# Who is the SCAQMD?

Regional Government Agency Responsible for Protecting Our Residents from the Health Effects of Air Pollution

What we do
- Develop **Air Quality Management Plan**
- Adopt air quality **rules and regulations**
- Issue **permits**
- Conduct **periodic inspections and respond** to air quality complaints
- Develop and deploy **clean technology**
- Conduct **air monitoring**
- **Engage** with all stakeholders
- **Public outreach and education**
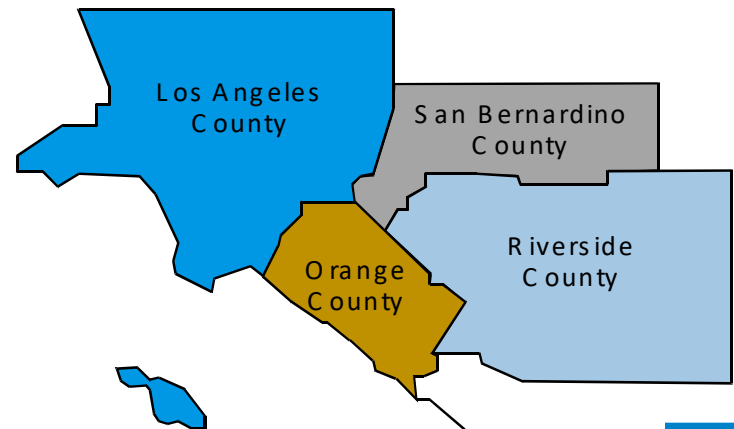
Los Angeles County

San Bernardino County

Orange County

Riverside County

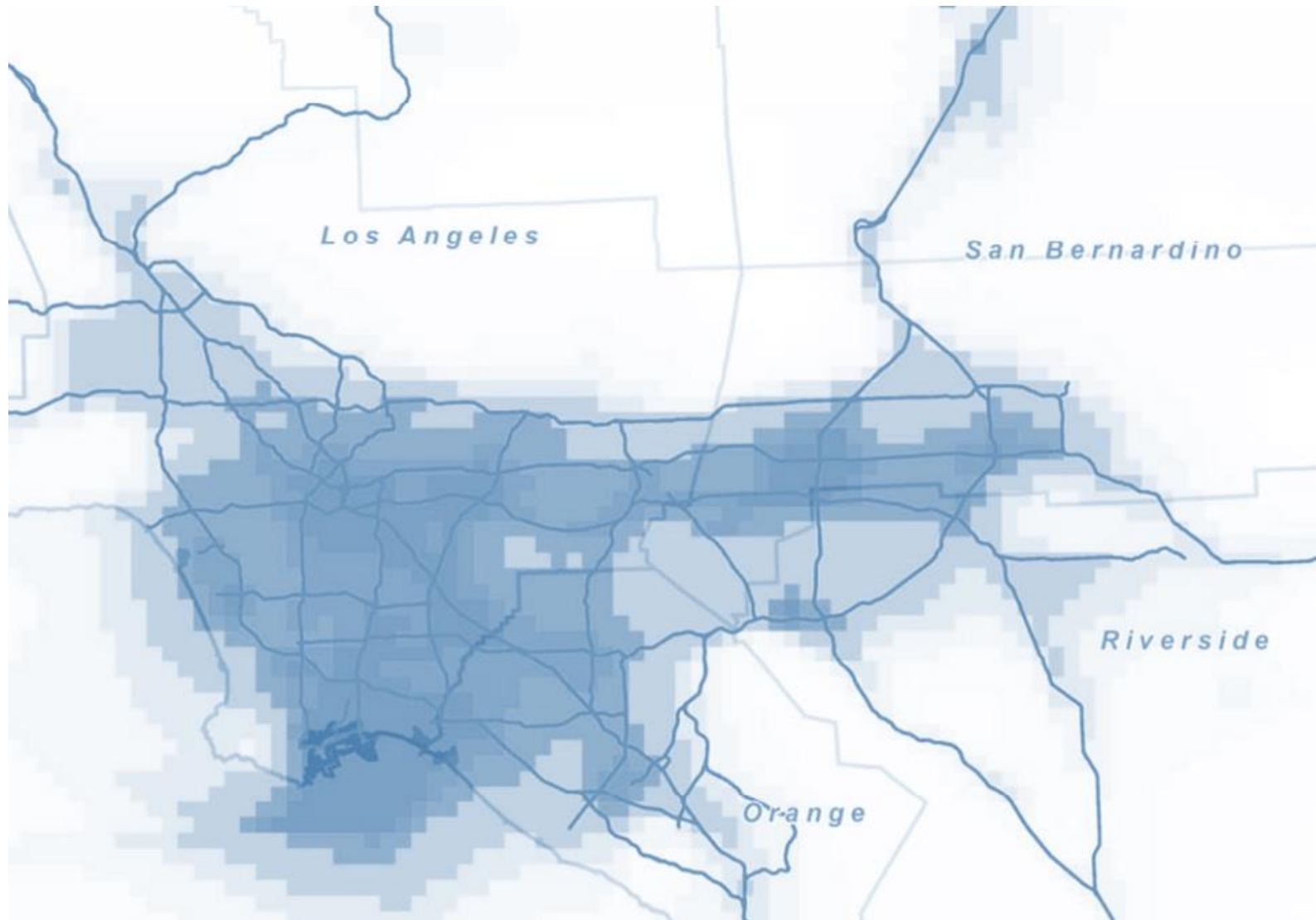South Coast AQMD

Regional Air Toxics in 2005

Regional Air Toxics in 2012

Regional Air Toxics in 2012

Key elements of AB 617

Community Air Monitoring

Community Emission Reduction Plan

Easier Access to Emissions Data

Community centered

Best Emission Controls

Clean Technology Investments

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Community Identification & Prioritization for AB 617

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Community Identification/ Prioritization
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- AB 617 is an ongoing program (years/decades)
- CARB likely to select 5-10 communities for 1st year across the state
- Significant workload to implement in each community

Community Air Monitoring ⟷ Community Emission Reduction Plan → Cleaner Air

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Guiding Principles

- Prioritize <u>disadvantaged communities</u> that are disproportionately affected by <u>air pollution.</u>

- Utilize appropriate <u>existing data and tools</u>, especially those that have gone through the <u>public process.</u>

- Thoughtfully consider and integrate <u>public input.</u>

- Prioritize communities with known <u>local sources of air pollution</u> where Community Plans would have significant and additional positive impacts.

- Work toward <u>promoting health equity</u> by prioritizing most heavily burdened and disadvantaged communities.

What has been done so far?

Outreach

- **Feb-Apr 2018**: **5 community meetings** (Commerce, Wilmington, Riverside, San Bernardino, Anaheim) to seek input on criteria for <u>community identification</u>

- **May-Jun 2018**: **5 additional community meetings** (Santa Ana, Jurupa Valley, South Gate, Colton, San Fernando) to seek input on criteria for <u>community prioritization</u>

- Conducted significant **outreach at other public events**

Technical Work and Collaboration with CARB

- Evaluated **technical data** to help inform community identification and prioritization

- Participated in **CARB working groups** for emissions reporting, community identification and plans, and BARCT clearinghouse

Community self-nominations

Feb-May 2018: SCAQMD staff received community <u>nominations</u> from community members and organizations (**148 nominations from 21 communities**)

Los Angeles County
- Carson
- East Los Angeles
- South East Los Angeles (Maywood, Huntington Park, Walnut Park, Cudahy, Commerce, Southgate)
  Northridge
- Pacoima / Sun Valley
- Paramount
- Porter Ranch / Granada Hills
- Torrance
- Wilmington / West Long Beach
- Palmdale / Lancaster (out of jurisdiction)

Orange County
- Buena Park
- Santa Ana (Madison Park)

Riverside County
- Coachella Valley
- Corona (Corona – Terramor, Corona - Trilogy at Glen Ivy, Sycamore Creek, Temescal Valley)
- Jurupa Valley (Limonite, Mira Loma, Sunny Slope, Van Buren)
- Moreno Valley
- East Riverside

San Bernardino County
- Rancho Cucamonga (Alta Loma, Etiwanda)
- San Bernardino (North Rialto, West San Bernardino, Bloomington)

Other / multi-county
- Inland Southern California/Inland Empire

Received on or before May 16 through web or hard copy form submission, email, mail and through public comment in community meetings

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Key input received to date

Air pollution sources

- Diesel sources (freeways, trucks, warehouses, railyards)
- Oil production & processing (wells, refineries)
- Landfills, scrap yards, hazardous waste sites

Proximity/land use factors

- Schools near air pollution sources/ industrial areas
- Concentration of industries
- Green spaces

Population factors

- Population density
- Low income
- Communities of color
- Access to healthcare
- Asthma, cancer rates
- Education levels
- Children & elderly

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Technical data sources

Multiple Air Toxics Exposure Study (MATES) IV - SCAQMD

- Regional **air toxics** study
- Air toxics **cancer risk**
- **Diesel** particulate matter accounts for 2/3 of risk
- **Multiple pollution sources**

Schools Near Freeways and Industrial Areas

- **Schools** and **day care centers** with **industrial zones** or **freeways** within 1000 feet.

CalEnviroScreen 3.0 - OEHHA

- Pollution factors (**Multiple pollution sources**):
  - Ozone, PM2.5, **Diesel PM**
  - Drinking water contaminants
  - Pesticide use, toxic releases, traffic density
  - Cleanup sites, groundwater threats, **hazardous waste** generators and facilities, impaired water bodies, **solid waste** sites and facilities
- Population factors:
  - **Asthma**, heart disease, low birth weight
  - **Educational attainment, housing burden, linguistic isolation, poverty, unemployment**

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Multiple Air Toxics Exposure Study (MATES IV)

Data from 2012
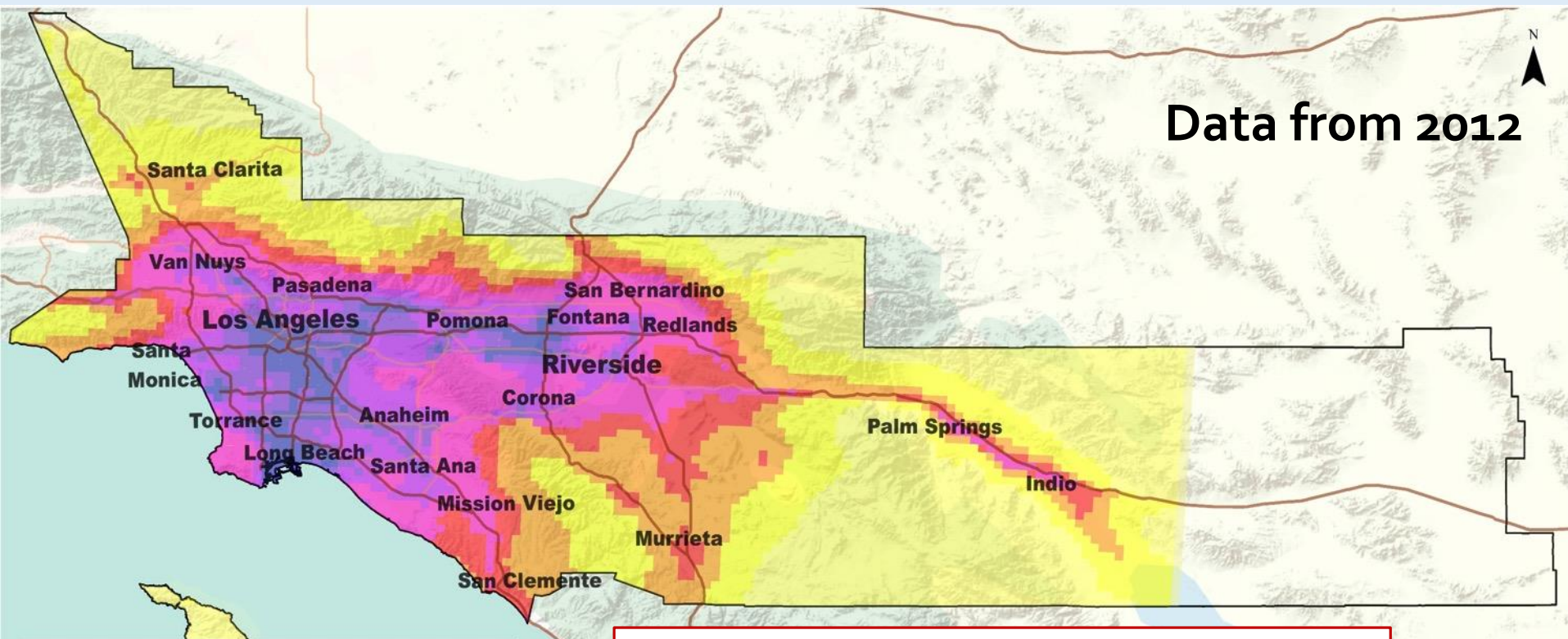
Cancer Risk Per Million

- <100
- 100 - 200
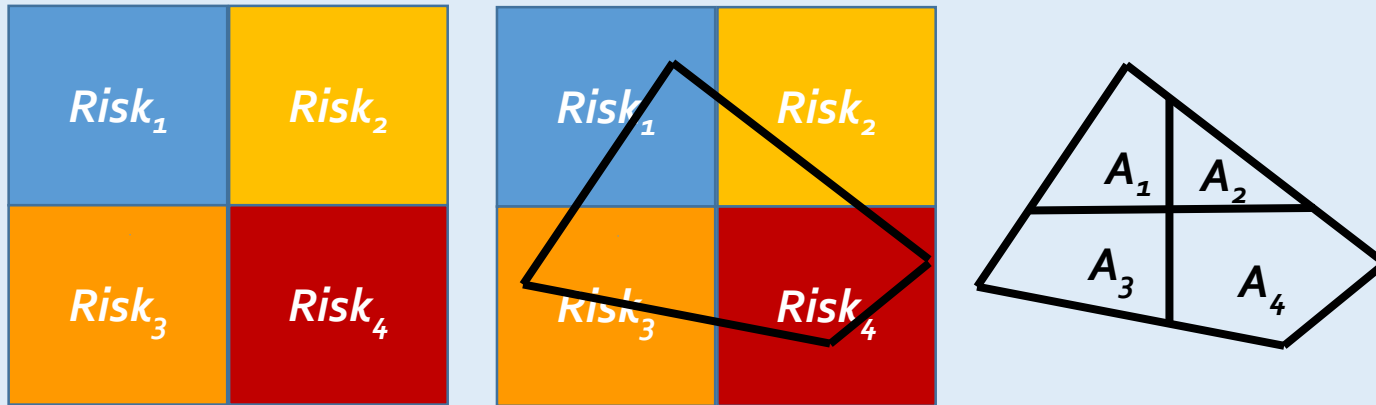- 200 - 300
- 300 - 400
- 400 - 500
- 500 - 800
- 800 - 1000
- 1000 - 1200
- >1200

Main findings:
- **Diesel Particulate Matter (PM)** accounted for 2/3 of air toxics cancer risk
- **Ports (ships), rail yards and goods movement corridors (trucks)** are large sources of diesel PM.

Sources: Esri, USGS, NOAA

Spatial data conversion

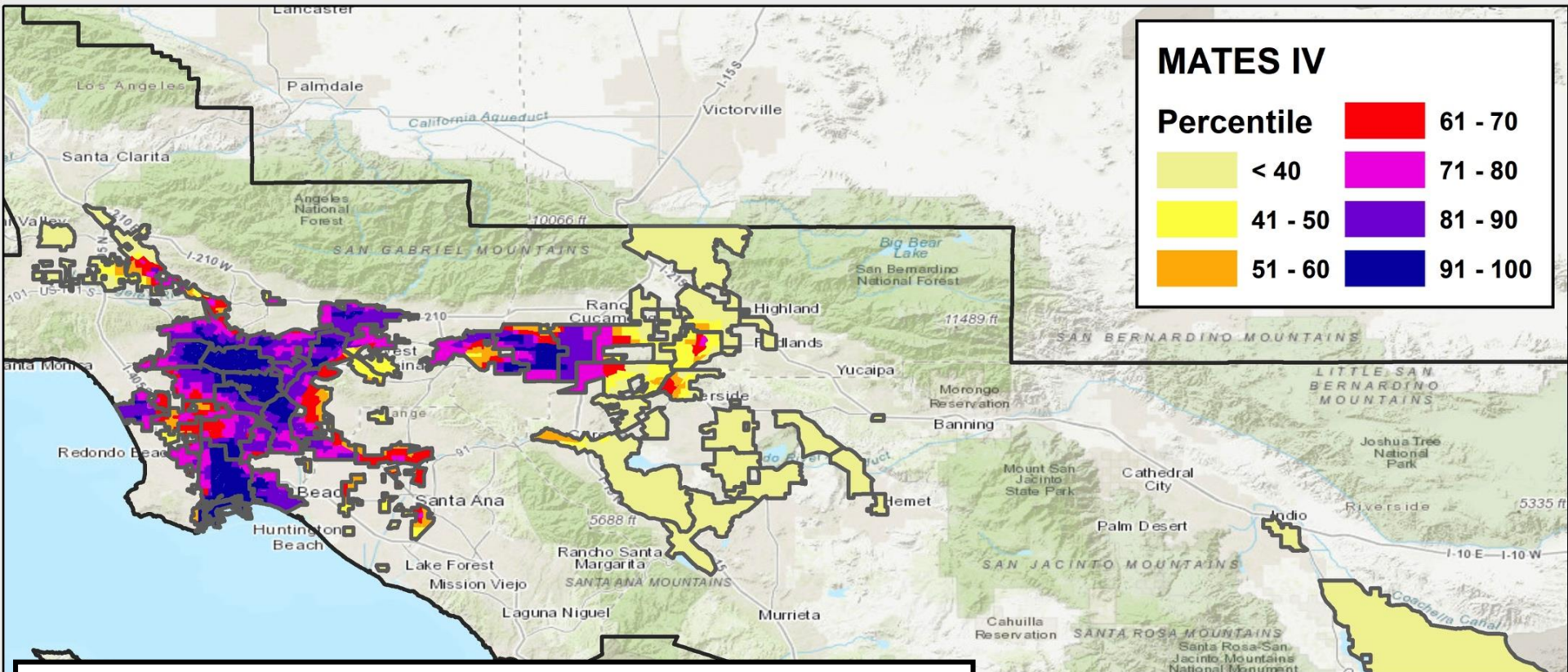**2x2 km grid (public)**

Census tracts

Spatial data conversion

Risk in census tract, $Risk_T$, is the area-weighted average of the gridded risks:

$$Risk_T = \frac{A_1 \cdot Risk_1 + A_2 \cdot Risk_2 + A_3 \cdot Risk_3 + A_4 \cdot Risk_4}{A_1 + A_2 + A_3 + A_4}$$

MATES IV ranking in communities under consideration

MATES IV

Percentile

< 40	61 - 70
41 - 50	71 - 80
51 - 60	81 - 90
	91 - 100

Percentile is calculated in relationship to all census tracts in SCAQMD jurisdiction

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CalEnviroScreen 3.0 (OEHHA)

91 - 100	(Highest Scores)
81 - 90	
71 - 80	
61 - 70	
51 - 60	
41 - 50	
31 - 40	
21 - 30	
11 - 20	
1 - 10	(Lowest Scores)

High Pollution, Low Population

Data is based on census tracts

CalEnviroScreen 3.0 ranking in communities under consideration

CES 3.0

Percentile

< 40	61 - 70
41 - 50	71 - 80
51 - 60	81 - 90
	91 - 100
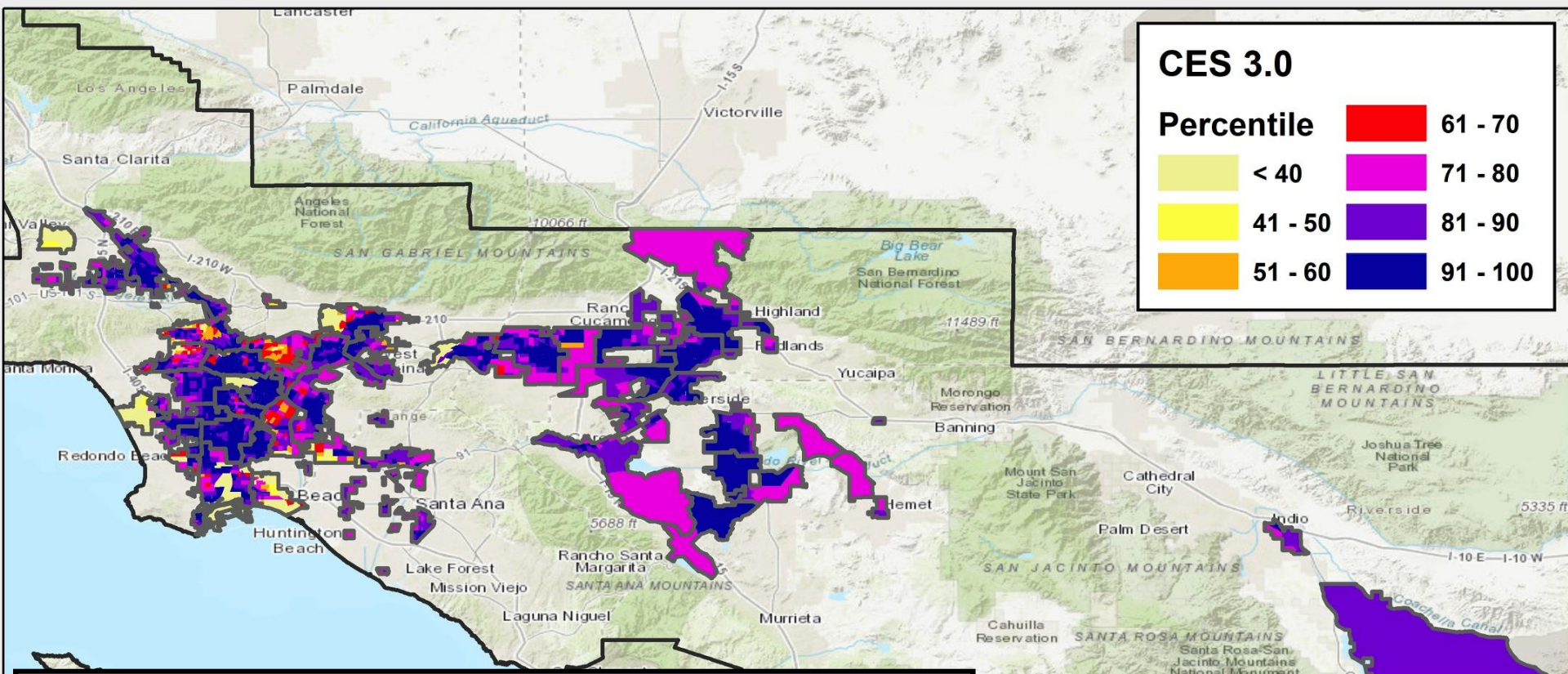
Percentile is calculated in relationship to all census tracts in the state of California

...orme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN National
...NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), sw...
...MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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Summary Methods and Criteria for Community prioritization

1 — **All communities in consideration for AB 617**

All communities identified (55)

2 — **Separate by air basin**

SCAB (54)

CVAB (1)

3 — **Apply screening criteria**

Meets criteria to be considered for Years 1-5 (33)

Does not meet criteria → Recommend for Years 6+ (21)

Consider factors

4 — **Evaluate additional factors**

Has additional factors that increase priority

Fewer additional factors. Recommend for Years 6+

5 — **Consider selection criteria for Year 1 communities**

Year 1 communities

Years 2-5 communities

STEP 1: TECHNICAL METHODS AND CRITERIA

We first **identified communities using a broadly inclusive approach**.

Preliminary list includes each of the following:

(1) Top 25% of MATES IV air toxics cancer risk

(2) Top 25% of CalEnviroScreen 3.0 score

(3) Community nominations (148 nominations received through 5/17/2018)

(4) Communities with the highest density of schools within 1,000 feet of industrial land use

Preliminary List of Communities Under Consideration
(Alphabetical order, 55 communities)

LOS ANGELES COUNTY

- Azusa / Duarte / Monrovia / Arcadia / North 605
- Bell / Bell Gardens / Cudahy
- Canoga Park / Northridge / Reseda / Van Nuys / Panorama City / Winnetka / Tarzana
- Commerce / Maywood / Vernon
- Compton / Rancho Dominguez / Willowbrook / Lynwood
- Culver City (East) / Palms (East)
- Downey / Bellflower / Lakewood (North) / Cerritos (North)
- Downtown Los Angeles
- East Los Angeles / Boyle Heights
- El Monte / South El Monte / Avocado Heights / Hacienda Heights / West La Puente
- Gardena / Alondra Park / Lawndale
- Glendale (Central & South) / Burbank
- Hollywood / Los Feliz / Atwater Village / Echo Park / Silver Lake
- Inglewood / Hawthorne / Westmont / Vermont
- La Puente / Covina / West Covina / Baldwin Park
- Long Beach (East)
- LAX / Lennox / El Segundo
- Montebello
- Pacoima / North Hollywood / Sun Valley / San Fernando / Sylmar
- Paramount / Long Beach (North)
- Pasadena near I-210
- Porter Ranch
- San Gabriel / Rosemead / Monterey Park / Alhambra (South)
- San Pedro / West Carson / Harbor City (East)
- Santa Fe Springs / Norwalk / West Whittier / Los Nietos / Pico Rivera
- South Gate / Huntington Park / Florence – Firestone / Walnut Park
- South Los Angeles / South East Los Angeles / Hyde Park
- Torrance
- Westlake / Korea Town / Midcity / Mid-Wilshire
- Wilmington / Long Beach (West) / Carson

ORANGE COUNTY

- Anaheim / Fullerton / Orange
- Costa Mesa
- Huntington Beach
- La Habra
- Santa Ana
- Westminster / Garden Grove / Stanton

RIVERSIDE COUNTY

- Beaumont
- Corona / Temescal Valley
- Indio / Eastern Coachella Valley
- Hemet / San Jacinto
- Lake Elsinore
- Mira Loma / Jurupa Valley / Eastvale / Pedley
- Moreno Valley
- Perris / Nuevo
- Riverside (Central & East) / Rubidoux
- Riverside (West)

SAN BERNARDINO COUNTY

- Bloomington / Fontana / Rialto
- Colton / Grand Terrace / San Bernardino (Southwest)
- Highland / Crestline
- Rancho Cucamonga / Ontario (East)
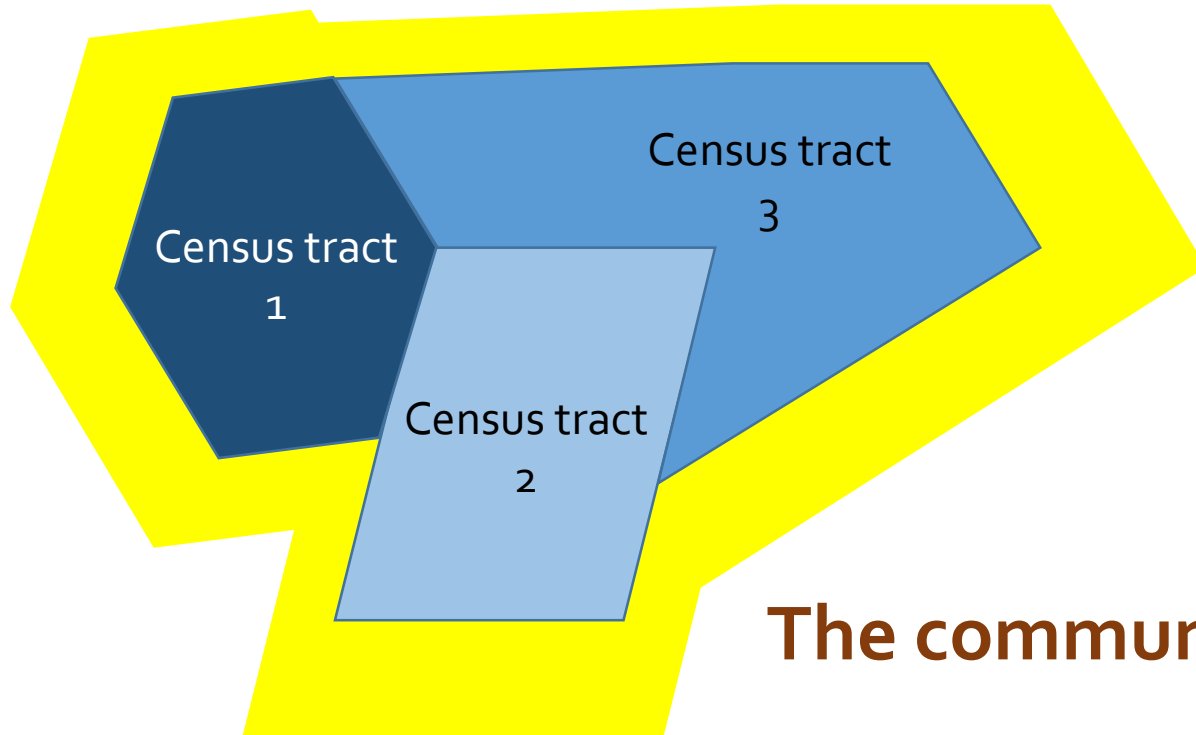- Redlands / Loma Linda
- San Bernardino / Muscoy

CROSS COUNTY

- Cerritos / Buena Park / Artesia / La Mirada / Hawaiian Gardens
- Ontario (West) / Montclair / Upland / Claremont (South) Pomona / Chino / Walnut (East) / San Dimas (South)

Apr-May 2018: SCAQMD staff provided reports to the California Air Resources Board (CARB) with this list

CARB likely to select 5 to 10 communities **statewide for year 1**

Preliminary list map of AB 617 communities under consideration

Communities under consideration

SCAQMD Boundary

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Communities are based on census tracts

Census tract 1

Census tract 3

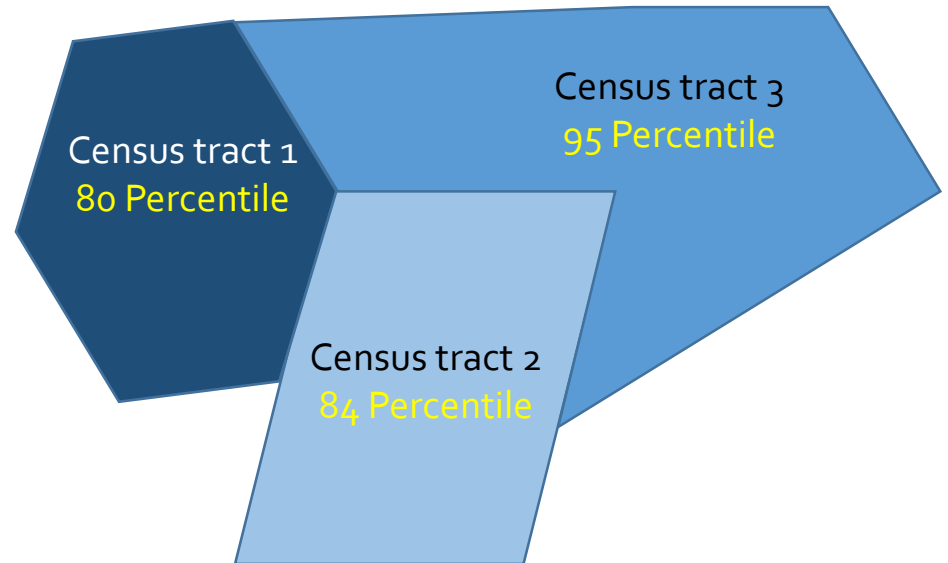Census tract 2

The community

Ranking calculation example

Percentile:
A number that shows how the census tract compares to the rest of the region.

The higher the number the more impacted the community is

Census tract 1
80 Percentile

Census tract 2
84 Percentile

Census tract 3
95 Percentile

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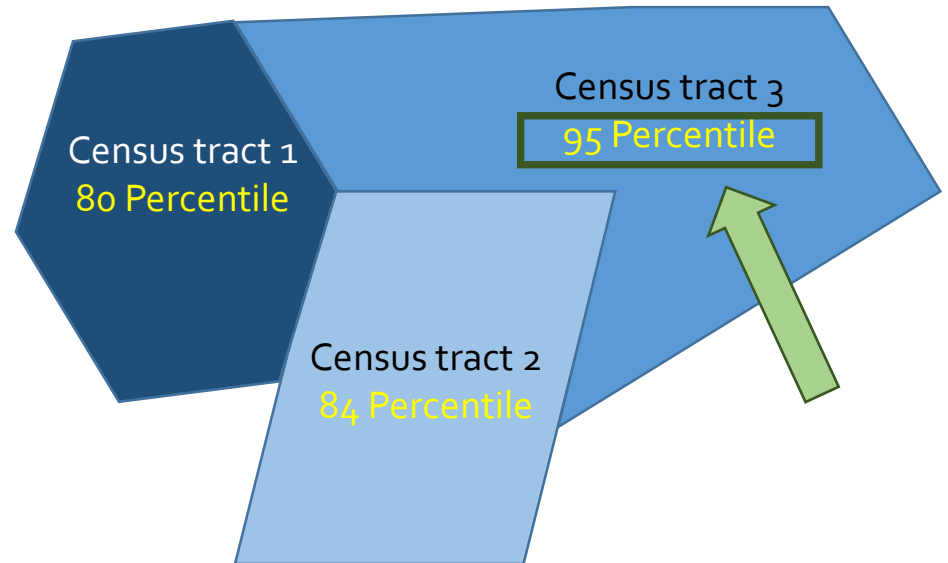
Ranking calculation example
weighted by population

**Step 1:** $80 * population_1 + 95 * population_2 + 84 * population_3$

**Step 2:** Result is divided by $(population_1 + population_2 + population_3)$

Schools near industrial areas & freeways – data sources

- Southern California Association of Governments (SCAG) land use data from 2012 provides information about:
  - School locations
  - Daycare center locations
  - Industrial land use
- Industrial land use includes: heavy industry, light industry, warehousing
  - Does not include transportation corridors
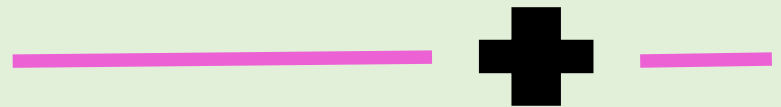- Freeway data from CalTrans database (2016)

Schools near industrial areas & freeways

Industry

Industry

Industry

School

1000 ft
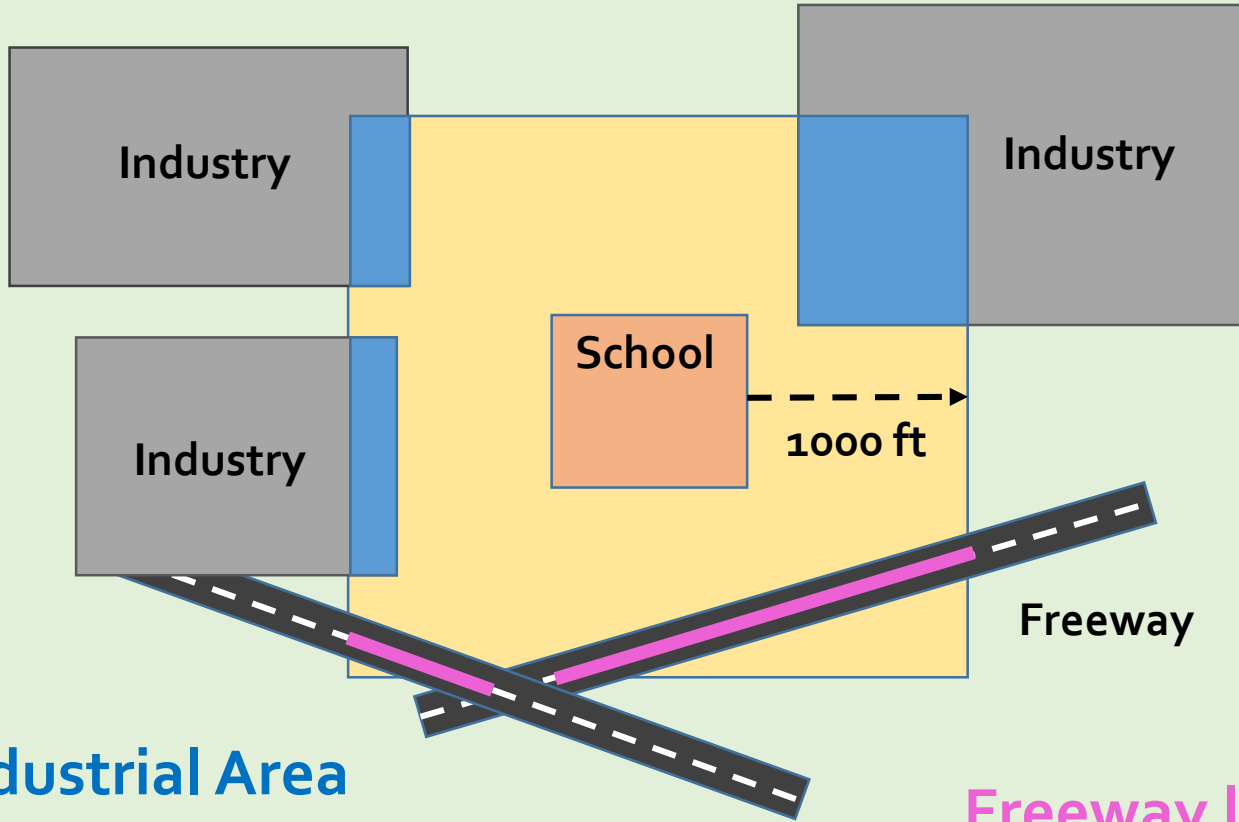
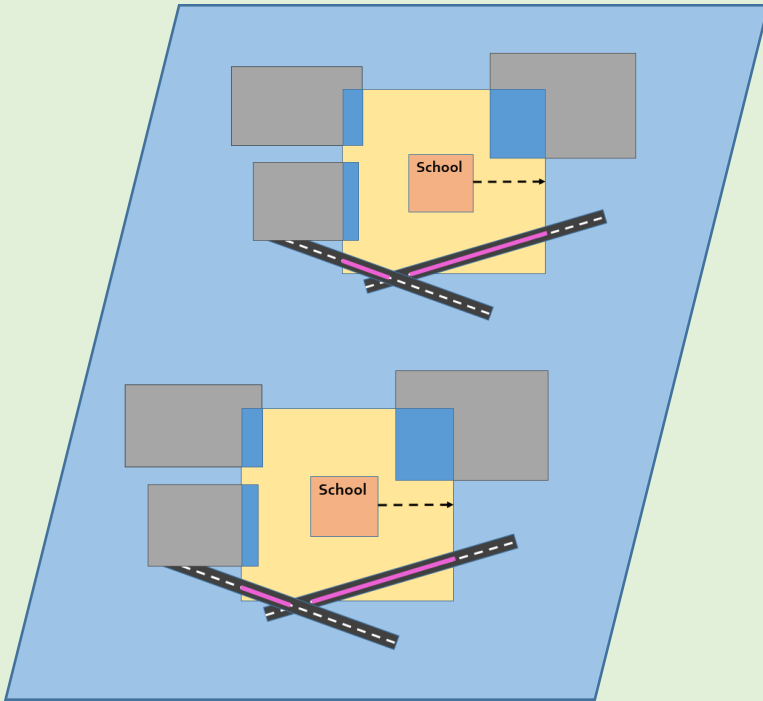Freeway
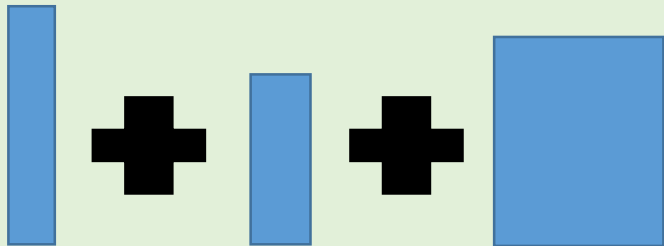
Industrial Area

Freeway length

Industrial areas and freeway lengths are added separately within each census tract
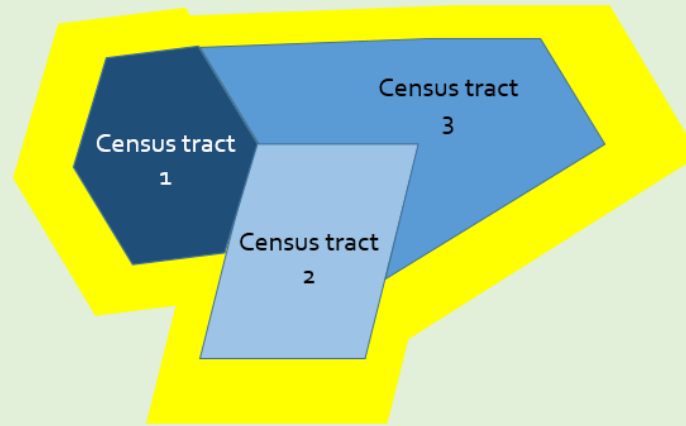
Census tract 2

$A_{industry}$

$L_{freeway}$

Industry area within school buffer in the community
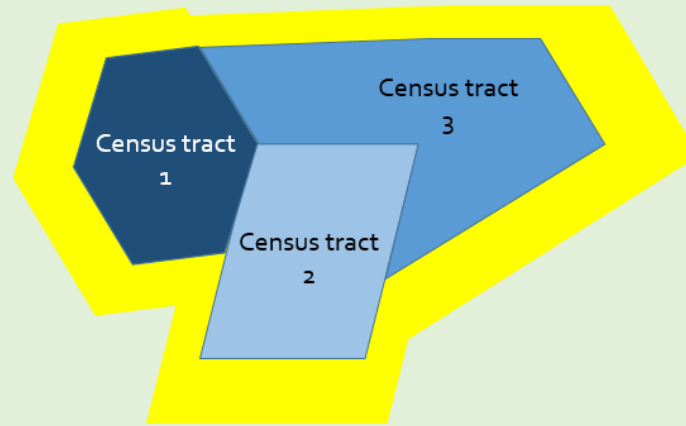
Average

$$CT_{i,1} = \frac{(A_{industry_1} * population_1)}{Max\ CT_i\ Value}$$

$$CT_{i,2} = \frac{(A_{industry_2} * population_2)}{Max\ CT_i\ Value}$$

$$CT_{i,3} = \frac{(A_{industry_3} * population_3)}{Max\ CT_i\ Value}$$

Freeway length within school buffer in the community

Average

$$CT_{f,1} = \frac{(L_{freeway_1} * population_1)}{Max\ CT_f\ Value}$$

$$CT_{f,2} = \frac{(L_{freeway_2} * population_2)}{Max\ CT_f\ Value}$$

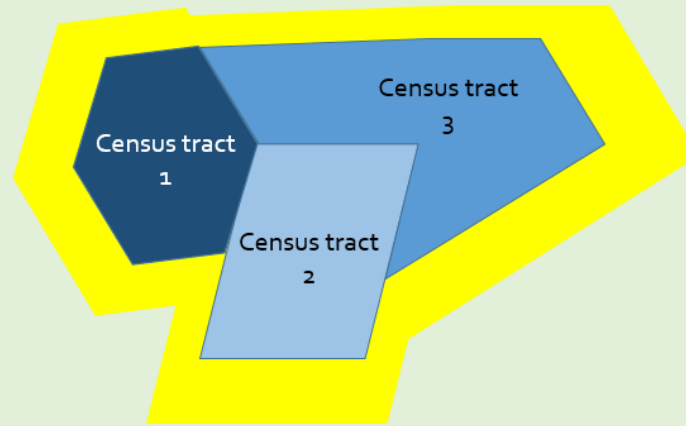$$CT_{f,3} = \frac{(L_{freeway_3} * population_3)}{Max\ CT_f\ Value}$$

Average proximity metric

$$\frac{\dfrac{CT_{i,1} + CT_{f,1}}{2} + \dfrac{CT_{i,2} + CT_{f,2}}{2} + \dfrac{CT_{i,3} + CT_{f,3}}{2}}{Area\ of\ Community}$$

Industry area within school buffer in the community

Maximum

$$CT_{i,1} = \frac{(A_{industry_1} * \text{population density}_1)}{Max\ CT_i\ Value}$$

$$CT_{i,2} = \frac{(A_{industry_2} * \text{population density}_2)}{Max\ CT_i\ Value}$$

$$CT_{i,2} = \frac{(A_{industry_3} * \text{population density}_3)}{Max\ CT_i\ Value}$$

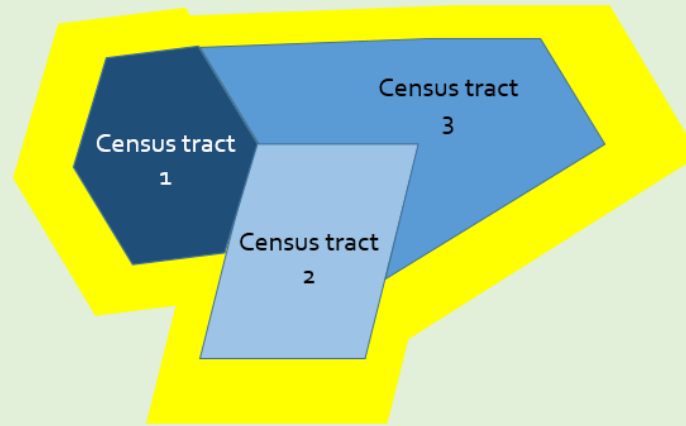# Freeway length within school buffer in the community

Maximum

$$CT_{f,1} = \frac{(L_{freeway_1} * population\ density_1)}{Max\ CT_f\ Value}$$
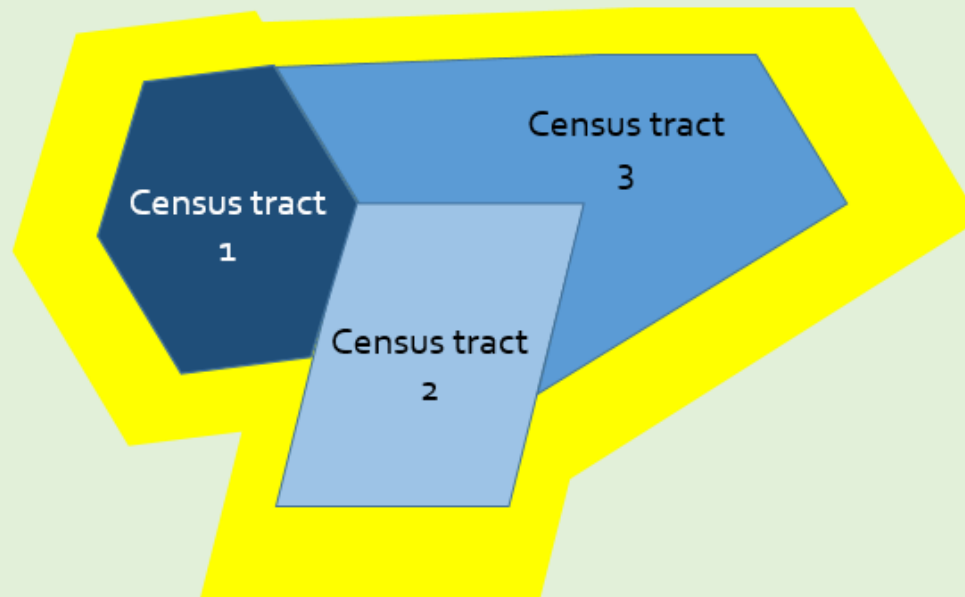
$$CT_{f,2} = \frac{(L_{freeway_2} * population\ density_2)}{Max\ CT_f\ Value}$$

$$CT_{f,3} = \frac{(L_{freeway_3} * population\ density_3)}{Max\ CT_f\ Value}$$

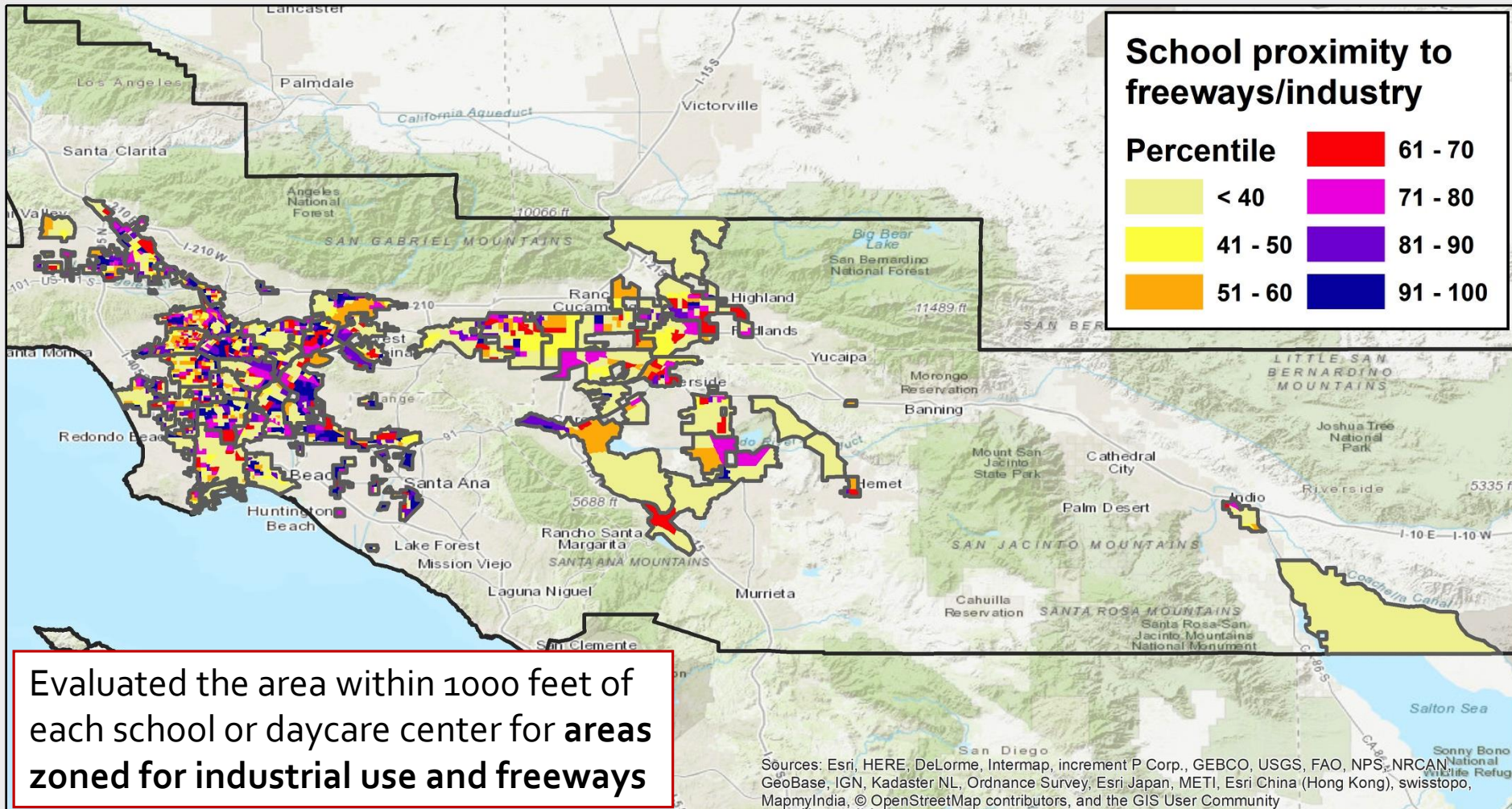# **Maximum** proximity to industrial area

$$CT_1 = \frac{CT_{i,1} + CT_{f,1}}{2} \qquad CT_2 = \frac{CT_{i,2} + CT_{f,2}}{2} \qquad CT_3 = \frac{CT_{i,3} + CT_{f,3}}{2}$$

$$Maximum\ Proximity = Max(CT_1, CT_2, CT_3)$$

Schools near industrial areas and freeways *(maximum)*

School proximity to freeways/industry

Percentile

< 40	61 - 70
41 - 50	71 - 80
51 - 60	81 - 90
	91 - 100

Evaluated the area within 1000 feet of each school or daycare center for **areas zoned for industrial use and freeways**

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
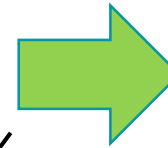
STEP 2: SEPARATE BY AIR BASIN

STEP 3: APPLY SCREENING CRITERIA

For SCAB communities (54 communities)

CalEnviroScreen score in Top 5%, AND

MATES IV air toxics cancer risk in Top 50%

→ 33 communities meet both criteria

For CVAB community (Indio/Eastern Coachella Valley)

Consider existing data and current efforts in recommending implementation schedule

Additional factors to consider in initial implementation schedule
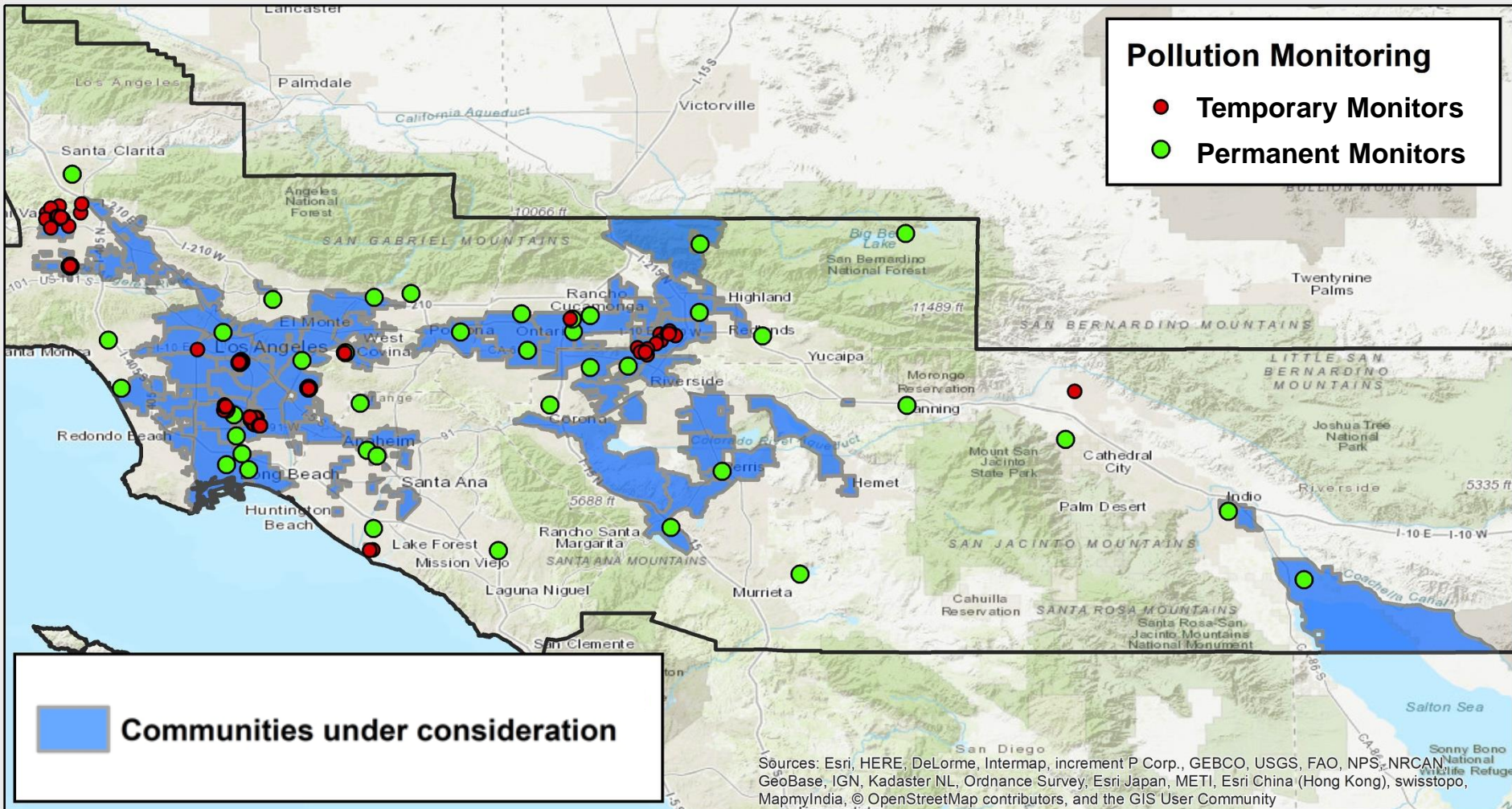

Communities with **many schools** near industrial areas or freeways

Past or current air monitoring

Past & Current Air Monitoring Conducted by SCAQMD

Additional factors to consider in initial implementation schedule

Communities with **many schools** near industrial areas or freeways

Past or current air monitoring

Past or current community plans or programs

Broad-based community support

(e.g. self-nominations)

STEP 4: EVALUATE ADDITIONAL FACTORS – CRITERIA (AMONG THE 33 SCAB COMMUNITIES THAT MET THE SCREENING CRITERIA)

Additional Factors:

(A) Self-nomination received

(B) Past or current air monitoring study findings

(C) Past or current community plans

(D) School proximity metric > 1500

Additional Factors	Initial Recommendation
Two or more additional factors	Consider for Years 1-5
Self-nomination received	Consider for Years 1-5
One or no additional factors	Year 6+

STEP 5: CONSIDER SELECTION CRITERIA FOR YEAR 1 COMMUNITIES

Given the short time frames and uncertain resources, staff is recommending communities for Year 1 that have a "head start".

Communities where existing or past community air monitoring or community plans pave the way for rapid AB 617 plan implementation

Consider geographic diversity and diverse air pollution issues

Resources from local agencies and organizations that would contribute to the rapid implementation of this program

Future steps

Jun
- SCAQMD receives public input on community prioritization criteria and incorporates the comments

July
- SCAQMD Board considers list of communities and prioritization
- SCAQMD provides report to CARB with recommendations on <u>implementation schedule</u>

Sept
- CARB Board considers statewide AB617 strategy

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Community tool: Story map

Includes:

- Background on AB 617
- MATES IV data
- CalEnviroScreen 3.0 data

Visit: www.aqmd.gov/ab617

AB 617 Community Screening Tool - For Discussion Purposes   SCAQMD

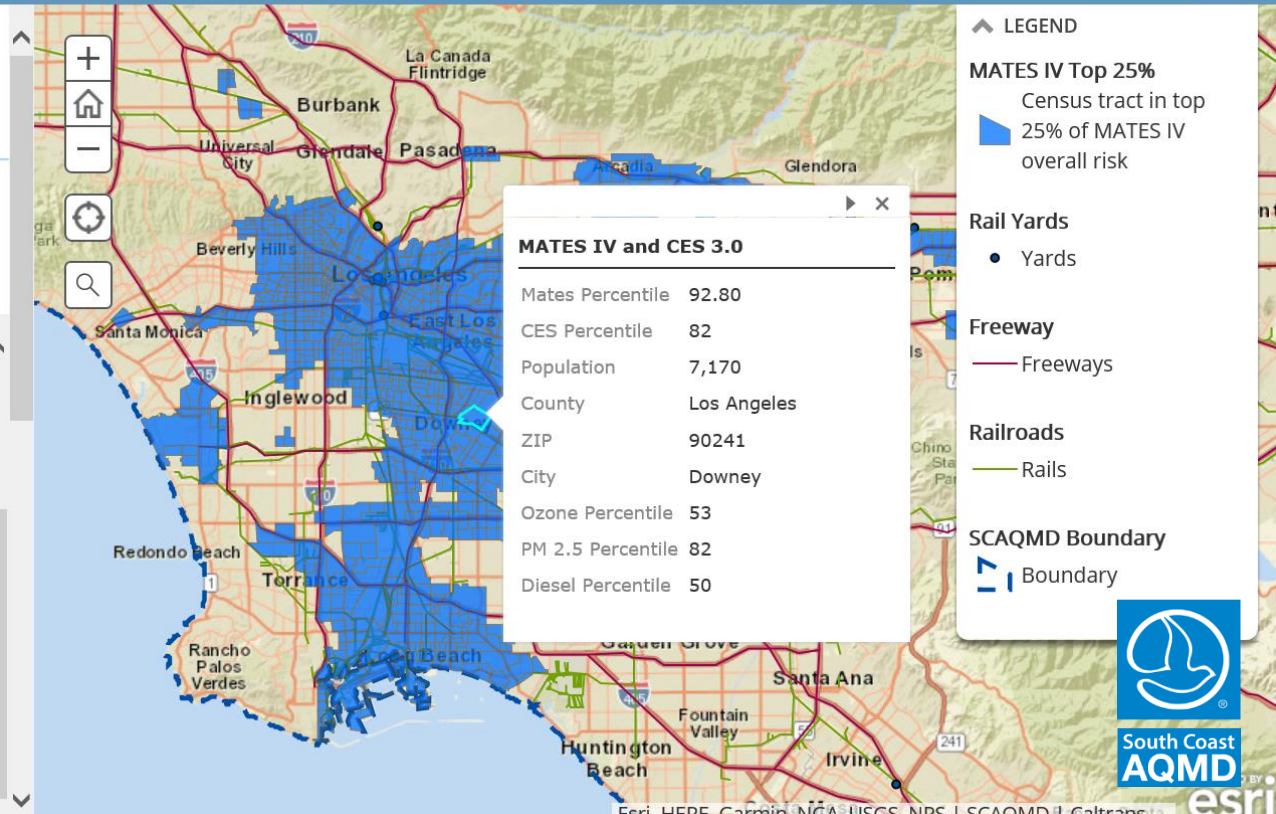1 **Using available information to guide AB 617 efforts**

2 **MATES IV Top 25% (76th to 100th Percentile)**

In this map, the blue areas represent the top 25% of the air toxics cancer risk in the Basin.
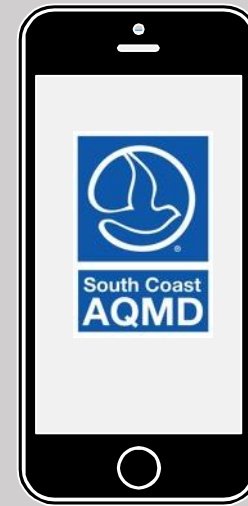
How is this calculated?

This percentage is calculated according to the air toxics cancer risk attributed to each census tract when compared to other census tracts in the jurisdiction. When we say a census tract is within the top 25% we mean that the cancer risk of that census tract due to air toxics is higher than the remaining 75% of the census tracts.

Visit **SCAQMD's MATES IV website** for more information on the study.

MATES IV and CES 3.0

Mates Percentile	92.80
CES Percentile	82
Population	7,170
County	Los Angeles
ZIP	90241
City	Downey
Ozone Percentile	53
PM 2.5 Percentile	82
Diesel Percentile	50

LEGEND

MATES IV Top 25%
Census tract in top 25% of MATES IV overall risk

Rail Yards
• Yards

Freeway
— Freeways

Railroads
— Rails

SCAQMD Boundary
Boundary

Esri, HERE, Garmin, NGA, USGS, NPS | SCAQMD | Caltrans...

Stay connected

www.aqmd.gov/ab617

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