkland within the City limits and a 10-minute walking distance of the new residential projects.

**1.7A Open space and park land incentives.** Allow developers a reduction in on-site open space by giving credits for park land for public use. Establish a process and program to incentivize developers to provide additional on-site and/or publicly accessible open space to create public park land and open space. Research and collaborate with residents, developers, and community organizations to design and implement an open space density bonus to incentivize the creation of additional on-site open space in exchange for more density in the project.



# Increasing Physical Activity

## LAND USE ELEMENT (LU)

### POLICIES

**Policy LU-1.1 Compatible Uses.** Foster compatibility between land uses to enhance livability and promote healthy lifestyles.

**Policy LU-1.3 Equitable Distribution of Open Space.** Promote the creation of new open space and community serving amenities in park deficient areas that keeps pace with the increase in multi-unit housing development, with priority given to those that are also within environmental justice area boundaries.

**Policy LU-1.7 Active Transportation Infrastructure.** Invest in active transportation connectivity between activity centers and residential neighborhoods to encourage healthy lifestyles.

**Policy LU-2.3 Supportive Spaces.** Provide a diversity of land uses that support residents, visitors, and businesses, such as open space, areas for community gatherings, and outdoor entertainment venues.

**Policy LU-2.9 Open Space Needs.** Establish and maintain public open space and recreation requirements for new residential and nonresidential uses to provide sufficient open space and recreational opportunities for Santa Ana Residents and visitors.

### IMPLEMENTATION ACTIONS

**2.10 Open space requirements.** Evaluate public open space and park requirements in the Zoning Code for residential and nonresidential uses. Consider requirements and/or incentives to aggregate public open space areas required by two or more uses to form larger and more usable areas and facilities.



# Increasing Physical Activity

## URBAN DESIGN ELEMENT (UD)

### POLICIES

**Policy UD-1.6 Active Transportation Infrastructure.** Support the creation of citywide public street and site amenities that accommodate and promote an active transportation-friendly environment.

**Policy UD-3.2 Activate Paths.** Strengthen and activate the design of paths and adjacent development through enhanced and cohesive streetscapes, architectural themes, and landscaping.

**Policy UD-3.3 Foster Community Building.** Promote a safe environment that facilitates social interaction and improves active transportation along corridors.

**Policy UD-3.6 Linear Park System.** Support open space improvements along roadways and non-vehicular paths, such as bike or multi-use trails, to create linear open space that connect to a network of parks and activity areas throughout the city.



## Enhancing civil engagement

Increase the amount and quality of community engagement throughout the planning, development, and operation of our communities and City.







# Enhancing Civil Engagement

## COMMUNITY ELEMENT (CM)

### POLICIES

**Policy CM-1.2 Community Input.** Engage residents and community facility users to provide input for facility improvements and programming.

**Policy CM-2.1 Supporting Organizations.** Collaborate with both private and public organizations that support early childhood education programs to optimize and expand service capacity.

**Policy CM-2.2 Educational Facilities Capacity.** Partner with local school districts, non-profit organizations, and other educational providers regarding land use and policy changes to ensure available educational facilities.

**Policy CM-2.4 Parent Participation.** Support education, recreation programs, and after school activities that involve parent participation to increase high school graduation and college attendance rates.



# Enhancing Civic Engagement

## COMMUNITY ELEMENT (CM)

### IMPLEMENTATION ACTIONS

**1.1 Engage EJ communities on recreation and cultural programs.** Incorporate community stakeholders from environmental justice communities into existing and/or new ad hoc committees to guide the identification of recreational and cultural programming needs and desires.

**1.2 Community conversation.** Plan for and conduct a community survey every three years related to community health, air quality concerns, parks, and community service needs, with focused outreach to environmental justice priority areas.

**1.3 Collaboration.** Develop intentional, strategic partnerships with public, private, and nonprofit entities to improve health outcomes by leveraging capacity, resources, and programs around mutually beneficial initiatives that promote health, equity, and sustainability in neighborhoods within environmental justice area boundaries. Develop a comprehensive partnership policy providing guidelines that can be used throughout the City organization.

**1.4 Community coordination on underutilized spaces.** Coordinate with community residents, property owners, and other stakeholders to identify vacant and potentially underutilized properties and strategize how such properties could be repurposed into public parks or commercial recreation facilities.

**3.3 Health Metrics.** Engage with Orange County Health Care Agency and other stakeholders to monitor key health indicators to measure success and outcome of General Plan policies and implementation plan, including reduction in incidence in asthma and low birth weight of infants.

**3.5 Environmental Education.** Encourage all education institutions in Santa Ana to include curriculum regarding environmental justice and local efforts to promote clean business operations, environmental quality, and the health in our community.



# Enhancing Civic Engagement

## COMMUNITY ELEMENT (CM)

### IMPLEMENTATION ACTIONS (continued)

**3.7 Public health and wellness collaboration summit.** Collaborate with health care providers, health and wellness advocates, and other public health stakeholders to identify ways to improve the provision of and access to health and wellness services throughout the city. Include a discussion on areas within environmental justice area boundaries and other areas underserved by parks, programs and services that support health and wellness.



# Enhancing Civil Engagement

## ECONOMIC PROSPERITY ELEMENT (EP)

### POLICIES

**Policy EP-2.4 Community-led Economic Development.** Support community-based economic development initiatives, such as buy-local campaign, marketing strategies, and worker cooperatives.



# Enhancing Civil Engagement

## PUBLIC SERVICES ELEMENT (PS)

### POLICIES

**Policy PS-1.5 Community Benefit.** Collaborate with community stakeholders to expand recreational, educational, and cultural opportunities; promote active lifestyles; and maximize community benefit.



# Enhancing Public Engagement

## CONSERVATION ELEMENT (CN)

### POLICIES

**POLICY CN-1.3 Education.** Promote efforts to educate businesses and the general public about air quality standards, reducing the urban heat island effect, health effects from poor air quality and extreme heat, and best practices they can make to improve air quality and reduce greenhouse gas emissions.

### IMPLEMENTATION ACTIONS

**1.3 Proactive engagement.** Collaborate with the South Coast Air Quality Management District and local stakeholders in environmental justice areas experiencing local air pollution issues to outline objectives and strategies for monitoring air pollution in advance of the establishment of a community emissions reduction and/or air monitoring plan.

**1.13 Community survey on healthy lifestyles.** Plan for and conduct a Community Survey of residents related to community health, air quality, parks, and community services; with focused outreach for Environment Justices concerns and priority areas (tie into other City efforts like Strategic Plan, Park and Recreation Planning, Community Benefits, etc.).

**1.14 Expanded interactions.** Identify opportunities to expand regular attendance of City staff and decision-makers at meetings for neighborhoods within environmental justice area boundaries, so that residents and businesses can more easily communicate their unique issues and needs. Include a translator(s) at these meetings so that all residents can engage.

**1.15 Expanded representation.** Expand representation of residents from neighborhoods within environmental justice area boundaries by extending residents from such areas to become board, commission, and task force members as openings occur.



# Enhancing Civic Engagement

## OPEN SPACE ELEMENT (OS)

### POLICIES

**Policy OS-2.11 Community Involvement and Volunteerism.** Encourage residents, stakeholders, neighborhood groups, businesses, schools, social organizations, and public agencies to volunteer and partner in the development, maintenance, and activation of publicly-owned parks and recreation facilities.

### IMPLEMENTATION ACTIONS

**2.4 Public notification.** Prior to treating areas in the city with pesticides or herbicides, inform the public through signage posted in impacted areas, direct mailers, and announcements on the City website, cable channels, publications, and the City's social media platforms.



# Enhancing Civil Engagement

## LAND USE ELEMENT (LU)

### POLICIES

**Policy LU-3.2 Empower Community.** Facilitate community engagement and dialogue in policy decisions and outcomes affecting land use and development, with supplemental opportunities for proposed planning activities within environmental justice area boundaries.

**Policy LU-4.8 Community Partnerships.** Collaborate with property owners, community organizations, and other local stakeholders to identify opportunities for additional open space and community services, such as community gardens and gathering places.

### IMPLEMENTATION ACTIONS

**3.14 Sunshine Ordinance.** Update City Sunshine Ordinance incorporating best practices for outreach in Environmental Justice areas in Santa Ana.

**3.15 Communication tools.** Explore tools for communication with residents and sensitive receptors when new industrial uses are proposed in their areas.

**3.19 Promote health.** Partner with local organizations (e.g., OC Health Care Agency, Latino Health Access, Santa Ana Unified School District, and the Coalition of Community Health Centers) to increase blood lead testing, outreach, education, and referral services through a ‘promotora’ or community peer outreach model that addresses the root causes of elevated blood lead levels impacting Santa Ana residents, with special focus in environmental justice communities and for children living in pre-1978 housing.

**3.25 Engage EJ communities.** Work with community serving organizations, neighborhood leaders, and residents to form an Ad Hoc Committee to develop ongoing EJ Community Engagement programs for existing and new disadvantaged EJ communities, including multilingual communication protocols. Host biannual or quarterly Roundtable meetings with local stakeholders to guide and evaluate implementation of environmental justice policies.





## **ENVIRONMENTAL JUSTICE** IN THE SANTA ANA GENERAL PLAN

The latest documents on environmental justice in Santa Ana will be made available on the City's website.

[www.santa-ana.org/general-plan/environmental-justice](http://www.santa-ana.org/general-plan/environmental-justice)

For more information on CalEnviroScreen, visit:  
[www.oehha.ca.gov/calenviroscreen](http://www.oehha.ca.gov/calenviroscreen)