Community Air Initiatives

Wilmington, Carson and West Long Beach Community Steering Committee Meeting #2

Thursday, January 10, 2019
Carson, CA

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Where we are now Where we are going

Identify Community Air Quality Concerns
- Committee Input
- Technical Data

Oct 2018-Jan 2019

Prioritize Sources of Emissions and Areas with High Exposure Concerns
- Target areas/pollutants for air monitoring
- Target sources/places for emissions or exposure reduction

Jan 2019-Mar 2019

Develop Strategies to Reduce Emissions and Exposures and Metrics for Tracking Progress
- Community Air Monitoring Plan
- Community Emissions Reduction Plan

Mar 2019-Oct 2019

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Meeting Roles and Expectations

CSC Purpose: To guide strategies for community air monitoring and emissions reduction plans for this AB 617 community, and track progress on community plans.

Meeting Participant Roles*		
Host (SCAQMD)	**Note taker**	**Committee members**
• Organize meeting logistics • Provide agenda and meeting materials • Present key information • Address committee concerns and answer questions	• Take notes • Prepare a summary and post it online.	• Provide input on discussion items • Provide prompt feedback and response (e.g. filling out surveys, replying to emails, etc) • Engage with other committee members and members of the public • Serve as a liaison to your networks within the community • Provide suggestions on how to improve this process.

* Based on feedback from the CSC members, we are working on getting a facilitator

Expectations:
- Presenters will be concise
- Everyone should help us stay on time by staying on topic
- **Aim to build consensus**

Today's Meeting Objectives

➢ Provide summary of air quality concerns and complete discussion on community boundaries

➢ Provide information on air monitoring, and ideas for air monitoring through AB 617

➢ Prepare for next steps (prioritize air quality issues and develop strategies to address them)

➢ Follow up on committee logistical items

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Air Quality Concerns and Community Boundaries

CSC members asked: How were Year 1 AB 617 communities identified?

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

CalEnviroScreen 3.0 (OEHHA)

Pollution Burden

Exposures

- Ozone
- PM2.5
- Diesel PM
- Pesticide Use
- Traffic
- Drinking Water Contaminants
- Toxic Releases from Facilities

Environmental Effects

- Solid Waste Sites and Facilities
- Cleanup Sites
- Groundwater Threats
- Impaired Water Bodies
- Hazardous Waste Generators and Facilities

Population Characteristics

Sensitive Populations

- Asthma
- Cardiovascular Disease
- Low Birth-Weight Infants

Social and Economic Factors

- Poverty
- Unemployment
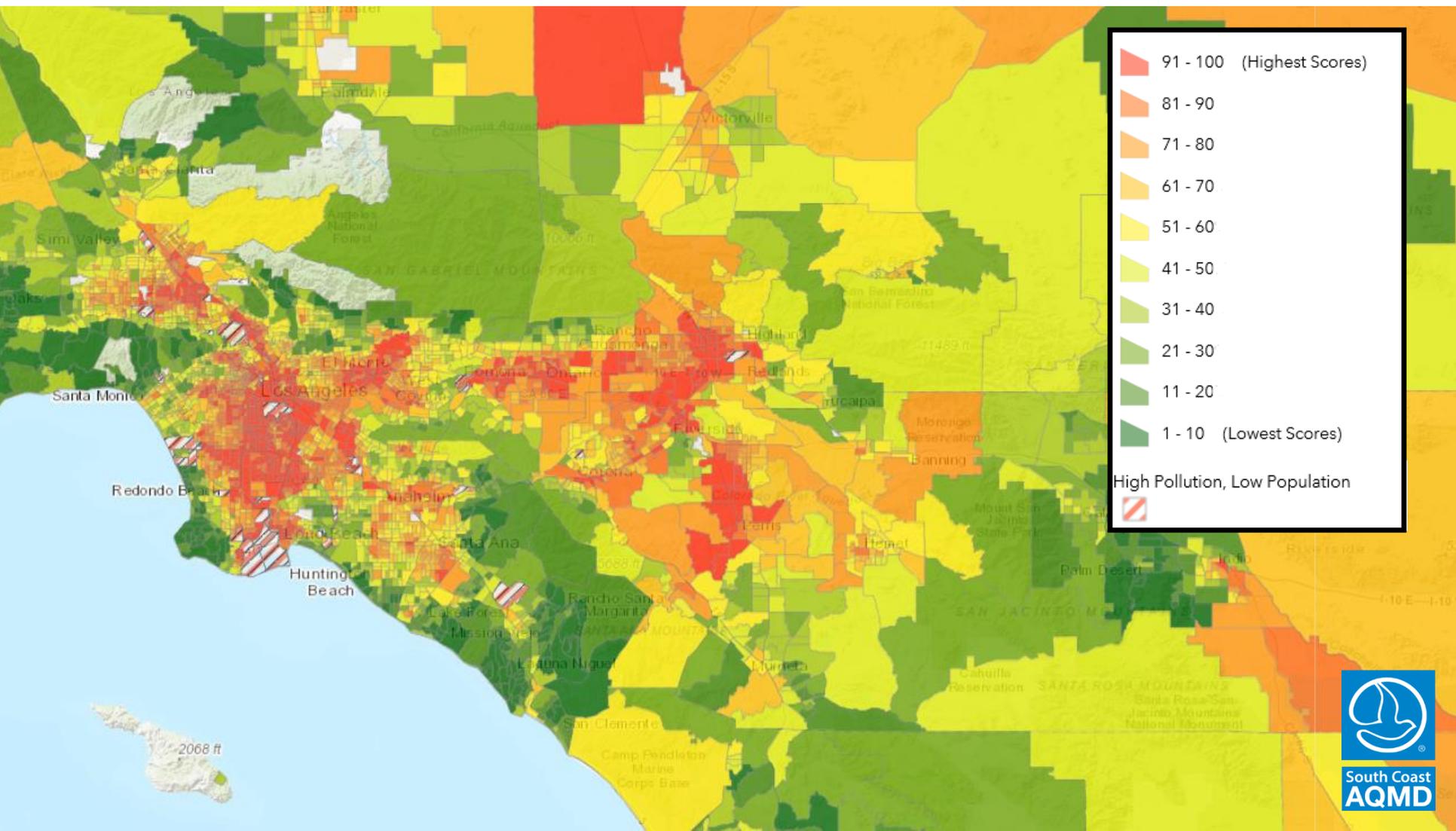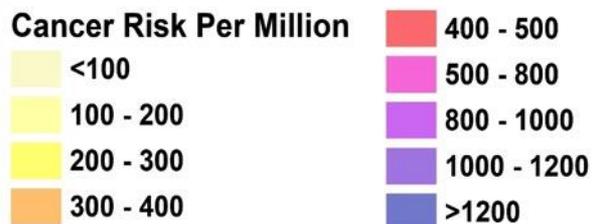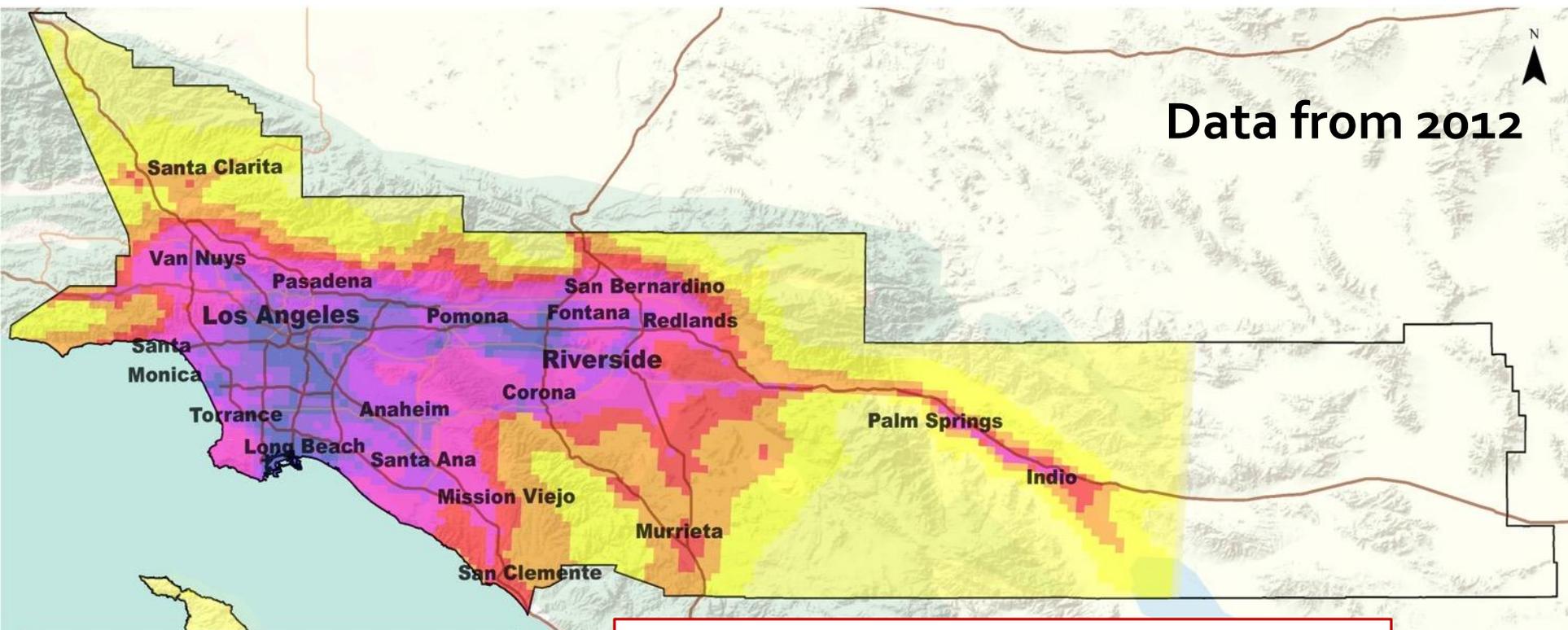- Educational Attainment
- Linguistic Isolation
- Housing Burdened Low Income Households

OEHHA:
Office of Environmental Health Hazard Assessment
(State agency)

CalEnviroScreen 3.0 (OEHHA)
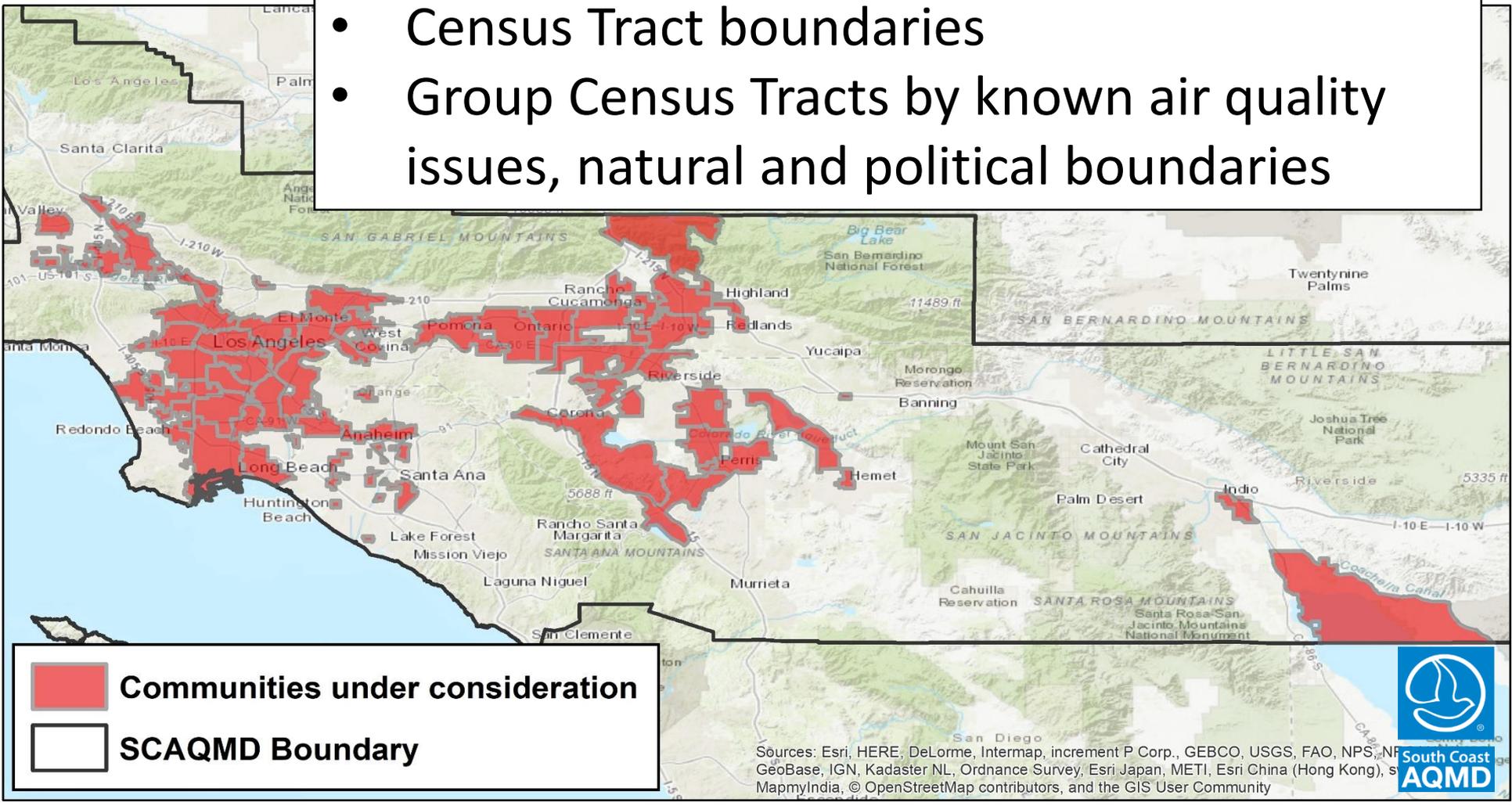
Multiple Air Toxics Exposure Study (MATES IV)

Data from 2012

Cancer Risk Per Million

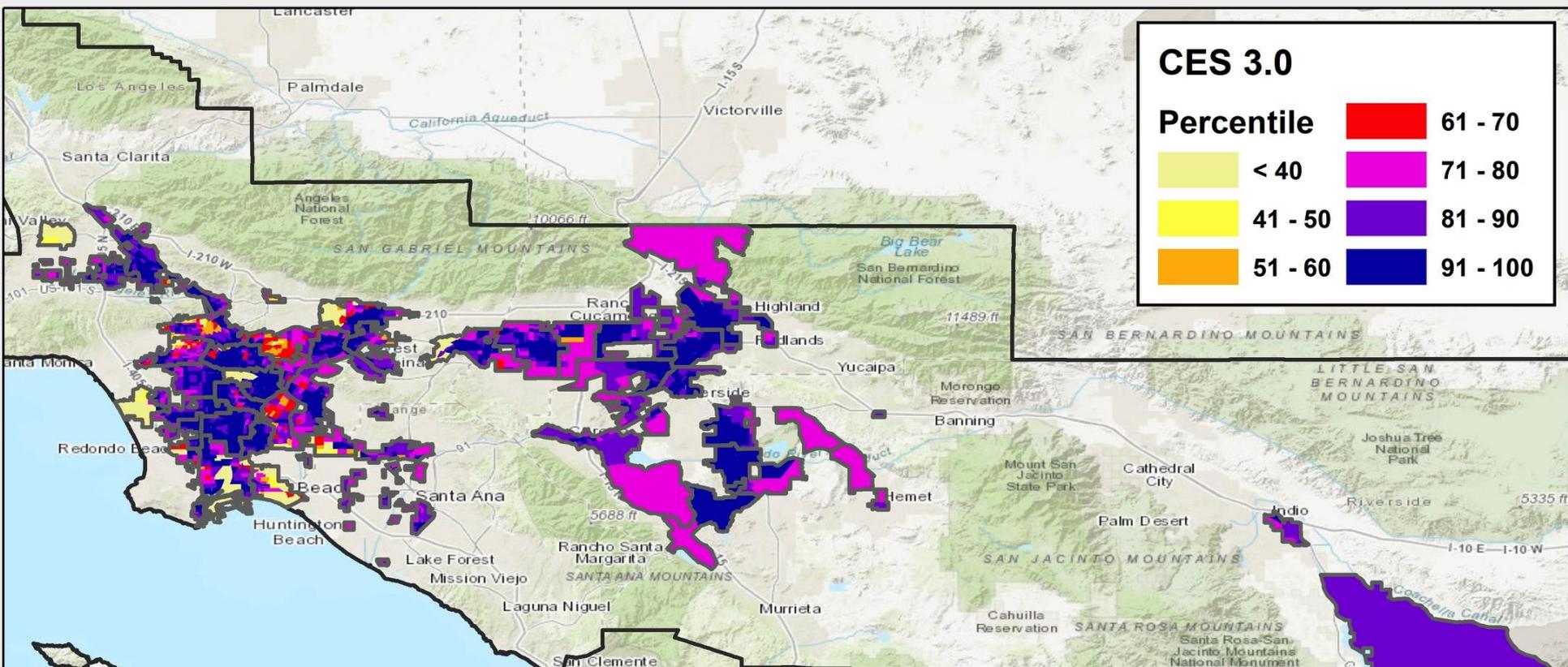|	
<100	400 - 500
100 - 200	500 - 800
200 - 300	800 - 1000
300 - 400	1000 - 1200
	>1200

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.

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Sources: Esri, USGS, NOAA

Map of communities under consideration for AB 617

- 55 communities identified in SCAQMD
- Census Tract boundaries
- Group Census Tracts by known air quality issues, natural and political boundaries

Communities under consideration

SCAQMD Boundary

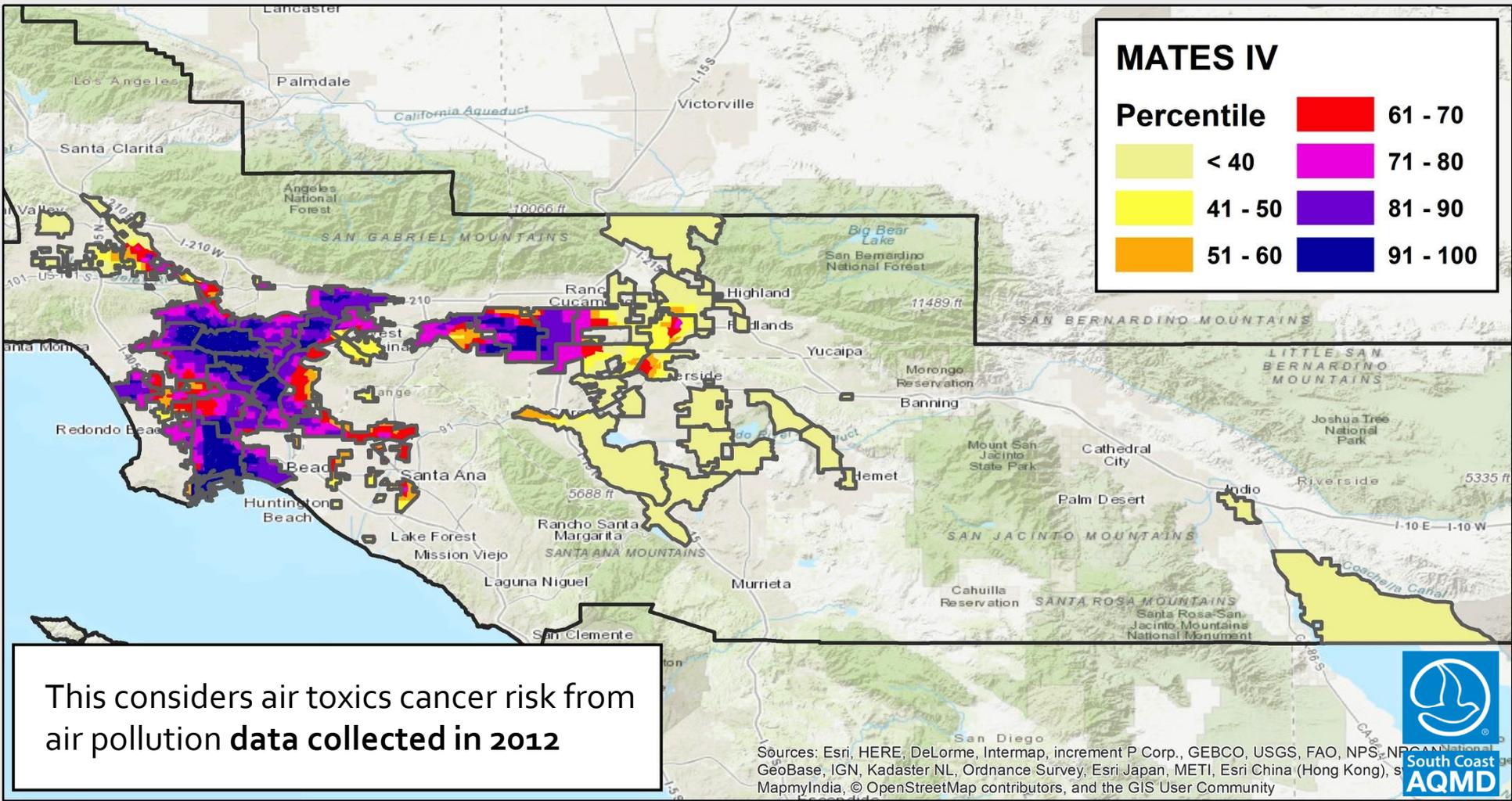Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NR, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), sv MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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CalEnviroScreen 3.0 ranking in communities under consideration

CalEnviroScreen considers pollution burden, environmental effects, sensitive populations as well as social and economic factors

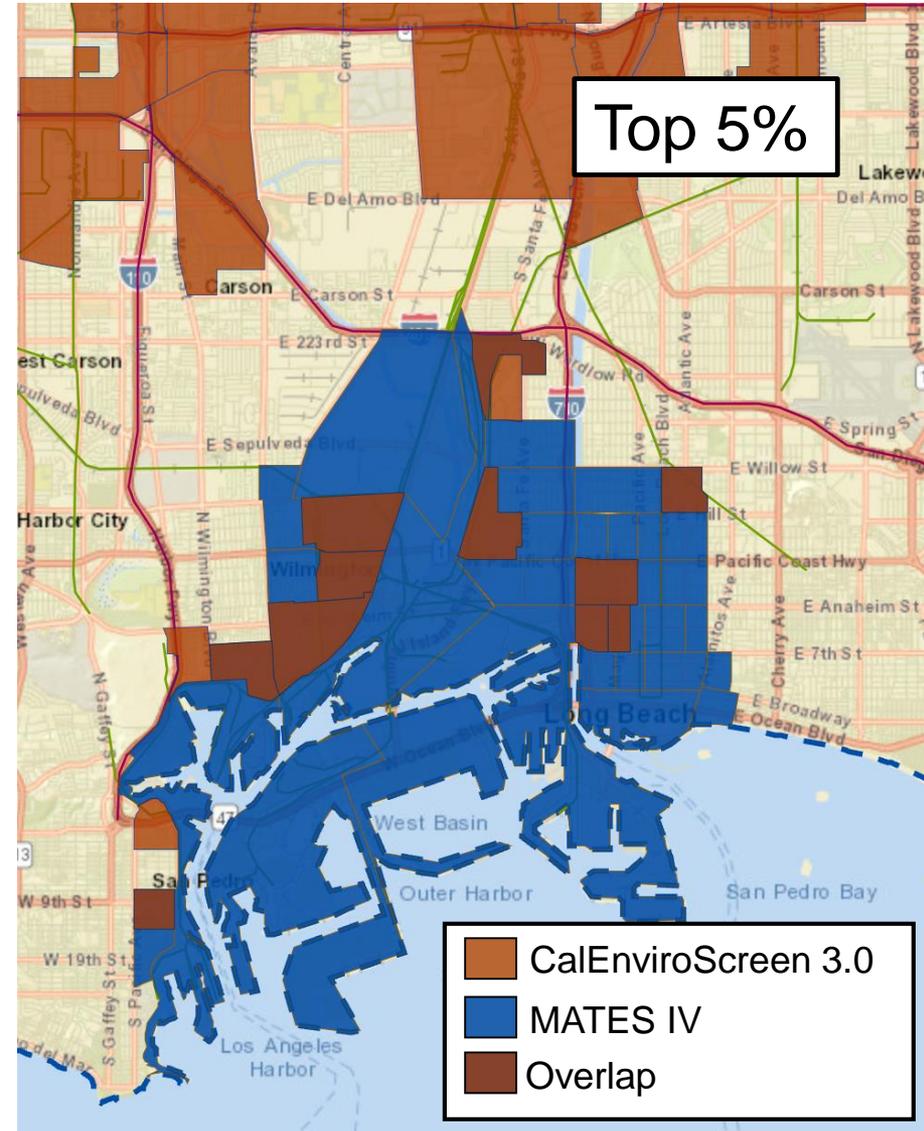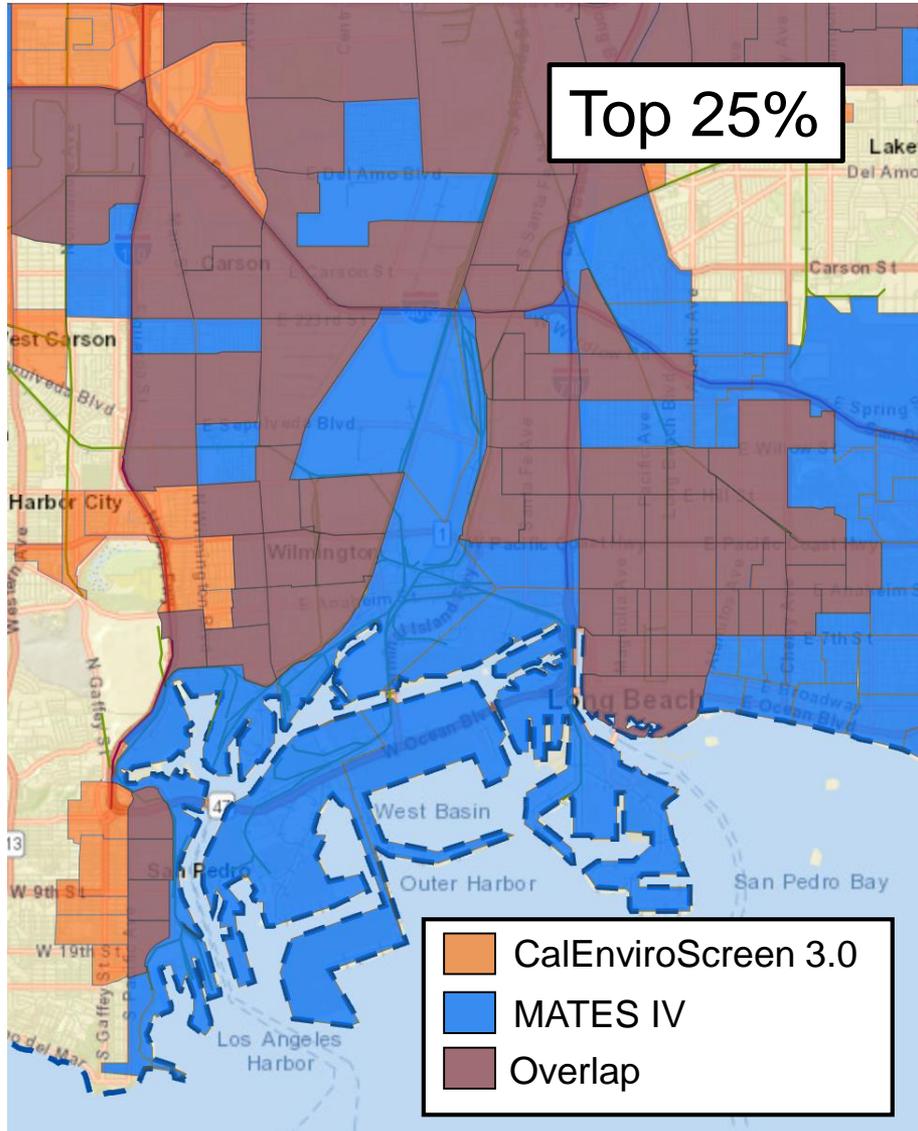# MATES IV ranking in communities under consideration

MATES IV

Percentile

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

This considers air toxics cancer risk from air pollution **data collected in 2012**

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), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

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Highest scores in this area

Top 25%

Top 5%

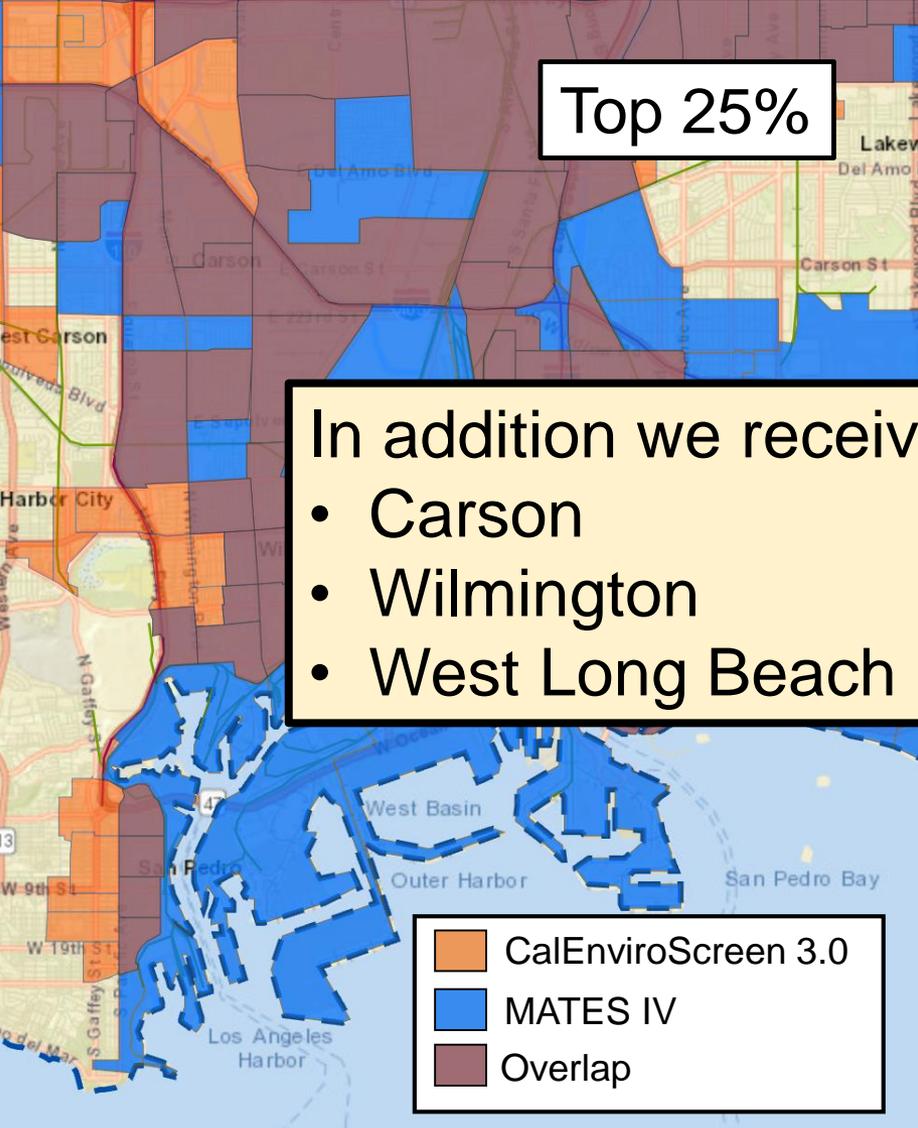CalEnviroScreen 3.0
MATES IV
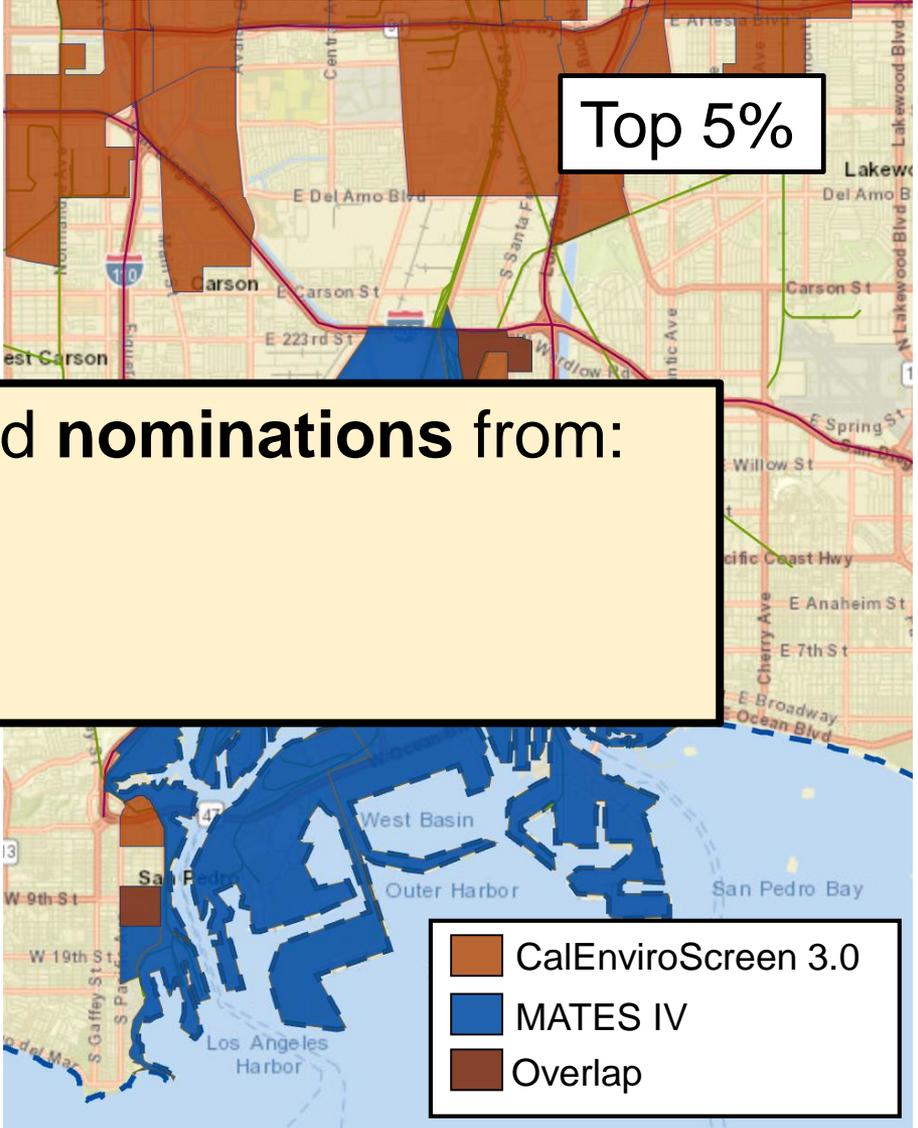Overlap

Highest scores in this area

Top 25%

Top 5%

In addition we received **nominations** from:
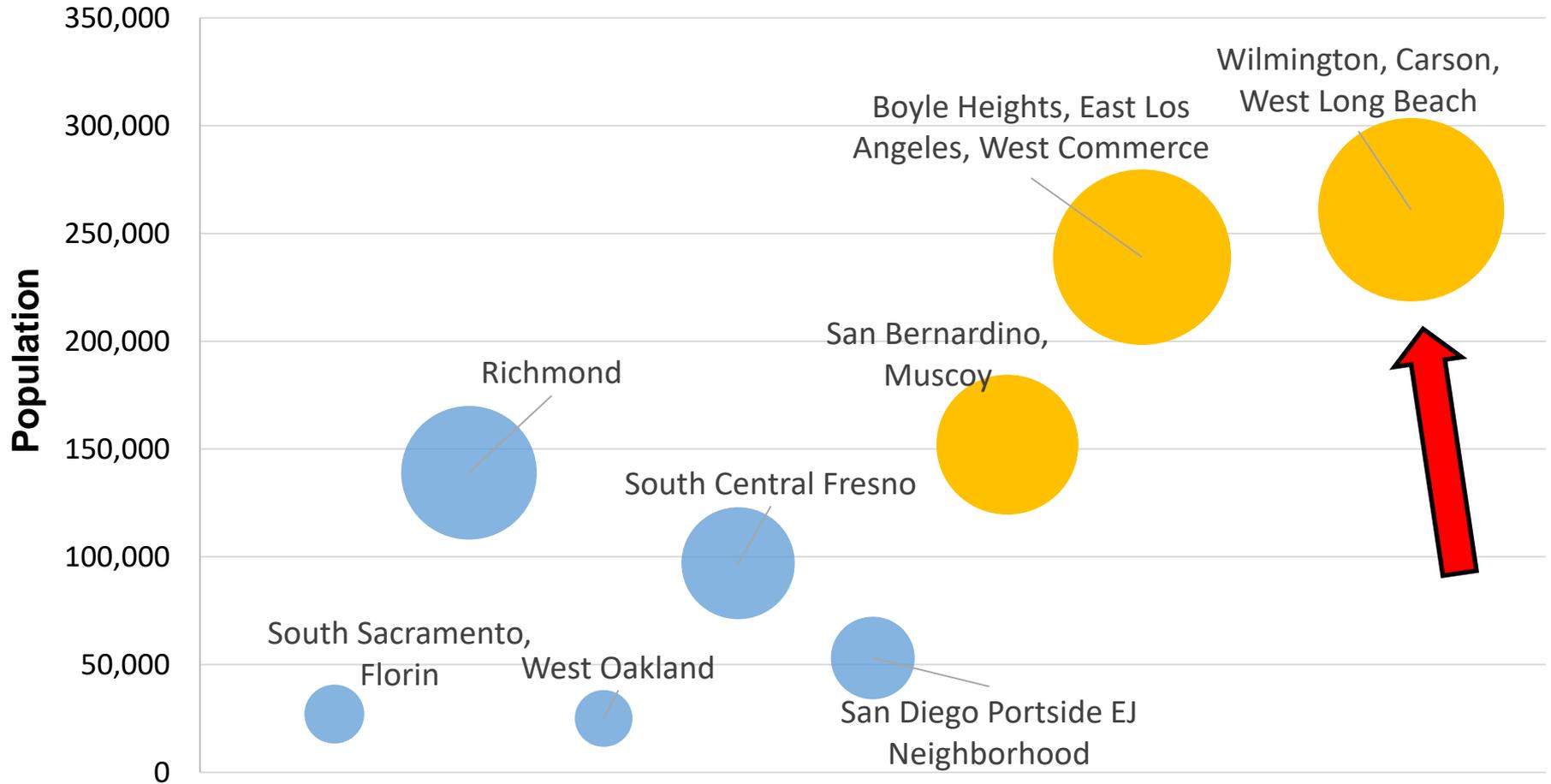- Carson
- Wilmington
- West Long Beach

CalEnviroScreen 3.0
MATES IV
Overlap

CalEnviroScreen 3.0
MATES IV
Overlap

Population within AB 617 Year 1 Urban Communities

The Wilmington, Carson, West Long Beach community is the **biggest AB 617 community in the State**

Comparison of AB 617 Year 1 Communities

Community	Population	Area (mi²)	Urban or Rural	Air Monitoring	Emission Reductions	Air District
Wilmington, Carson, West Long Beach	261,000	48	Urban	Y	Y	South Coast AQMD
Boyle Heights, East Los Angeles, West Commerce	239,000	17	Urban	Y	Y	South Coast AQMD
San Bernardino, Muscoy	152,000	31	Urban	Y	Y	South Coast AQMD
Richmond	139,000	28	Urban	Y		Bay Area AQMD
West Oakland	25,000	7	Urban		Y	Bay Area AQMD
South Central Fresno	97,000	29	Urban	Y	Y	San Joaquin Valley APCD
Shafter	18,000	15	Rural			San Joaquin Valley APCD
South Sacramento, Florin	27,000	4	Urban	Y		Sacramento Metropolitan AQMD
San Diego Portside EJ Neighborhood	53,000	8	Urban	Y		San Diego County APCD
Calexico, El Centro, Heber	98,000	158	Rural	Y	Y	Imperial County APCD

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For more details…

- SCAQMD recommendations to CARB for Year 1 communities and implementation schedule: http://www.aqmd.gov/docs/default-source/ab-617-ab-134/submittal-to-carb.pdf?sfvrsn=8

- CARB staff report describing statewide strategy and Year 1 communities https://ww2.arb.ca.gov/sites/default/files/2018-09/2018_community_recommendations_staff_report_revised_september_11.pdf

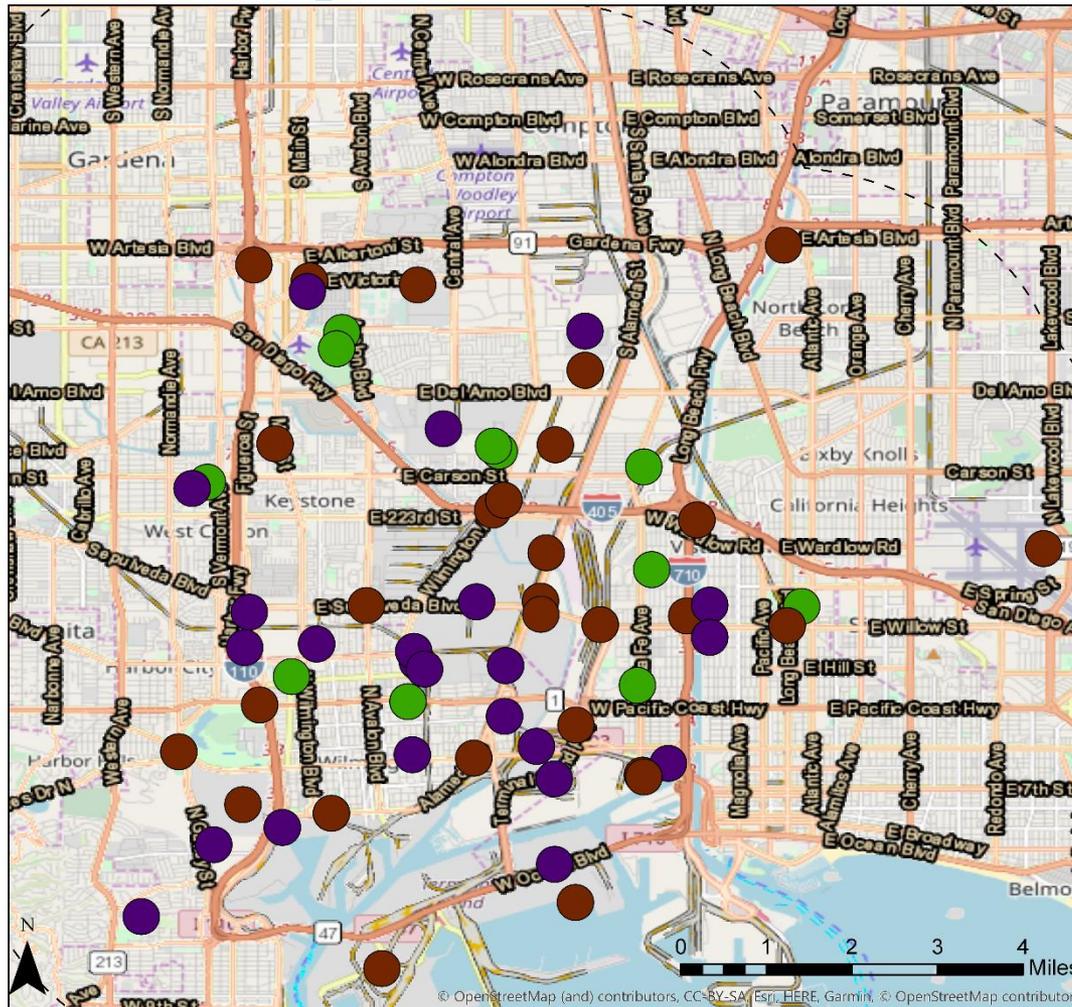**And now, let's discuss this community (Wilmington, Carson, West Long Beach)…**

Community-Identified Air Quality Concerns
Based on Air Quality Mapping Activity in Me

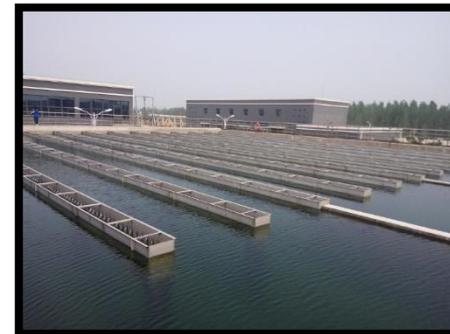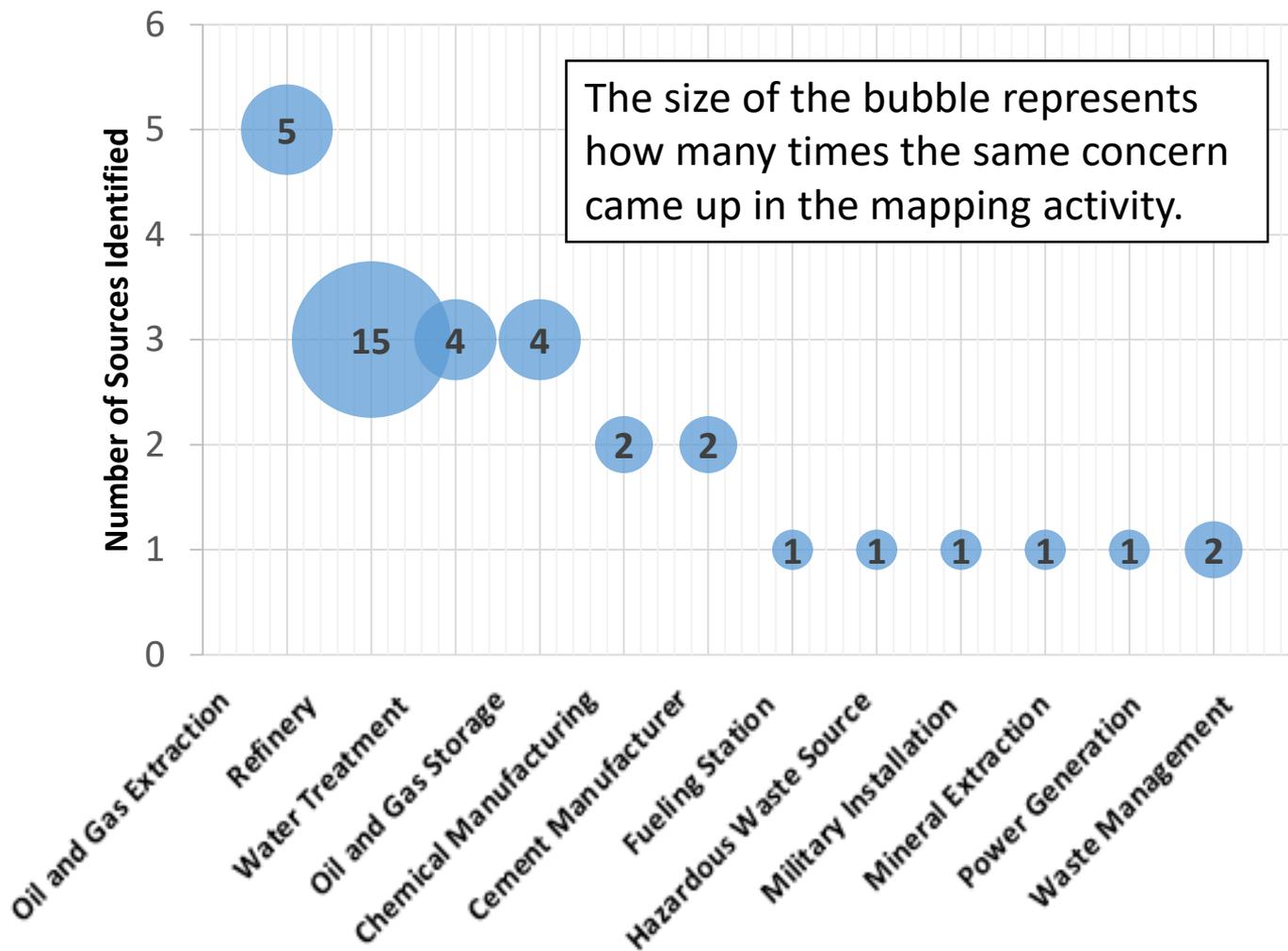|	Number
Stationary Sources	24
Mobile Sources	26
Sensitive Receptors	10
Total Unique Concerns	**60**

Community-Identified Air Quality Concerns - Map
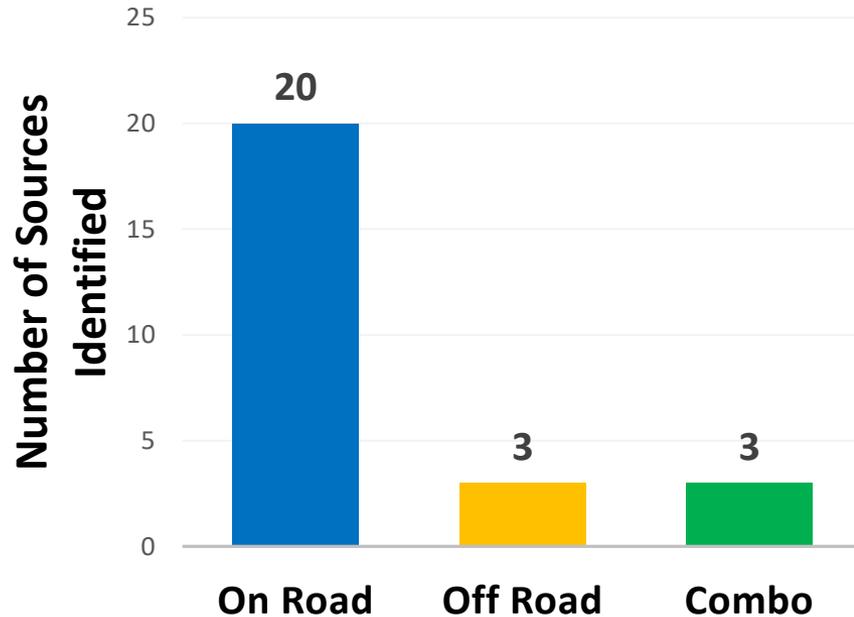

Mobile Source   Stationary Source   Sensitive Receptor

Stationary Source Concerns
(24 unique sources)

The size of the bubble represents how many times the same concern came up in the mapping activity.

Chart — Number of Sources Identified (y-axis, 0 to 6) vs source category (x-axis):

- Oil and Gas Extraction: 5
- Refinery: 15 (at level 3)
- Water Treatment: 4 (at level 3)
- Oil and Gas Storage: 4 (at level 3)
- Chemical Manufacturing: 2
- Cement Manufacturer: 2
- Fueling Station: 1
- Hazardous Waste Source: 1
- Military Installation: 1
- Mineral Extraction: 1
- Power Generation: 1
- Waste Management: 2

Mobile Source Concerns
(26 unique sources)

Number of Sources Identified

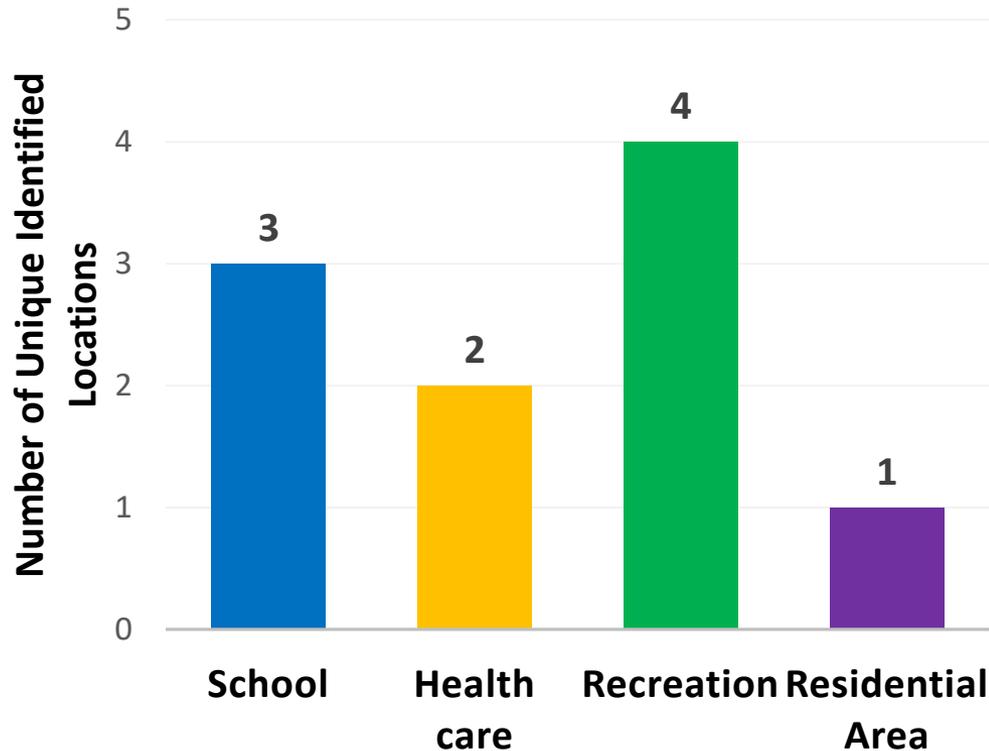On Road: 20
Off Road: 3
Combo: 3

Concerns identified multiple times:

- On Road: Mainly trucks idling and truck traffic
  - 710 freeway
  - Major intersections
- Off Road: 2 rail yards, 1 airport
  - ICTF facility
- Combo
  - Ports of LA/Long Beach
  - Alameda Corridor

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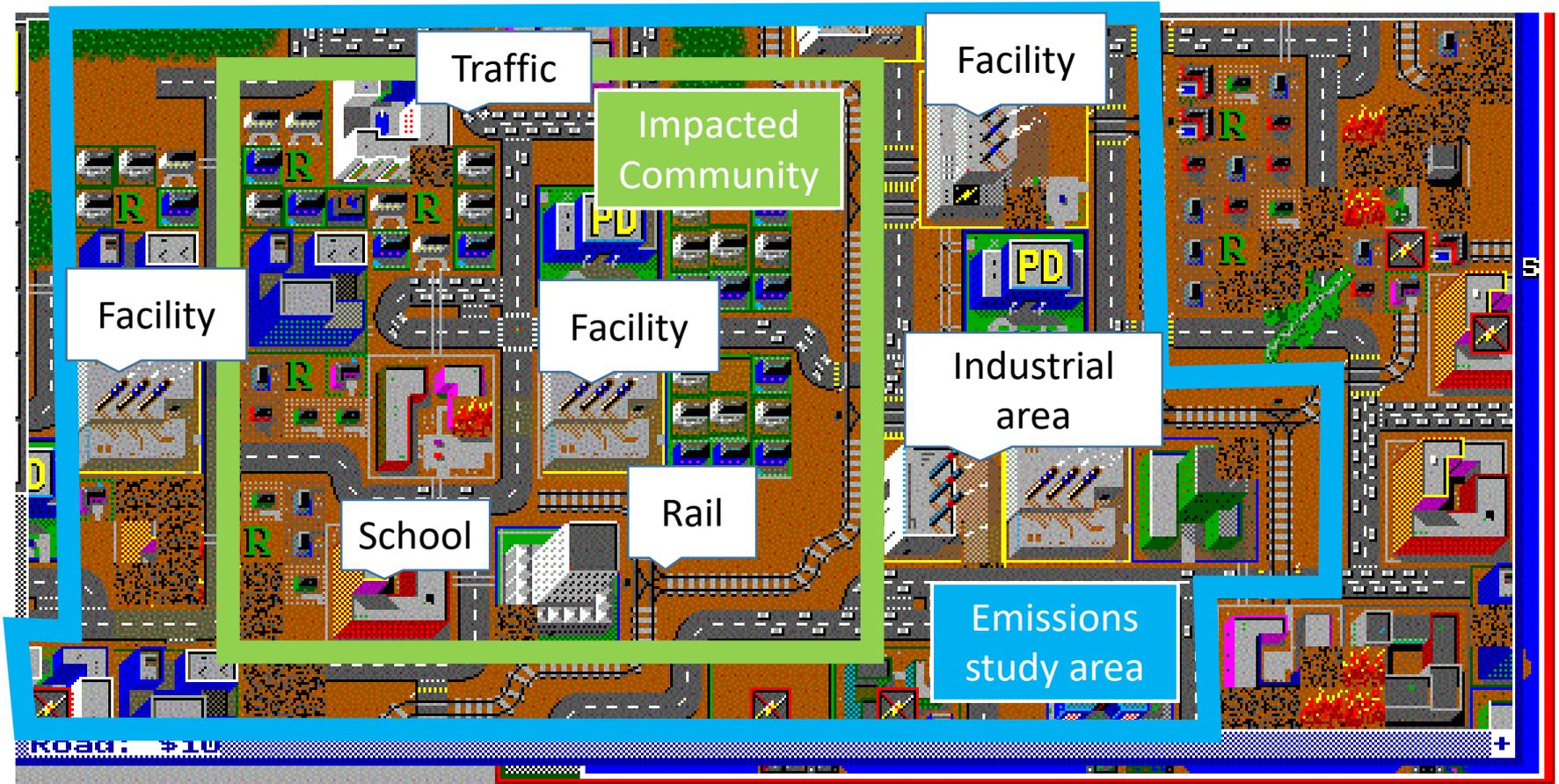
Sensitive Receptors
(10 unique locations)

- Most of the sensitive receptors identified were along the freeways
- Cabrillo High School and Victoria Park were identified by two mapping groups.

Community Boundaries Example

Impacted community: Area of the community where people live, work, go to school, and spend the majority of their time.

Emissions study area: Region that includes the sources that affect the Impacted Community.

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Updated boundary for input/discussion

Community boundary

Emissions Study Area

- Community concerns were taken into consideration

- Majority of community concerns fall within the **proposed impacted community boundary**

- Regions within and near the **emissions study area** will also benefit from the emissions reductions
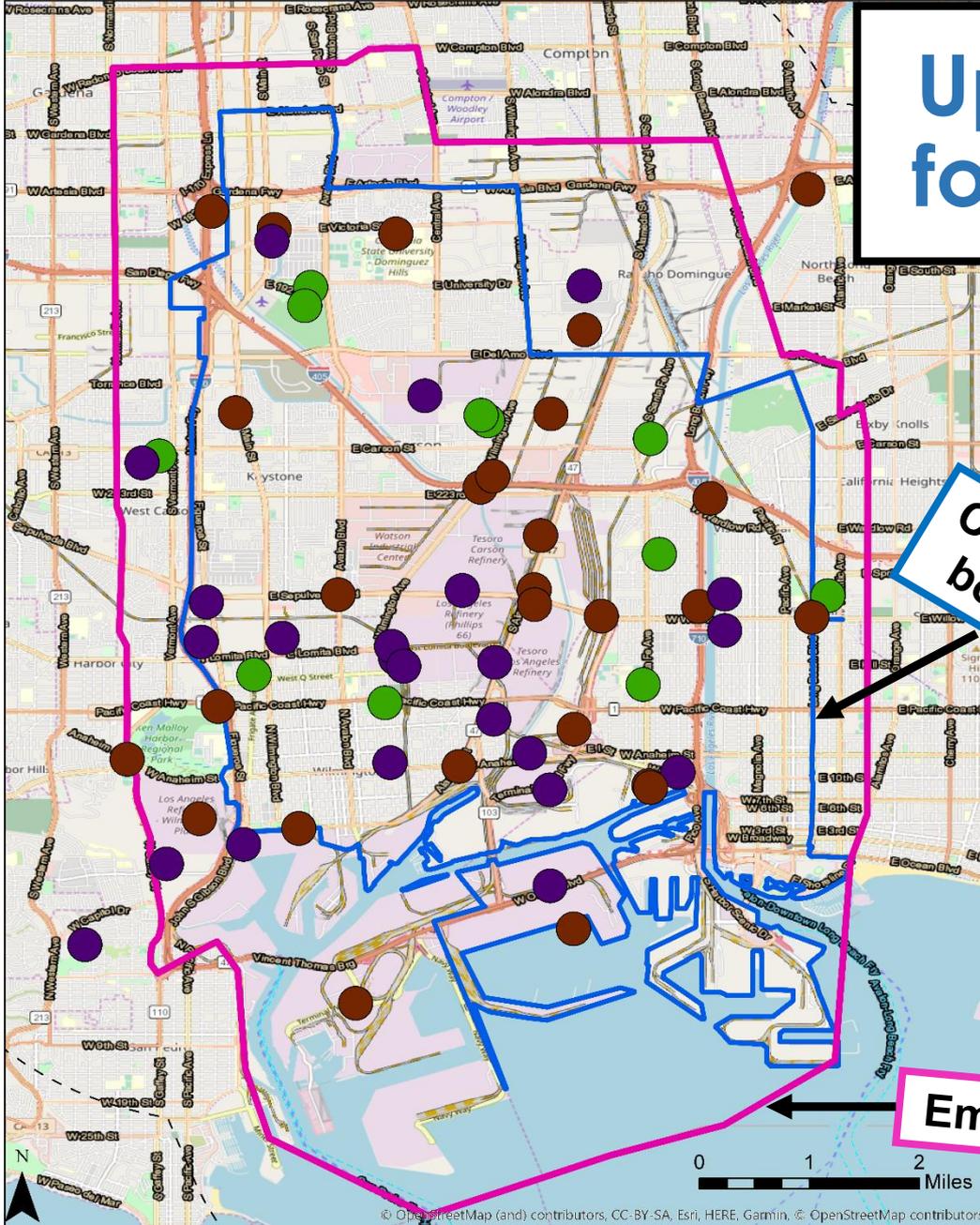
● Mobile Source   ● Stationary Source   ● Sensitive Receptor

Click here to open interactive map
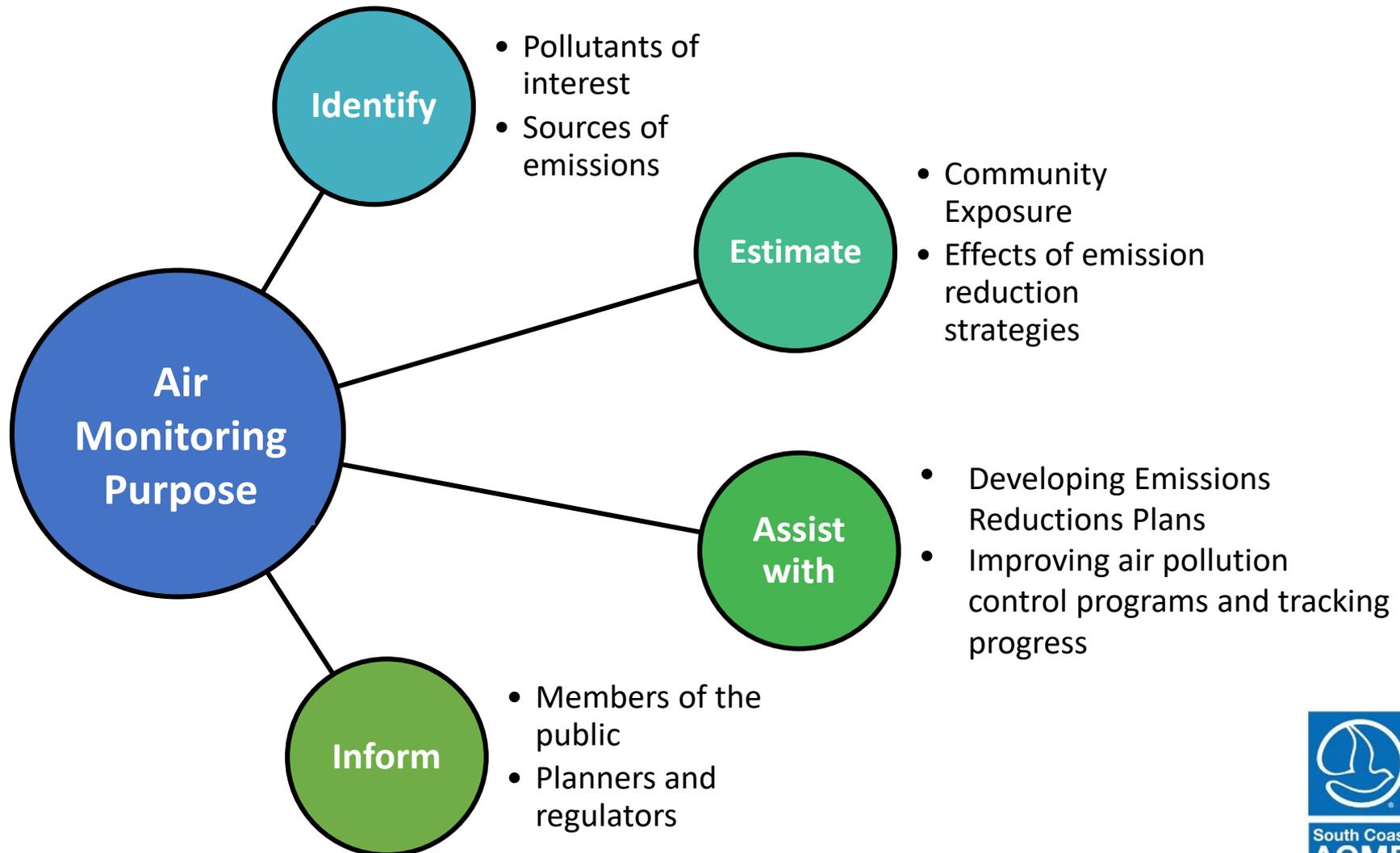
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Stretch break

Come back in
5 minutes

Why Do We Monitor Air Pollution?

What Are The Sources Of Air Pollution?

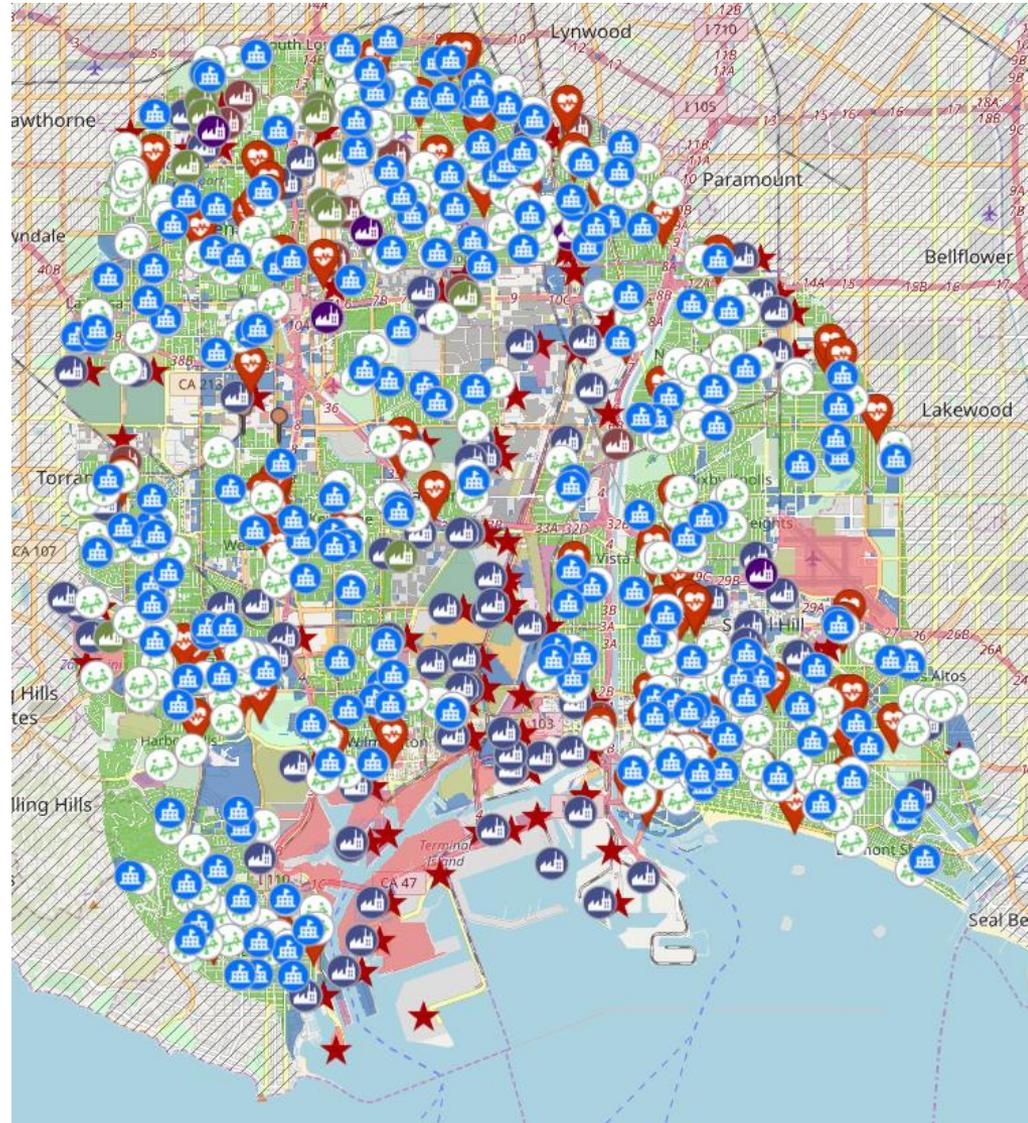# Sources of Air Pollution and Monitoring Challenges

Sensitive Receptors, Industrial Facilities, and Residential, Commercial and Industrial Land Use
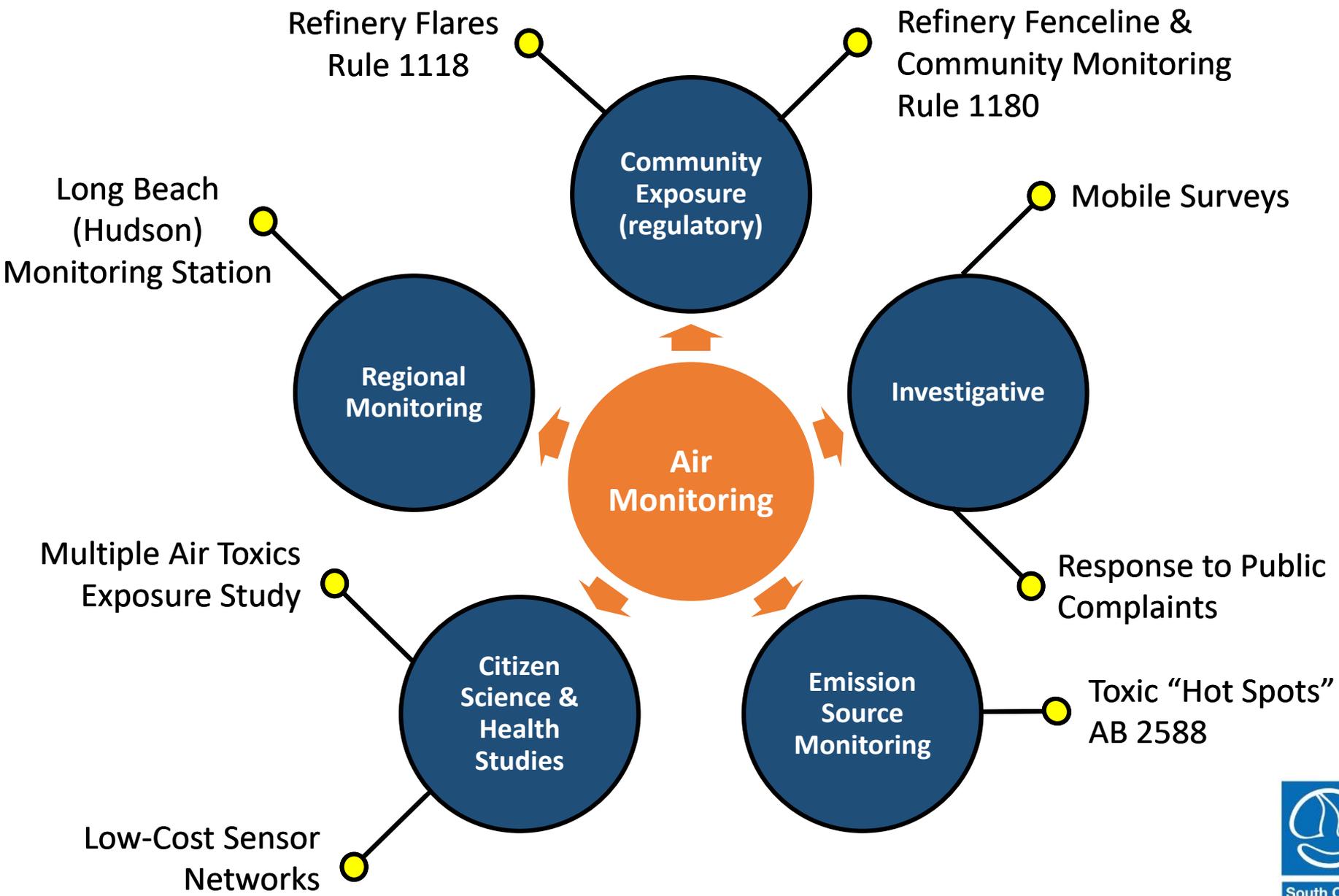
Monitoring Challenges

- Complex variety of emission sources
- Variety of air pollutants
- Large study area
- Monitor siting
- Complex meteorology
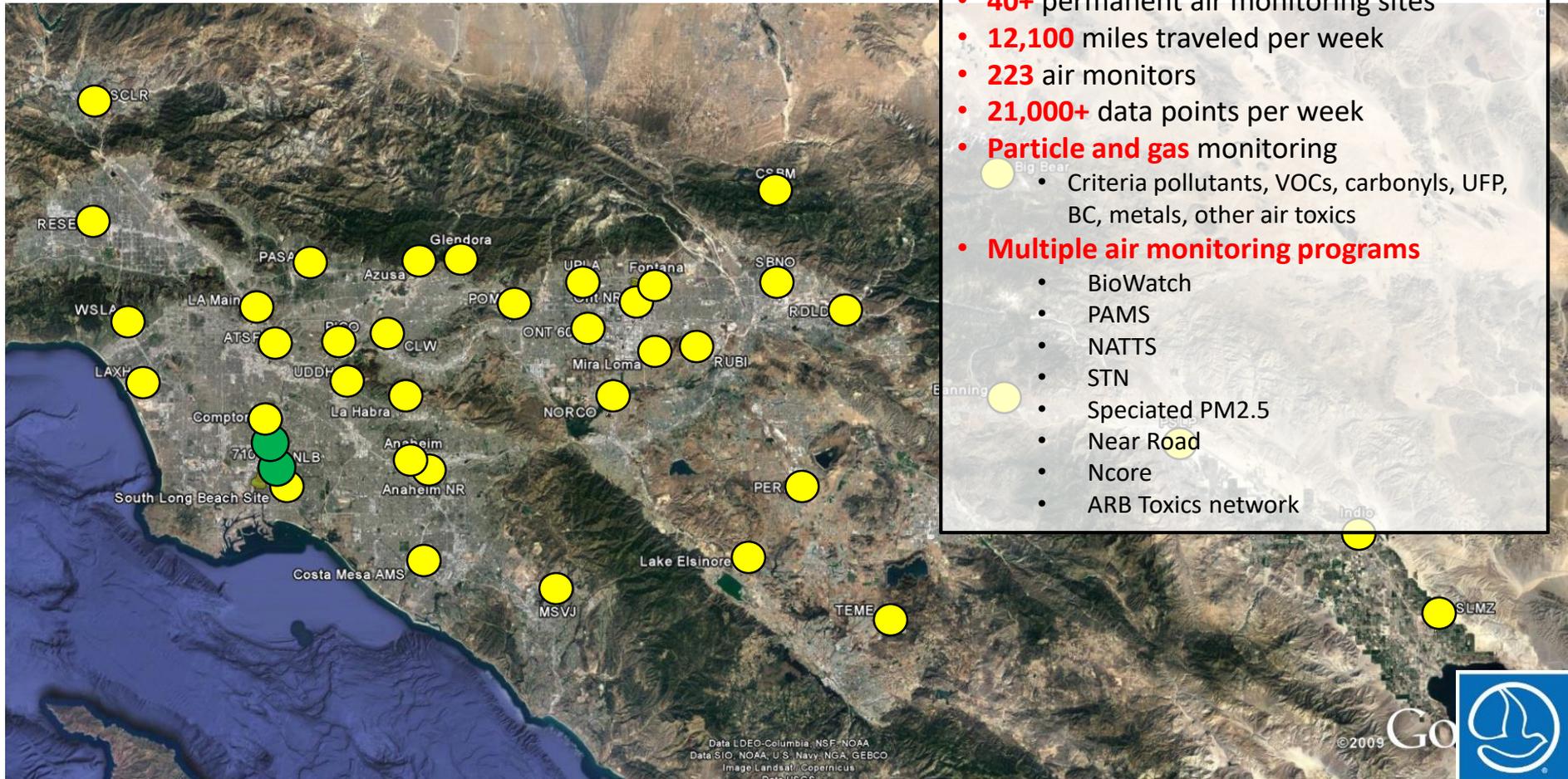
Different Types of Air Monitoring

What types of monitoring are we doing in Wilmington, Carson, and WLB?

- SCAQMD has been conducting comprehensive monitoring in this community ahead of AB 617 monitoring schedule
  - Permanent monitoring programs (Fixed Network, Regulatory)
  - Emission characterization and quantification (Refinery, Small Sources, Ports): *2013-present*
  - Community Scale Monitoring (EPA Grant): *2016-2019*
  - Other monitoring studies (MATES, sensor networks): *2018-2020*
  - Complaints (**1-800-CUT SMOG**®)

- We will work with Community Steering Committees to ensure we are addressing the top priorities

- We use a combination of methods
  - **Traditional methods** – Criteria pollutants (FRM, FEM, EPA Guidance)
  - **Advanced methods** – Air toxics (sensors, remote sensing, mobile platforms)

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Permanent Monitoring Programs (Fixed Network, Regulatory)

- **40+** permanent air monitoring sites
- **12,100** miles traveled per week
- **223** air monitors
- **21,000+** data points per week
- **Particle and gas** monitoring
  - Criteria pollutants, VOCs, carbonyls, UFP, BC, metals, other air toxics
- **Multiple air monitoring programs**
  - BioWatch
  - PAMS
  - NATTS
  - STN
  - Speciated PM2.5
  - Near Road
  - Ncore
  - ARB Toxics network

Emission Characterization and Quantification (Refinery, Small Sources, Ports): 2013-present

Project 1: Quantify fugitive emissions from large refineries

Project 2: Quantify gaseous emissions from small point sources

Project 3: Quantify stack emissions from marine vessels/ports

Visit Poster 2 & 3 to learn more

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Community Scale Monitoring (EPA Grant): 2016-2019

Fluxsense Mobile Laboratory

FluxSense

Legend
- Alkanes
- BTEX
- NO2
- SO2

Transects of plumes originating from one of refineries. NO_2 (pink) and SO_2 (brown), BTEX (blue) and alkanes (yellow).

Visit **Poster 2 & 3** to learn more

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Multiple Air Toxics Exposure Study V (2018-2020)

- Regional air toxics monitoring and modeling

- Advanced monitoring to find potential hotspots

- Focus on refineries and other industrial sources

- Community engagement through sensor network deployments
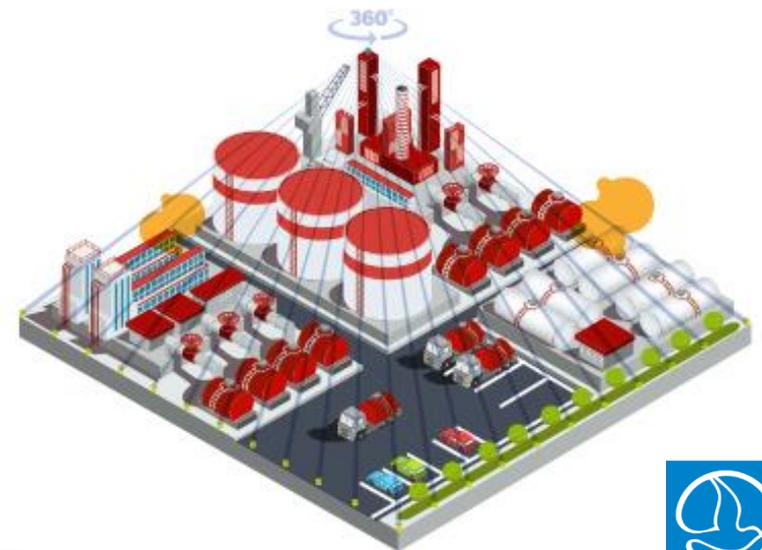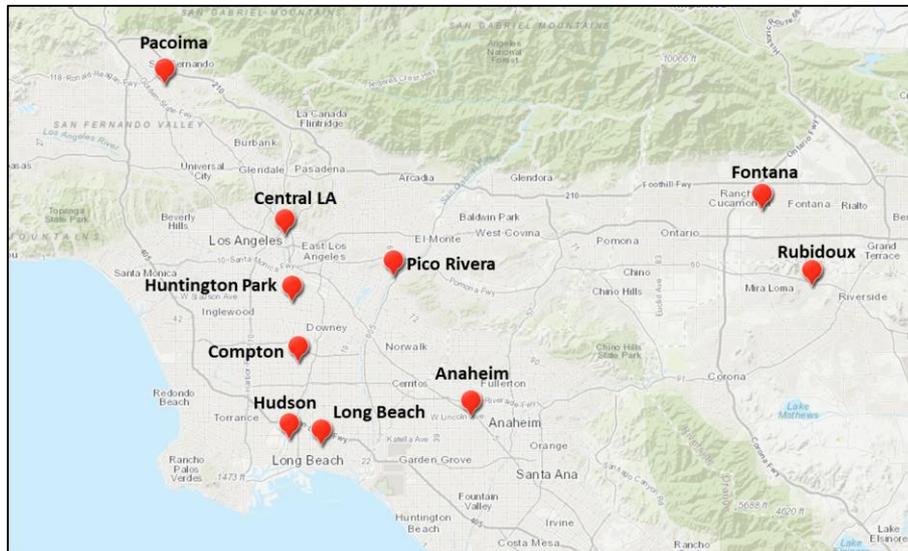
Visit **Poster 1 & 2** to learn more

Complementary Approaches to Refinery Monitoring

Flight measurements

Optical Tent *

Fenceline Monitoring *

Community Monitoring / Sensor Networks *

Mobile Monitoring

360°

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Visit **Poster 2 & 3** to learn more

* Provides Continuous, Real-Time Data
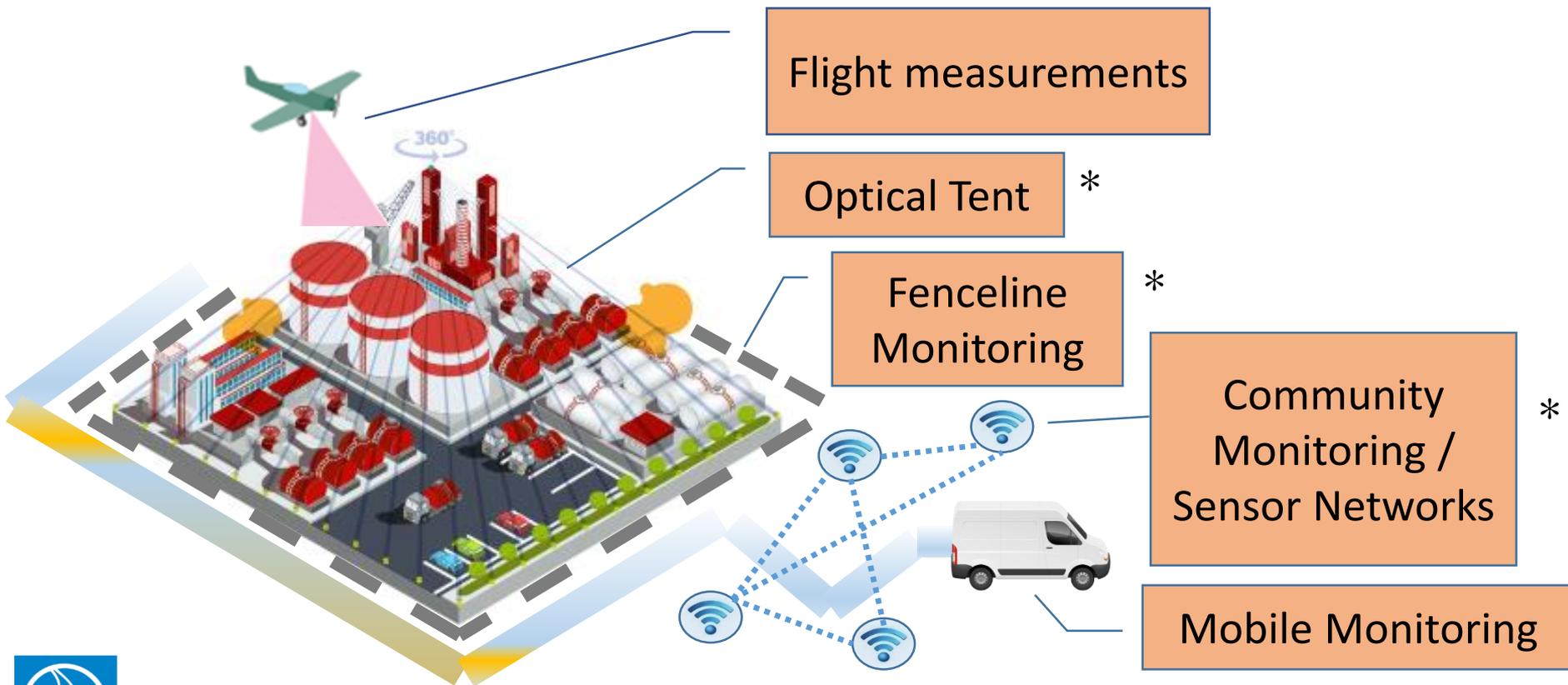
Refinery Fenceline and Community Air Monitoring

Goals and Objectives: To provide real-time information about air pollutant levels at the refinery fenceline and in the community
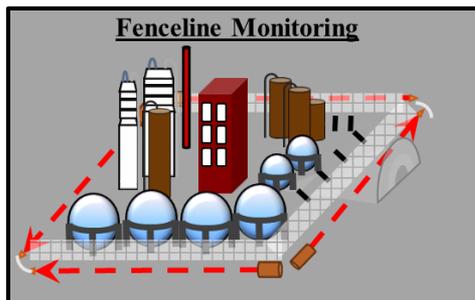
Fenceline Monitoring	Community Monitoring
• Conducted using the most advanced continuous, real-time optical remote sensing technologies • Fenceline air monitoring data delivered to the public in real-time via website • Provide notifications to the community if emissions exceed thresholds	• Conducted using state-of-the art, continuous, real-time point monitors and mobile surveys • Establish a network of 10 refinery-related community monitoring stations • Monitoring data delivered to the public in real-time via website

Visit Poster 3 to learn more

AB 617 Community Monitoring Design

Transitioning into AB 617 Monitoring

AB 617 Monitoring Efforts

Regulatory monitoring stations

Low-Cost Sensor Networks

Mobile Platforms

Air quality data from Google / Aclima

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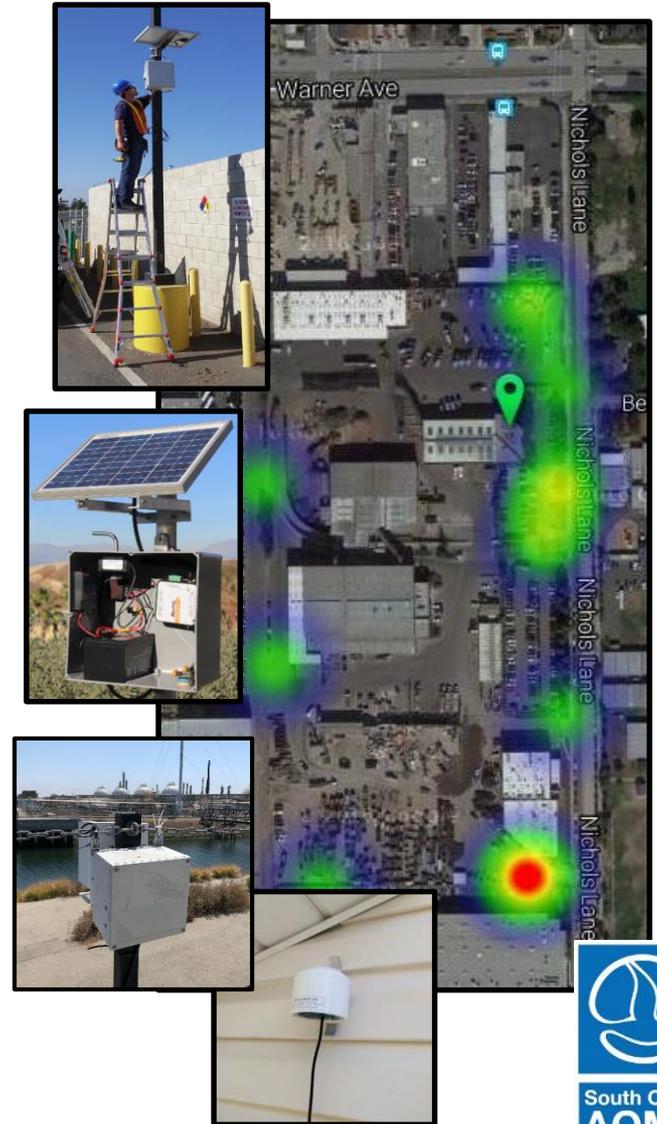
New Approaches in Air Pollution Monitoring

Traditional Monitoring

Who collects the data? → Limited to Governments, Industry and Researchers

Why is data collected? → Compliance Monitoring, Enforcement, Trends, Research

How is data accessed? → Government Websites, Permit Records, Research Databases

New Approaches in Air Pollution Monitoring

Mobile Platforms

Limited to Governments, Industry and Researchers

Covers a Large Area, Identifying Hot-Spots and Emissions Sources, High-Time Resolution

Scientific Reports and Summaries

Traditional Monitoring

Limited to Governments, Industry and Researchers

Compliance Monitoring, Enforcement, Trends, Research

Government Websites, Permit Records, Research Databases

Low-Cost Sensors

Expanded Use by Communities and the Public

Citizen Science, Educational Tool, High-Time Resolution Real-Time Data

Community Engagement, Increased Data Availability

Air Monitoring Benefits and Limitations

		Reference Monitors	Low Cost Sensor Networks	Mobile Monitoring & Surveys
Applications	Track progress	✅	✅	
	Identify emission sources		✅	✅
	Identify "hot-spots"		✅	✅
Benefits	Compliance action	➕		
	Good detection capability	➕		➕
	Continuous data		➕	➕
	Real time data		➕	
Limitations	High Cost	❌		❌
	Number of pollutants detected		❌	
	Low accuracy/precision		❌	

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Working with the CSC Group

Define Goals and Objectives of Air Monitoring

Identify Pollutants of Interest and Recommend Appropriate Monitoring Technologies

Develop Community Air Monitoring Plan

Begin Air Monitoring in Priority Areas

CSC Meeting #3

CSC Meeting #3

May 1st, 2019

July 1st, 2019

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Questions?

CSC charter and other important items

1. **Updated CSC charter**
   - Very few comments received – only minor wording changes for clarity
   - Please sign and return to SCAQMD staff today, or by Jan 17, 2019

2. **Biographies**
   - Please email to ab617@aqmd.gov as soon as possible so we can post on the webpage

3. **Toxics tour and/or Facility tour(s)**
   - Purpose: Providing committee members with an opportunity to share and gain a further understanding of key concerns in the community, as well as operations and clean air technologies at facilities.
   - Any volunteers/suggestions?

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Meeting facilitator – Update

SCAQMD staff contacted facilitators suggested by CSC members, and are evaluating the firms for best fit.

Facilitator - Key Roles

- Keep meeting on topic (based on agenda items)
- Make sure participants understand and adhere to the rules stated in the CSC charter
- Help committee members have ownership of the process by ensuring that they make key and timely contributions
- Guide committee members to listen to each other
- Prevent any one participant from dominating the conversation, and seek to obtain as much valuable input as possible (including minority voices) before closing a discussion
- Ensure that the meeting ends on time

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Current progress

What we've done so far:

- Discussed background on:
  - AB 617 program
  - Air pollution basics
  - Air pollution data in this community
  - Air monitoring technologies
- Gathered input on community air quality issues
- Gathered input on community boundaries

Likely topics for Meeting 3:

- Prioritization of air quality issues
  - To address through air monitoring and/or emission reduction plans
- Potential strategies
- Enforcement overview
- Update on RECLAIM/BARCT rule development (possibly Meeting 4)

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Technical Advisory Group (TAG)

Purpose: Provide technical input on data and methods for modeling, monitoring, inventory

Current volunteers from this CSC:

Name	Affiliation
Tim DeMoss	Port of Los Angeles
Jesse Marquez	Coalition for a Safe Environment
Jill Johnston	University of Southern California
Flavio Mercado	Active Resident - Wilmington
Uduak-Joe Ntuk	City of Los Angeles
Joseph Luis Piñon	Active Resident - Carson

- **Maximum of 3 spots are available per CSC**
- **All meetings are open to the public**

- Nov 20 – we instructed volunteers to discuss and decide by Dec 14.
- As of Jan 7, we have not heard back a consensus decision.

First TAG meeting is being scheduled for February 2019

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Thank you
for the hard work!

More information on AB 617:
www.aqmd.gov/AB617

Email: AB617@aqmd.gov

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