



Initial Concepts for Public Reporting: San Bernardino/Muscoy AB 617 Communities

Data source: Aclima, July 1 to Sept 30, 2021

Presented November 15, 2021

AGENDA FOR TODAY

Following completion of 3-months of mobile air mapping in San Bernardino/Muscoy on September 30, 2021, the Aclima data science and atmospheric science teams commenced analysis. Today we'll review...

...Initial Concepts for Public Reporting:

- Where and What We Measured
- Comparative Air Pollutant Overview
- Community Resilience Index
- Transportation Impacts Analysis
- Stationary Facilities/Fixed Sources
- Sensitive Receptors
- Address Look-up
- Early Stage VOC Analysis

Mobile Air Monitoring in San Bernardino/Muscoy (SBM)

Aclima measured air pollutants and GHGs block by block multiple times, day/night, weekdays/weekends, from July 1 to Sept 30, 2021.

Data in this report is currently undergoing final QA/QC; Results are not expected to shift.

Featured in this report

- Fine particulate matter (PM_{2.5})
- Black carbon (BC)
- Carbon dioxide (CO₂)

Will be included in final report

- Carbon monoxide (CO)
- NOx
- Ozone (O₃)
- Methane (CH₄)
- Ethane (C₂H₆)
- Volatile Organic Compounds (VOCs)

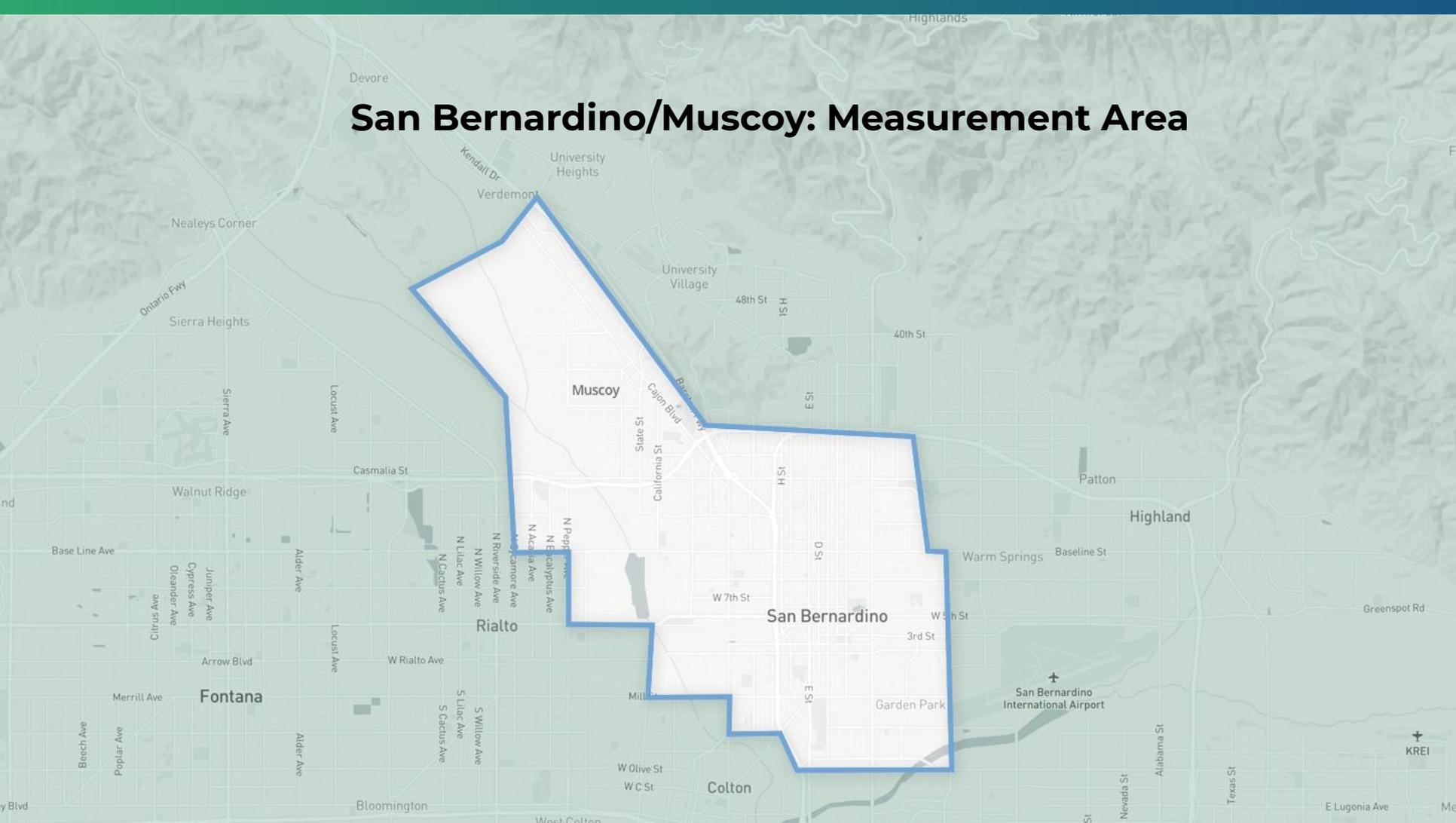


SECTION 01

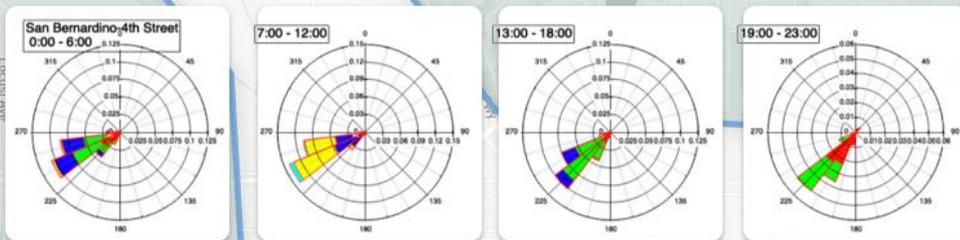
Area Overview

- Overall, how is the air quality in SBM?
- How are pollutants concentrated within the community?
- What areas warrant further investigation, analysis, or research?

San Bernardino/Muscoy: Measurement Area



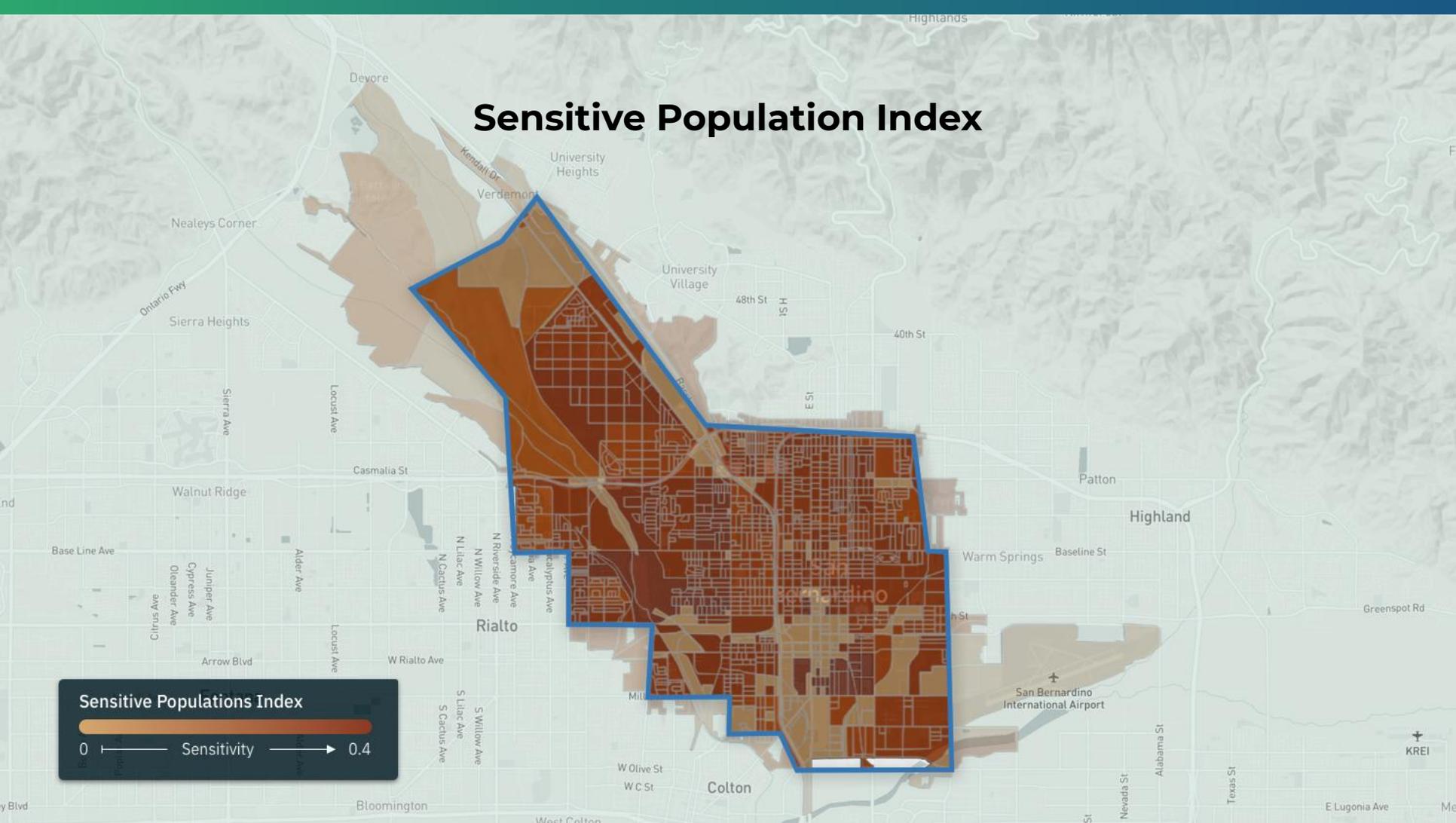
San Bernardino/Muscoy Three-Month Wind Trends: from South-Southwest



AQMIS 2221
4th St, Cottage Gardens

Data source: CARB AQMIS

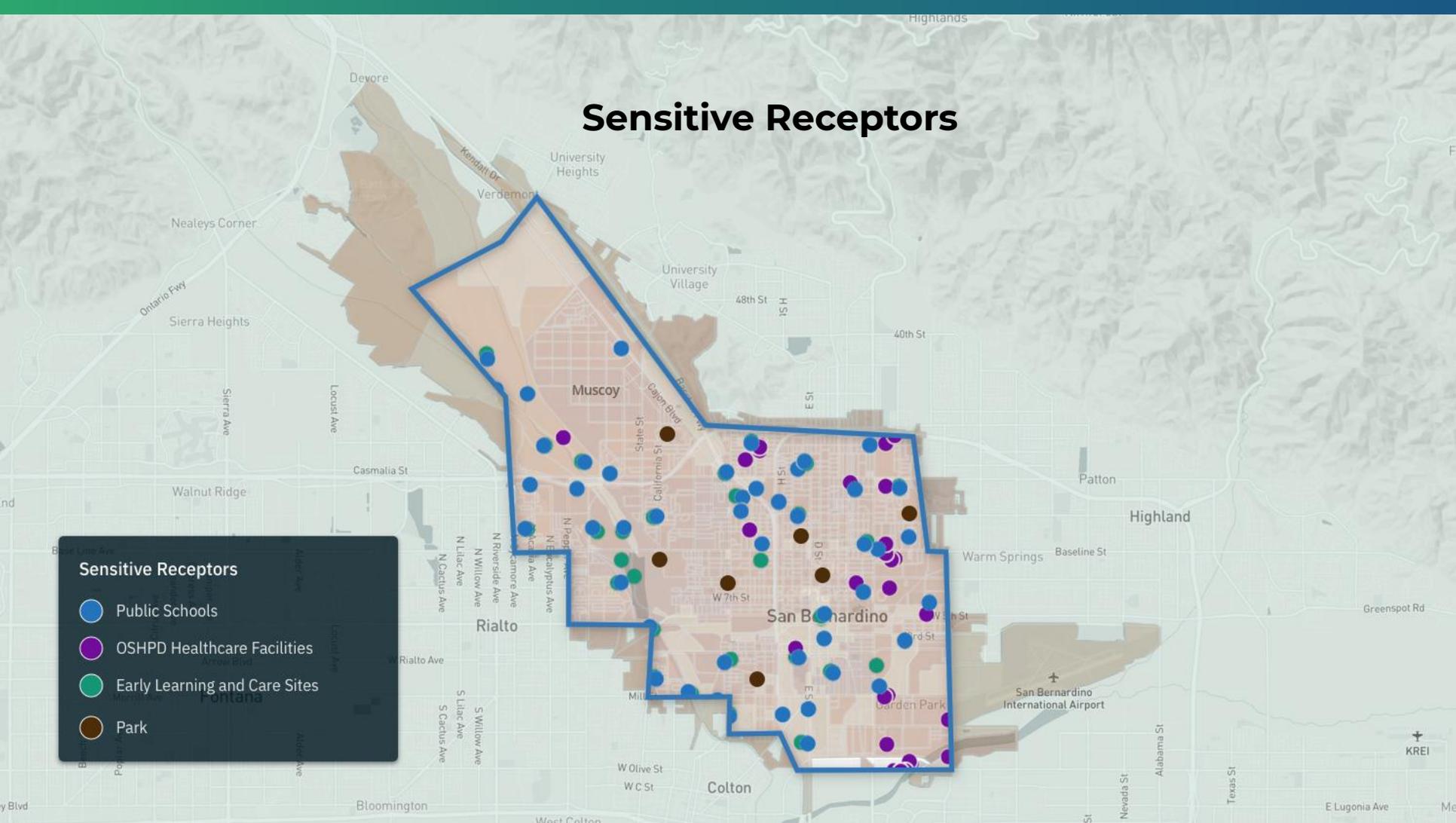
Sensitive Population Index



Sensitive Receptors

Sensitive Receptors

- Public Schools
- OSHPD Healthcare Facilities
- Early Learning and Care Sites
- Park



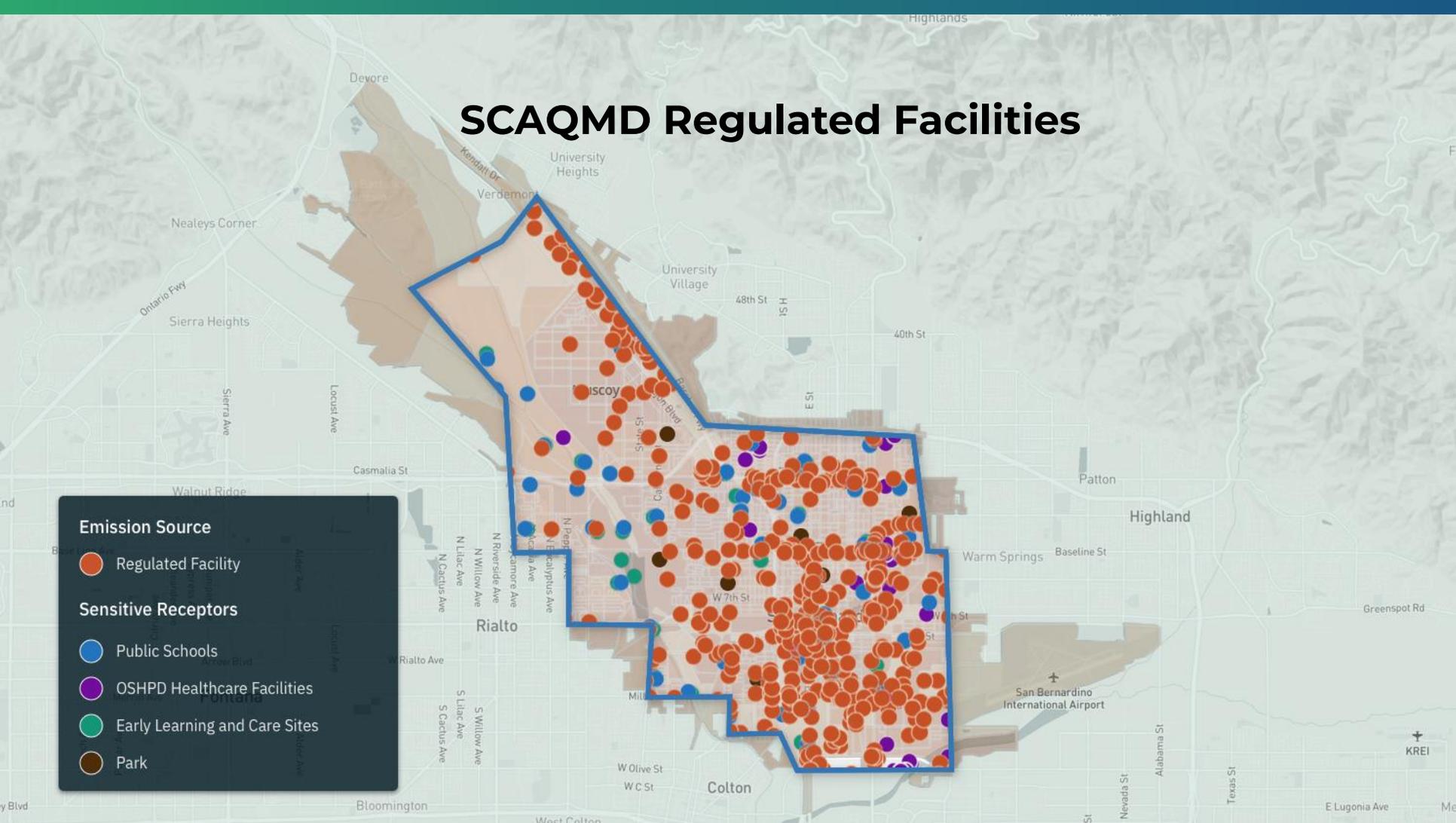
SCAQMD Regulated Facilities

Emission Source

- Regulated Facility

Sensitive Receptors

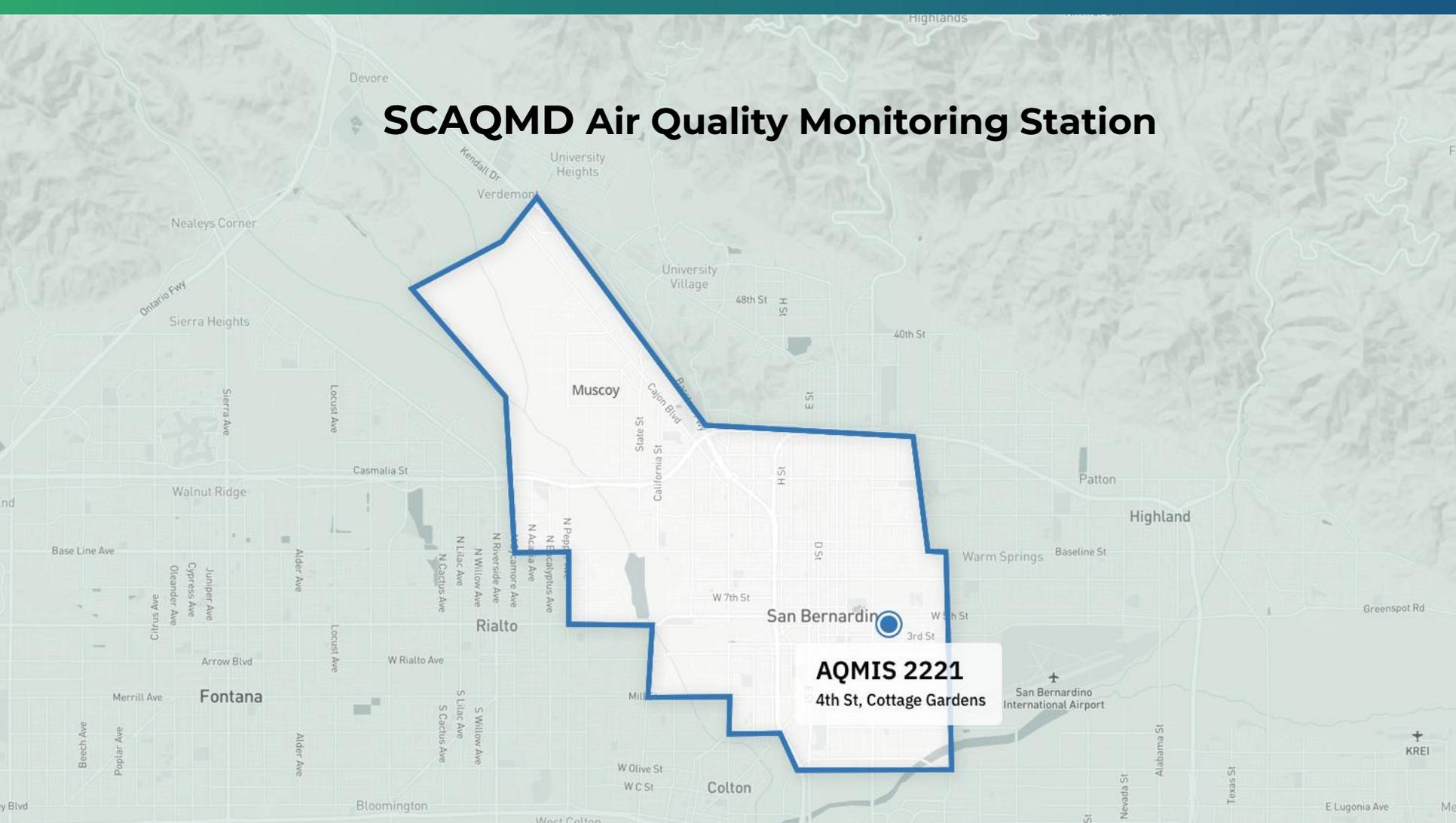
- Public Schools
- OSHPD Healthcare Facilities
- Early Learning and Care Sites
- Park



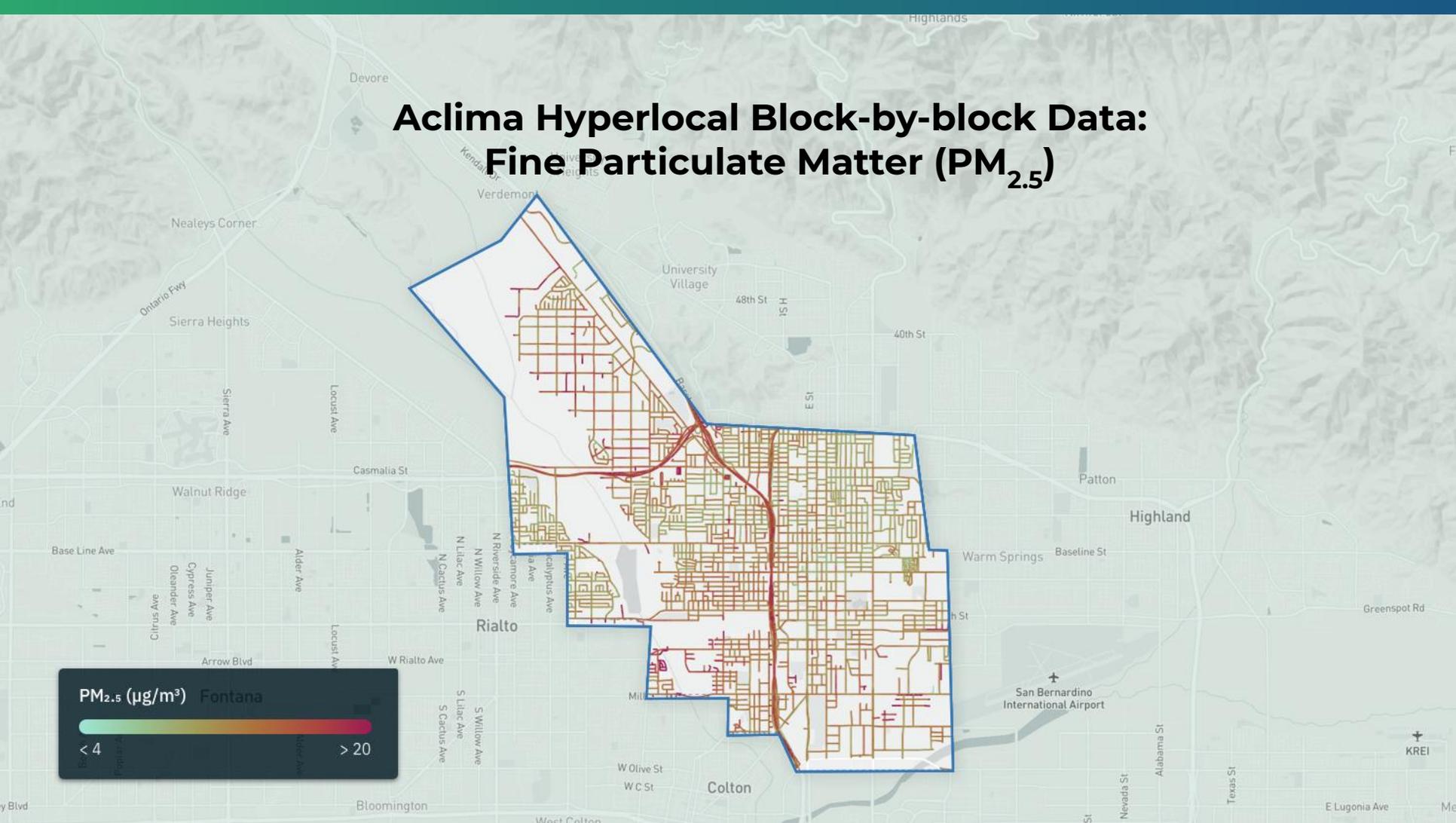
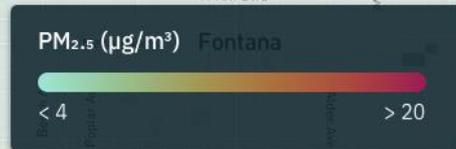
SCAQMD Air Quality Monitoring Station

AQMIS 2221

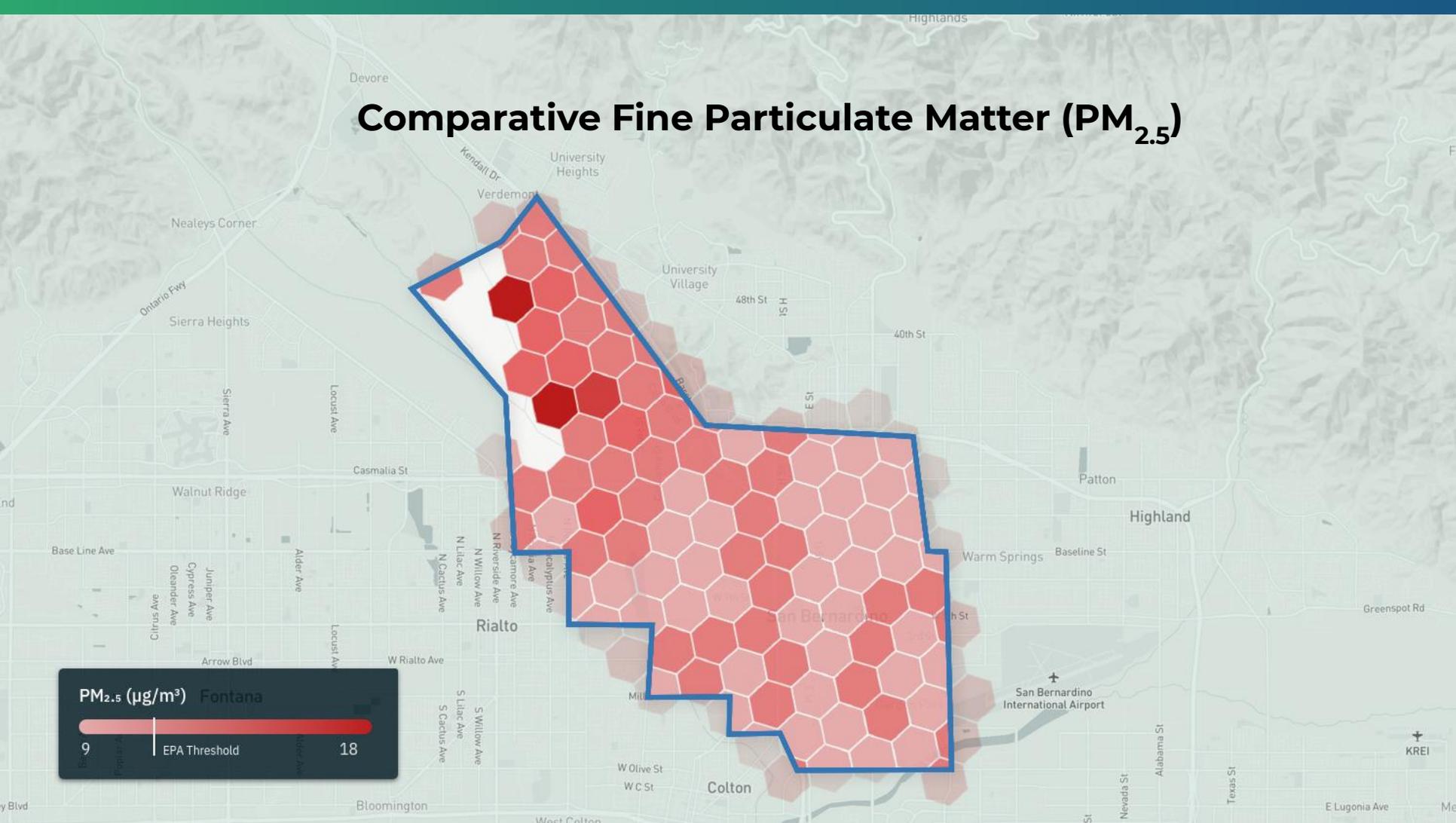
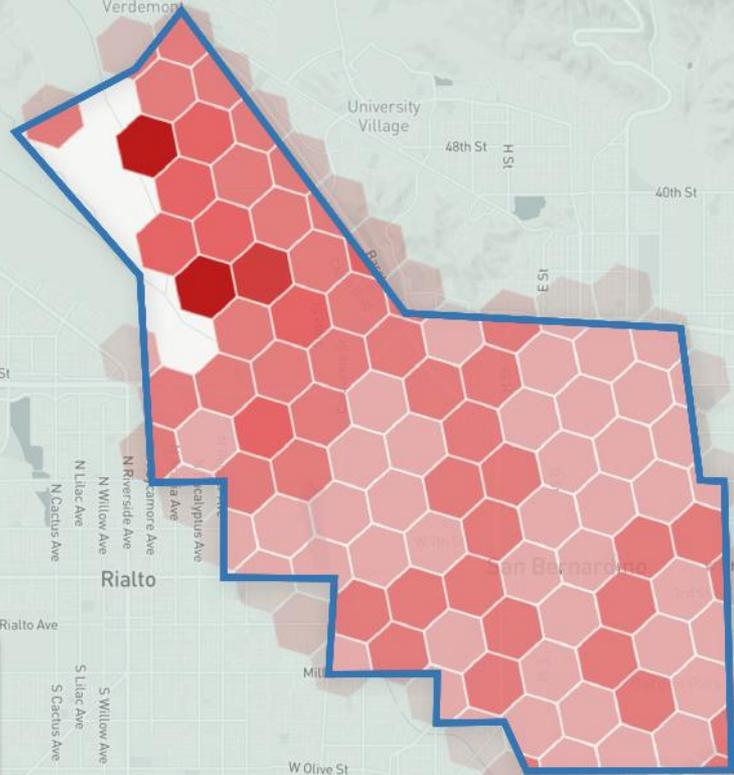
4th St, Cottage Gardens



Aclima Hyperlocal Block-by-block Data: Fine Particulate Matter (PM_{2.5})



Comparative Fine Particulate Matter (PM_{2.5})



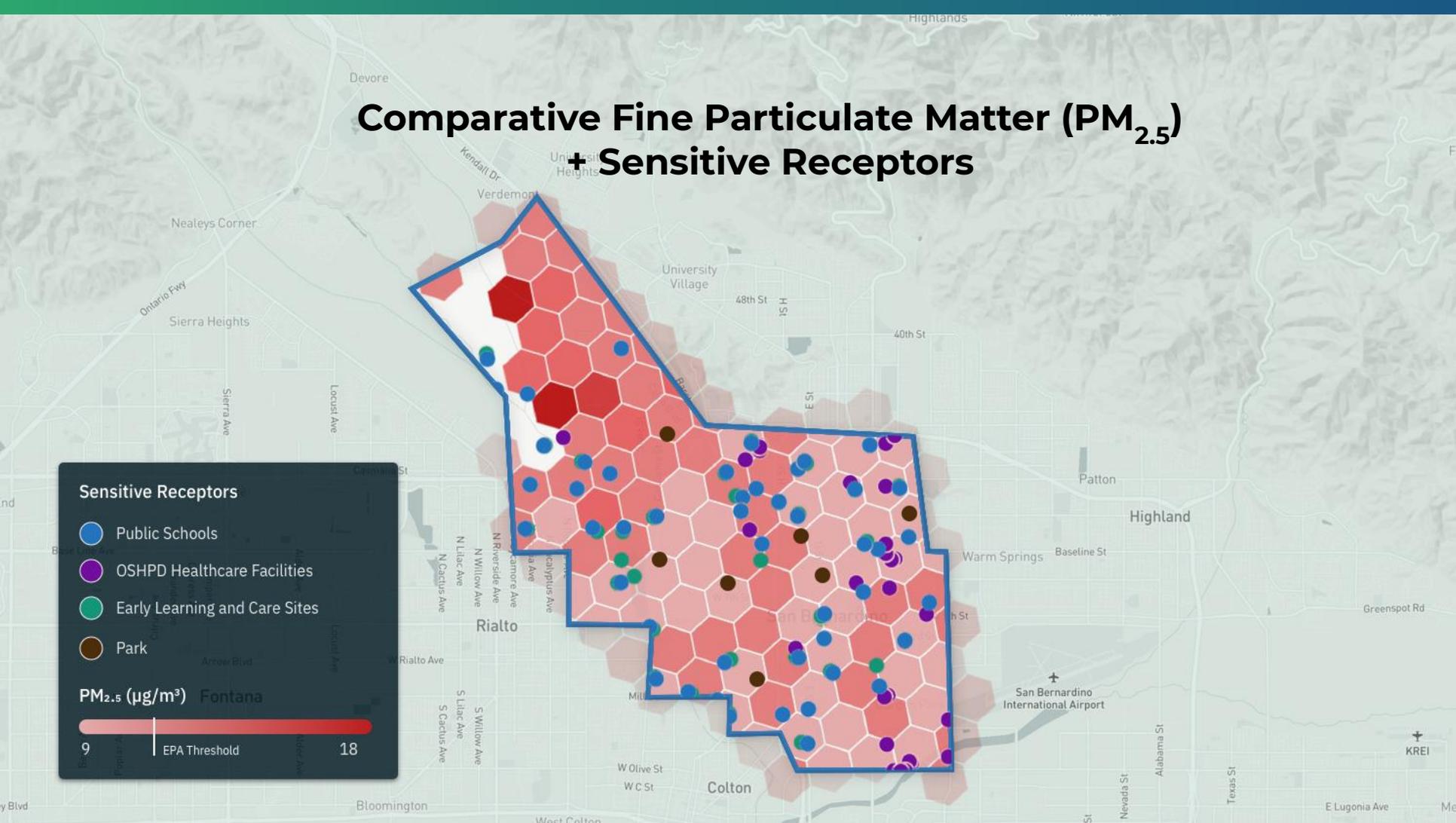
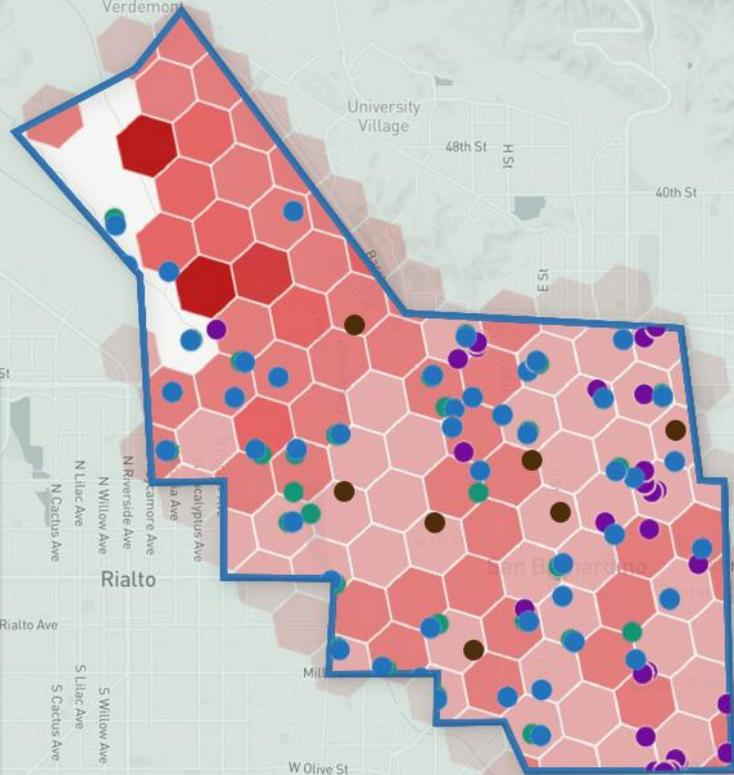
Comparative Fine Particulate Matter (PM_{2.5}) + Sensitive Receptors

Sensitive Receptors

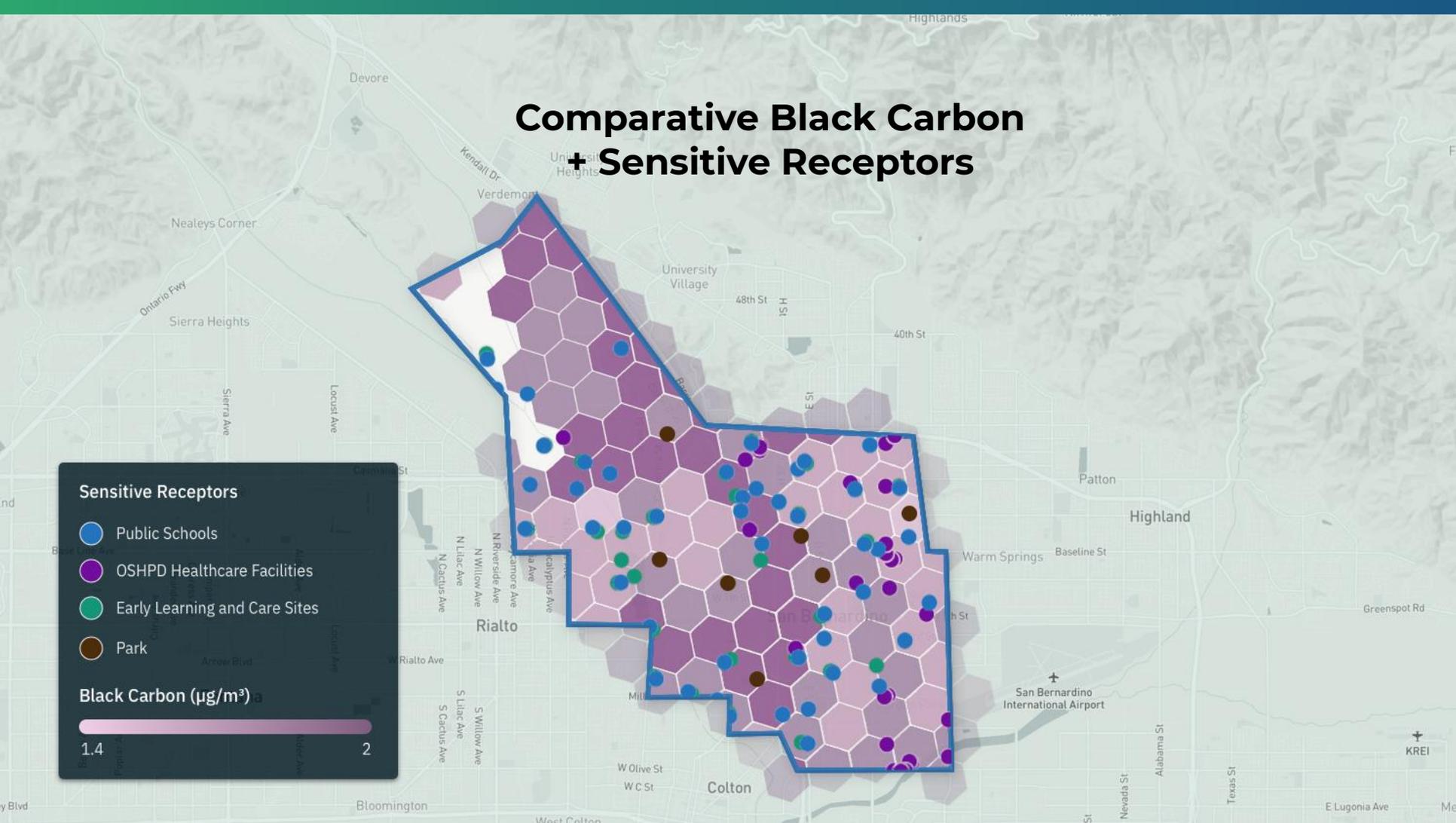
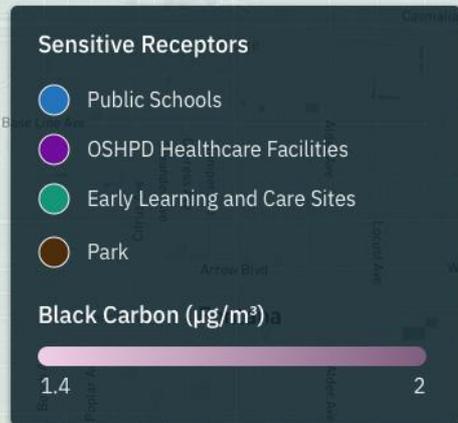
- Public Schools
- OSHPD Healthcare Facilities
- Early Learning and Care Sites
- Park

PM_{2.5} (µg/m³) Fontana

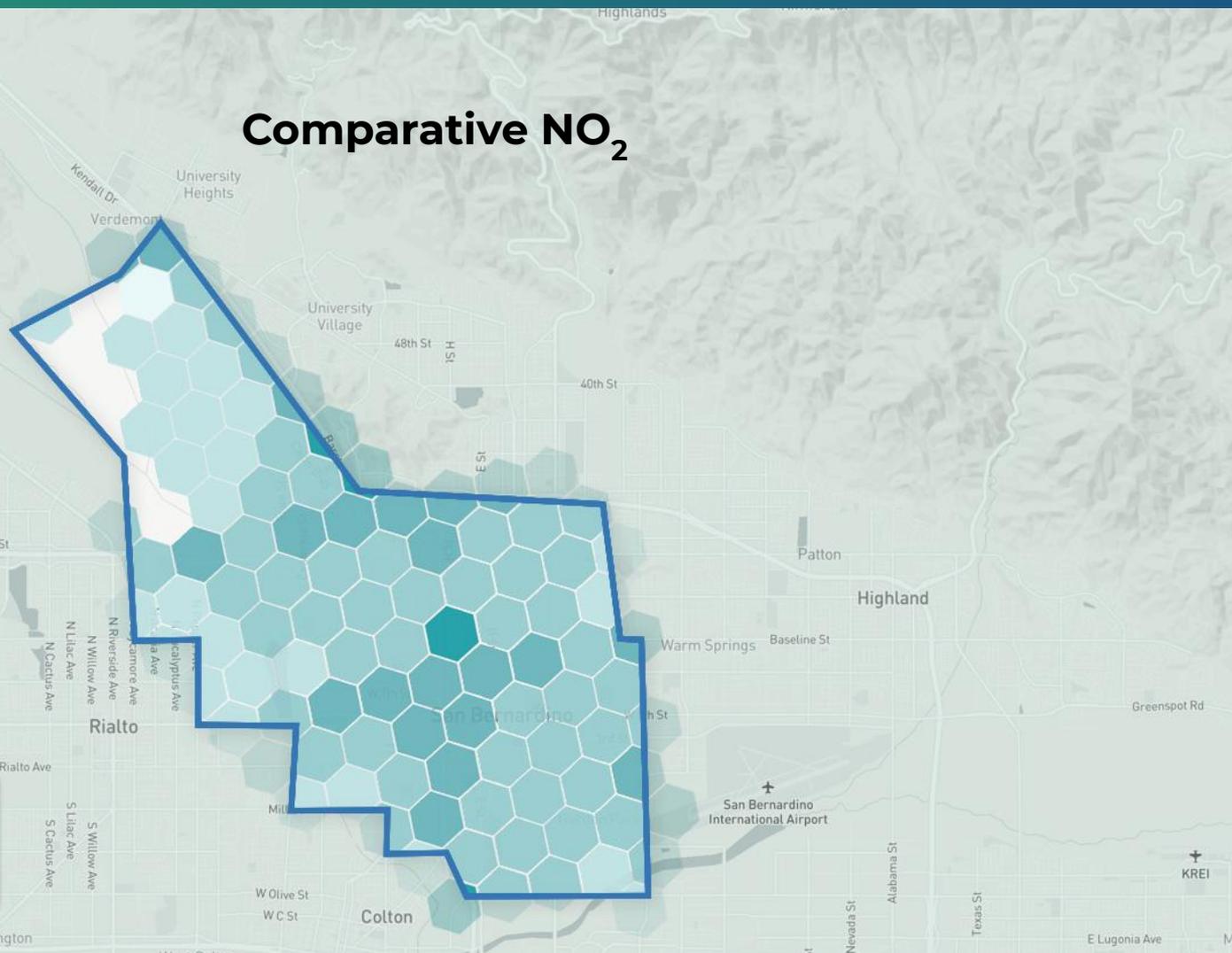
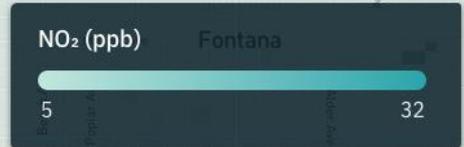
9 | EPA Threshold | 18



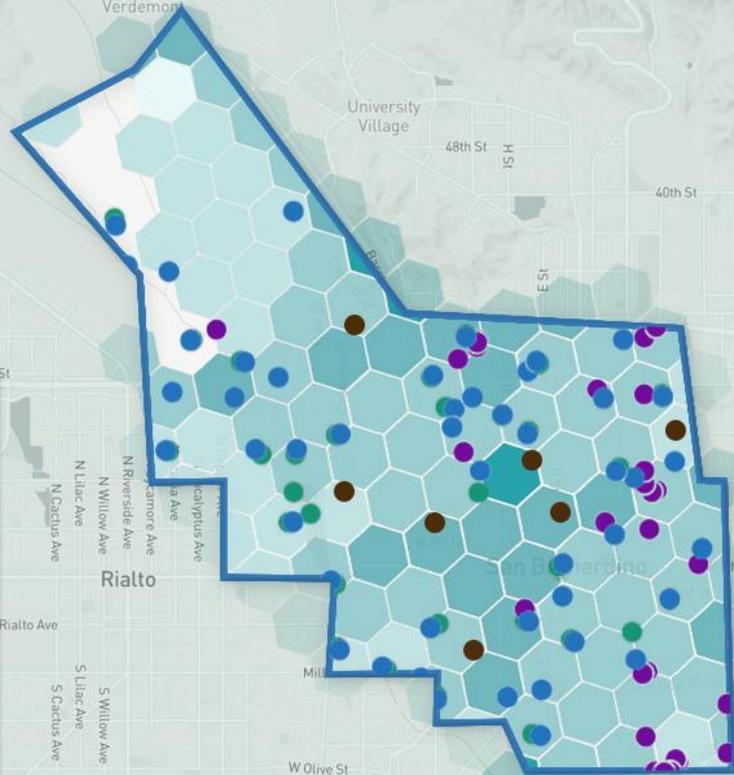
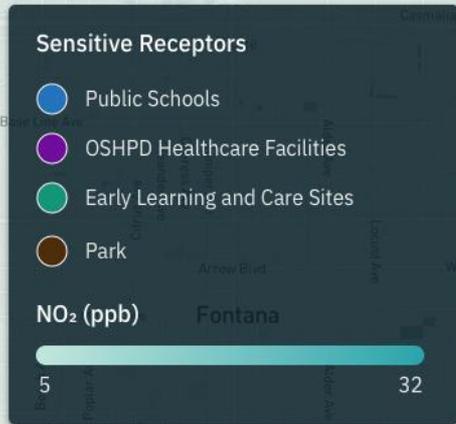
Comparative Black Carbon + Sensitive Receptors



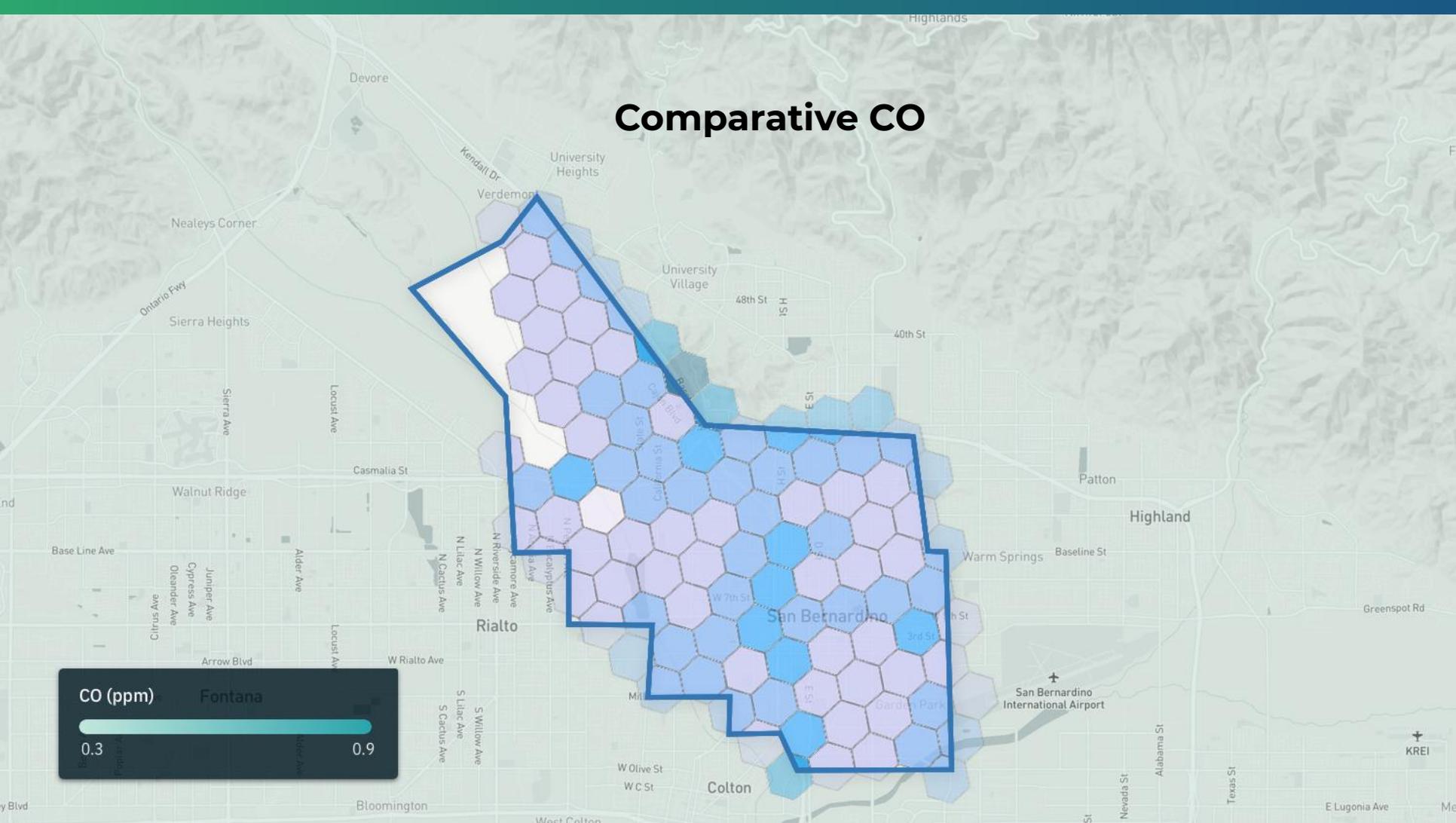
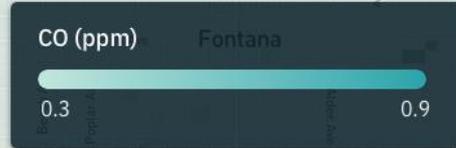
Comparative NO₂



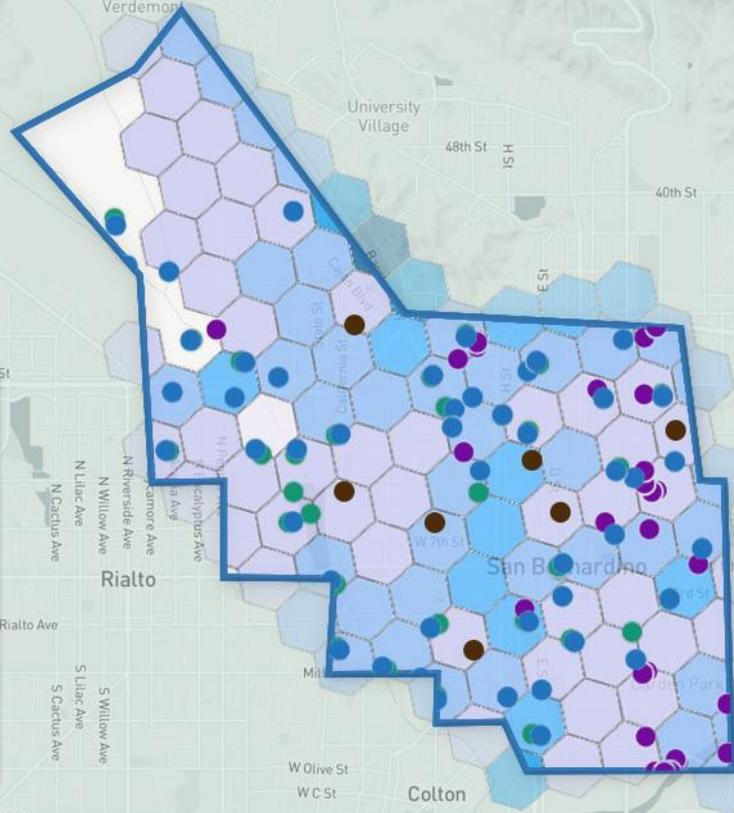
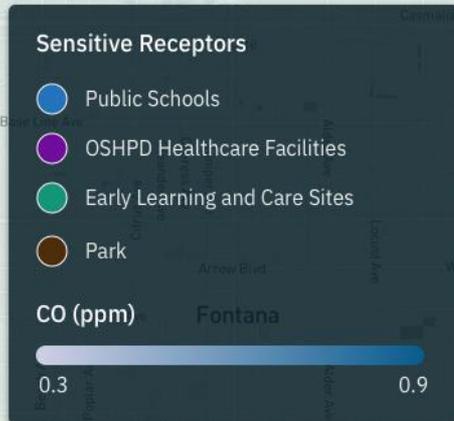
Comparative NO₂ + Sensitive Receptors



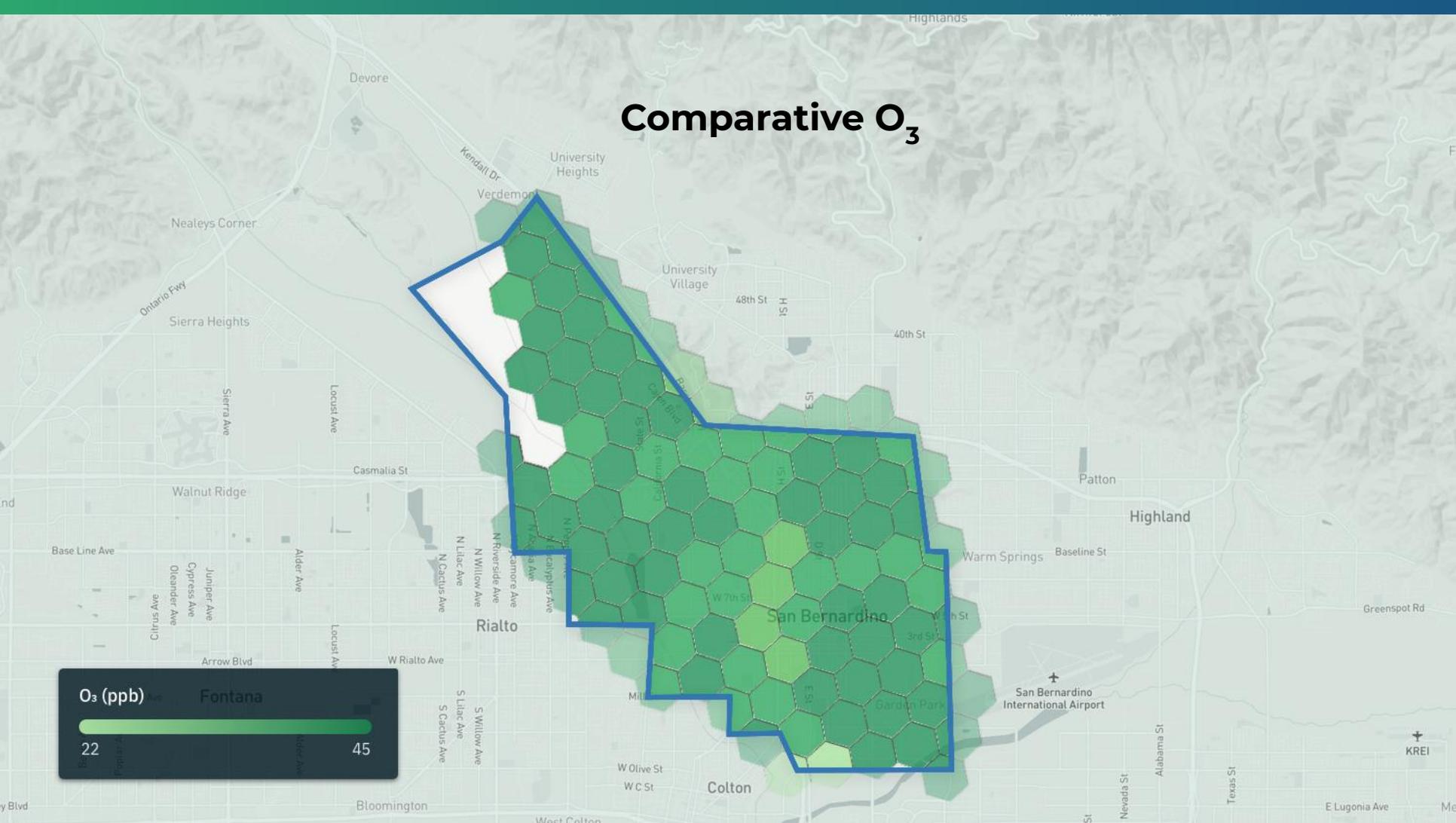
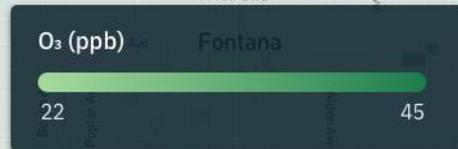
Comparative CO



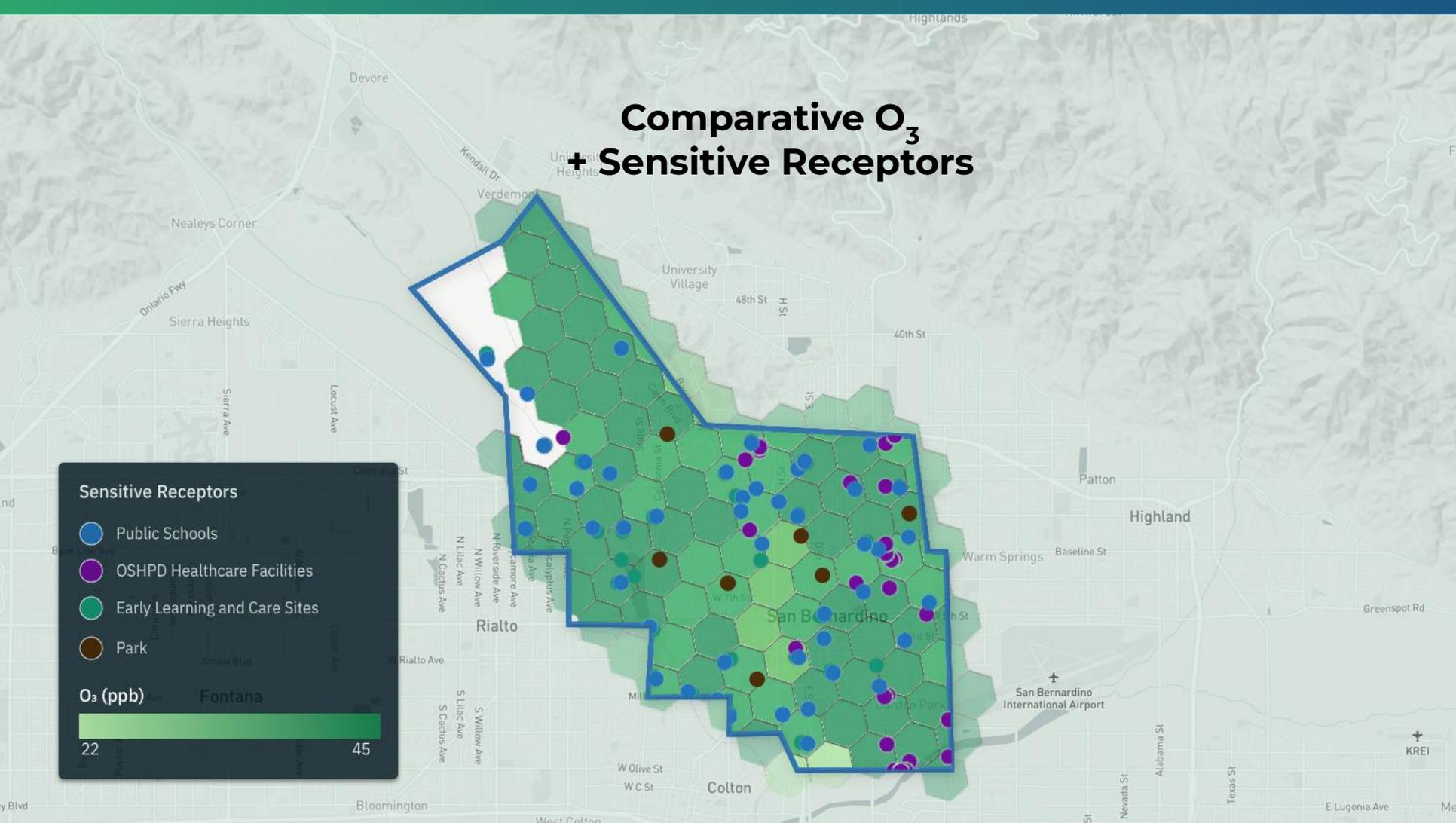
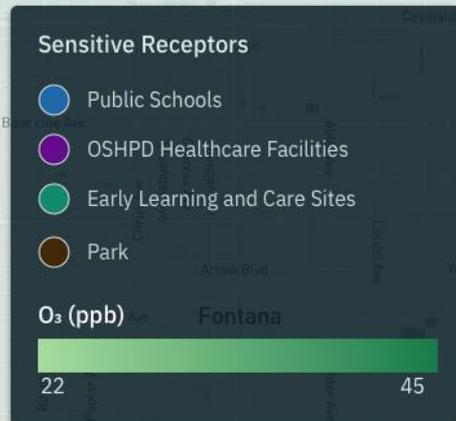
Comparative CO + Sensitive Receptors



Comparative O₃



Comparative O₃ + Sensitive Receptors

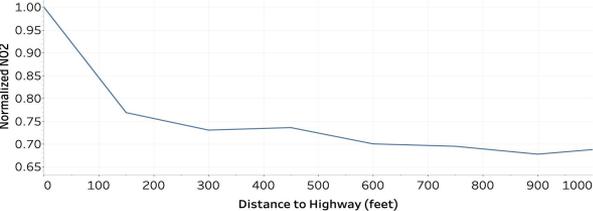
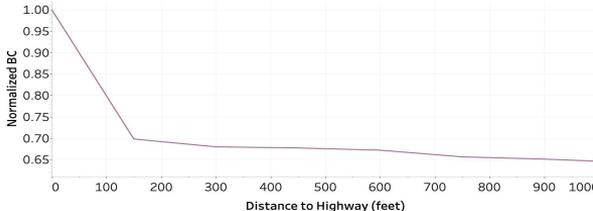
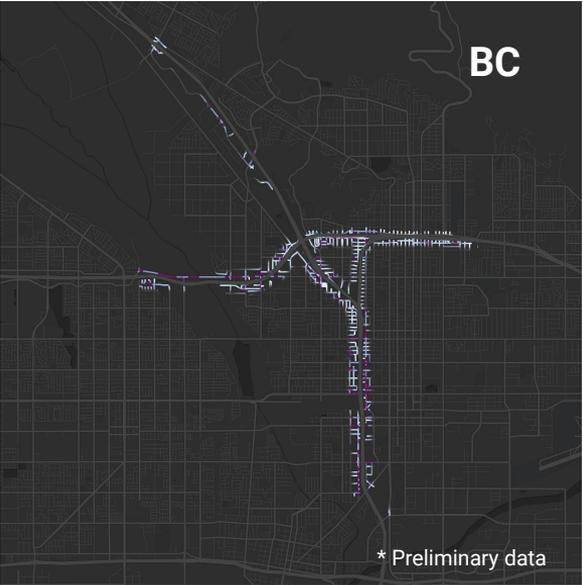
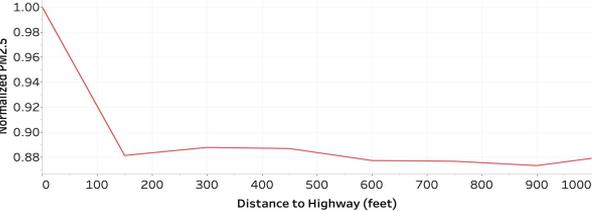
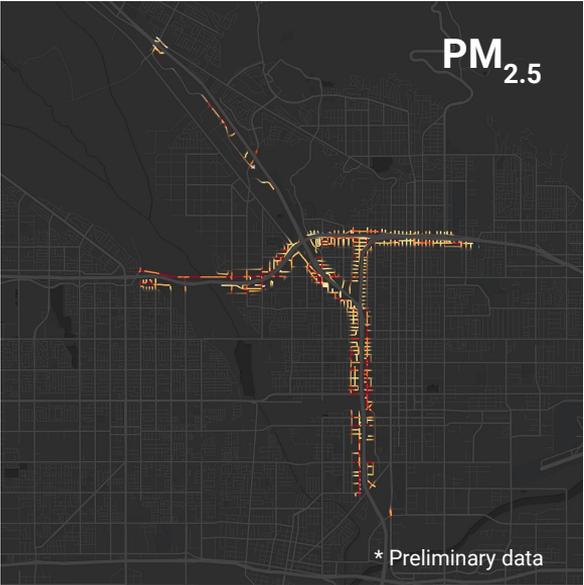


SECTION 02

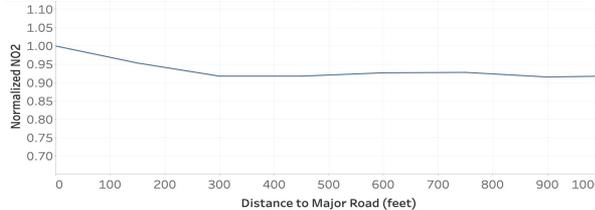
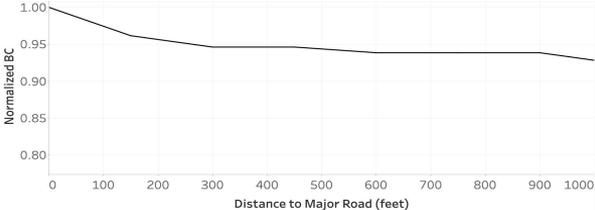
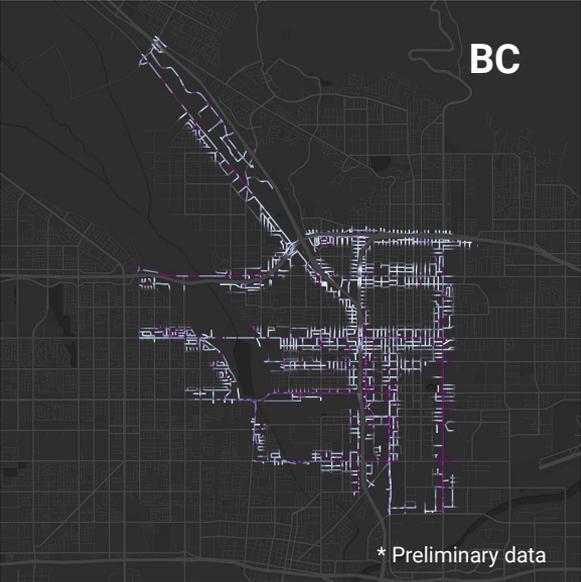
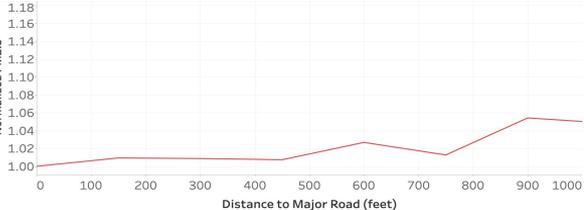
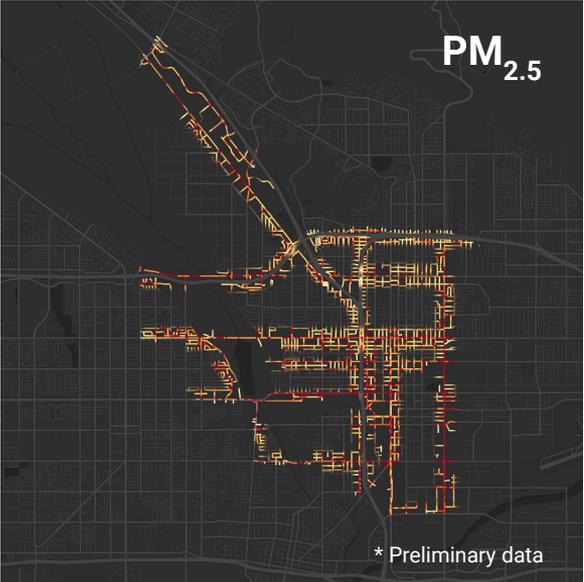
Transportation

- How do pollutant concentrations change with respect to distance from *highways* and *major roads*?
- How do they change with regard to distance from *railroads*?

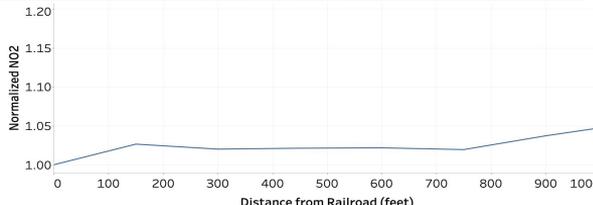
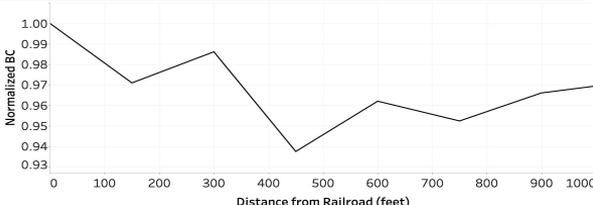
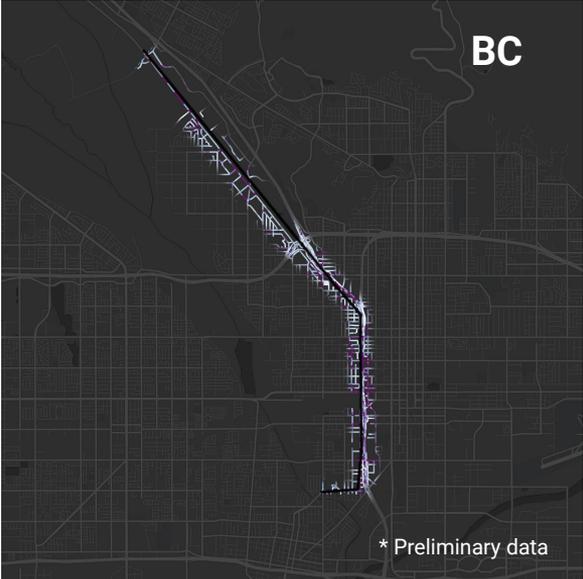
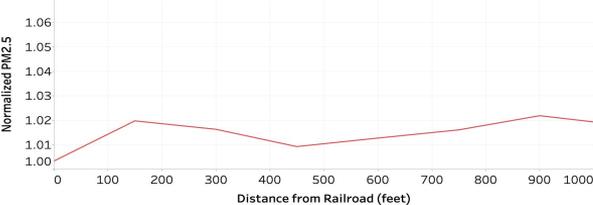
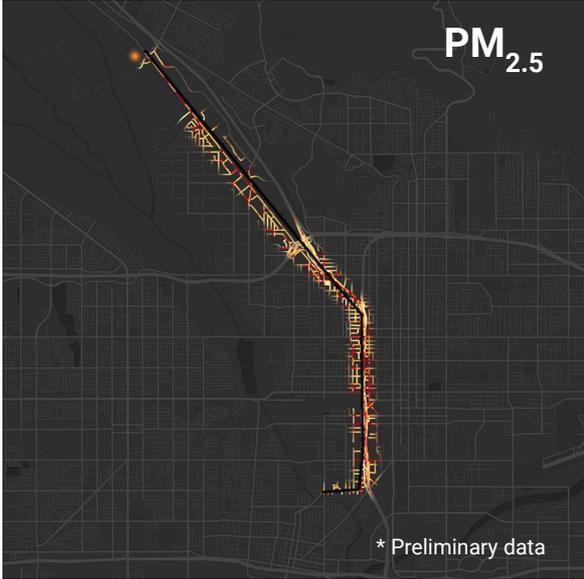
SBM Transportation Impact: Areas within 150 ft of a Highway



SBM Transportation Impact: Areas within 150 ft of a Major Road



SBM Transportation Impact: Areas within 150 ft of a Railroad

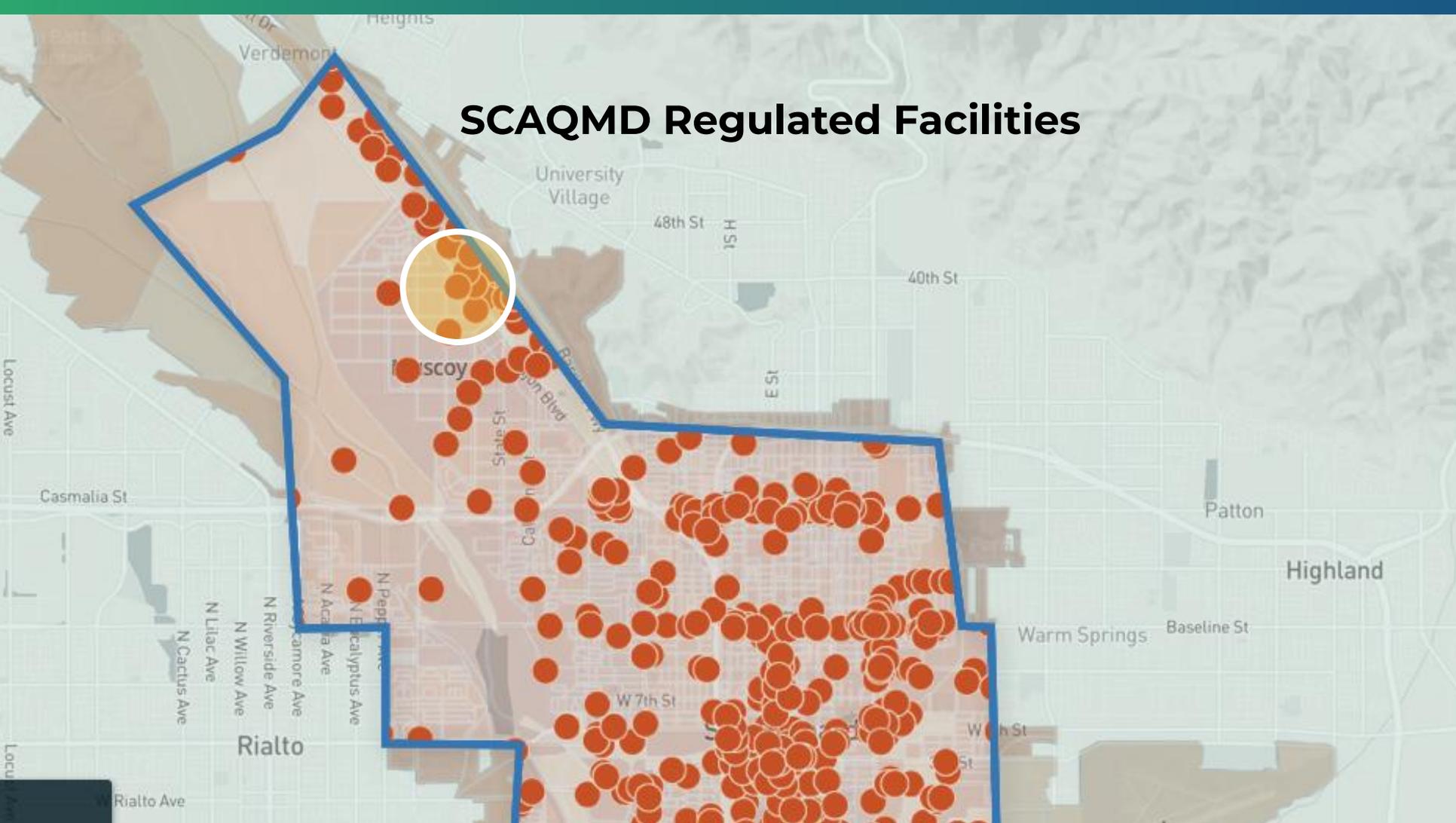


SECTION 03

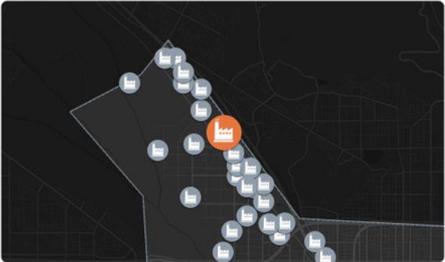
Stationary Facilities / Fixed Sources

- What is the typical air quality like near a given facility?
- What sensitive receptors are nearby?
- Are there pollution hotspots nearby?

SCAQMD Regulated Facilities

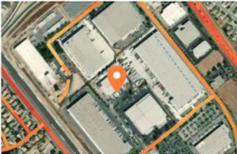


community-emissions-report.aclima.tools/ELABHWC
+



Organic Energy Solutions

2586 Shenandoah, San Bernardino CA 92407



POLLUTANT	AVERAGE CONCENTRATION
Particulate Matter (PM _{2.5})	12 µg/m ³ higher
Black Carbon	1 µg/m ³ about avg
Nitrogen Dioxide (NO ₂)	15 ppb lower

Facility ▲	Community Concern ▲
Basco Factory	ethylene oxide
ABC neighborhood	high exposure
Organic Energy Solutions	pesticides
Storage facilities	offgassing
Auto body shops	chemicals
ABC Drum Co.	illegal burning
Idling trains	particulate matter
Trucking route	idling

REGULATORY SITES



The nearest regulatory air quality station is about **3.6** miles away.



The average concentration for PM_{2.5} at the nearest regulatory site during this period was **9 µg/m³**, which is **25% lower** than your location's measurement.

SENSITIVE RECEPTORS WITHIN A QUARTER MILE

- 🏠 [ABC Neighborhood](#)
- 🏞️ [Littlefield/Shultis Park](#)
- 🎓 [Fundamentals Preschool Academy](#)
- 🏠 [Bishop Barnes Newman Center](#)
- 🏠 [Allen Recovery](#)

This location is within 500 ft of a block with elevated particulate matter (PM_{2.5}).

| 28

SECTION 04

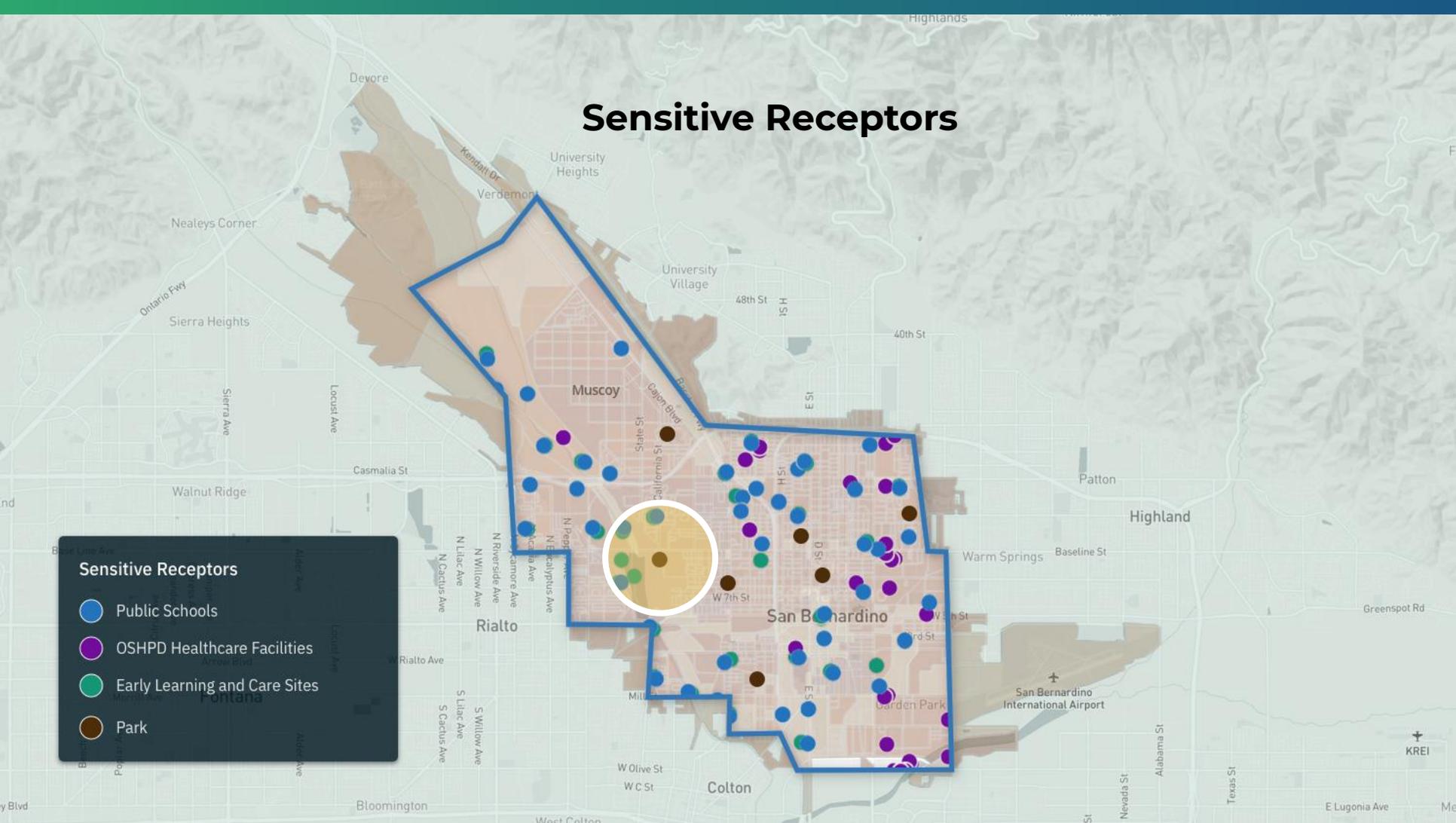
Sensitive Receptors

- What is the typical air quality experienced at sensitive locations?
- What emission sources are nearby?
- Are there pollution hotspots nearby?

Sensitive Receptors

Sensitive Receptors

- Public Schools
- OSHPD Healthcare Facilities
- Early Learning and Care Sites
- Park



community-emissions-report.aclima.tools/ELABHWC



Anne Shirrells Park

1367 N California St, San Bernardino, CA 92411



POLLUTANT	AVERAGE CONCENTRATION	
Particulate Matter (PM _{2.5})	14 µg/m ³	higher
Black Carbon	2 µg/m ³	about avg
Nitrogen Dioxide (NO ₂)	35 ppb	about avg

Facility ▲	Category ▲
Ballard Rehabilitation Hospital	Health
ABC Neighborhood	Neighborhood
Dr. Martin Luther King Jr...	School
Anne Shirrells Park	Park
Emergency Room Communi...	Health
Health Education Center...	Health
Mt Vernon Elementary School	School
Handprints Family Childcare	Childcare

REGULATORY SITES



The nearest regulatory air quality station is about **1.2** miles away.

The average concentration for PM_{2.5} at the nearest regulatory site during this period was **10 µg/m³**, which is **29% lower** than your location's measurement.

SOURCES OF EMISSIONS WITHIN A QUARTER MILE

- [Storage facilities](#)
- [Auto body shops](#)
- [Apex Drum Co.](#)
- [Idling trains](#)

This location is within 500 ft of a block with elevated particulate matter (PM_{2.5}).



SECTION 05

Address Look-up

- What is the typical air quality like for a given location?
- How does that compare to regulatory sites?
- Is this location near a hotspot?
- What known emission sources are nearby?

community-emissions-report.aclima.tools/ELABHWC

ADDRESS LOOKUP

Enter an ELABHWC, SBM, or Bassett / Avocado Heights place or address to generate a custom report.

🔍 Parks & Recreation Head Start



Parks & Recreation Head Start

2969 N Flores St, San Bernardino, CA 92405



POLLUTANT	AVERAGE CONCENTRATION	
Particulate Matter (PM _{2.5})	9 µg/m ³	about avg
Black Carbon	2 µg/m ³	higher
Nitrogen Dioxide (NO ₂)	29 ppb	lower

REGULATORY SITES

The nearest regulatory air quality station is about **3 miles** away.

The average concentration for PM_{2.5} at the nearest regulatory site during this period was **12 µg/m³**, which is **25% higher** than your location's measurement.



SOURCES OF EMISSIONS WITHIN A QUARTER MILE

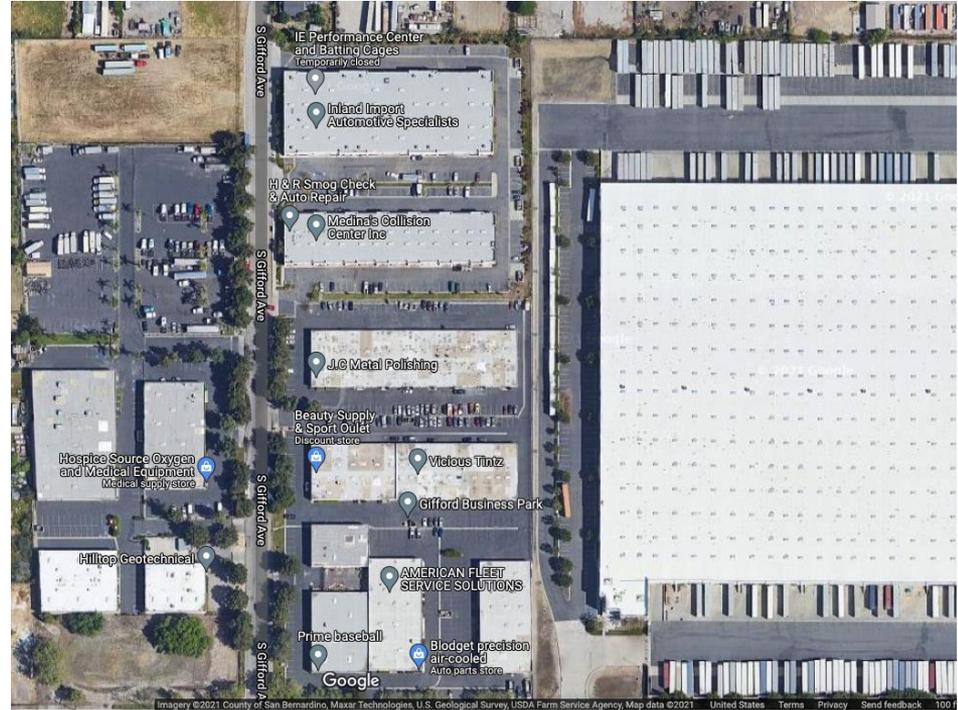
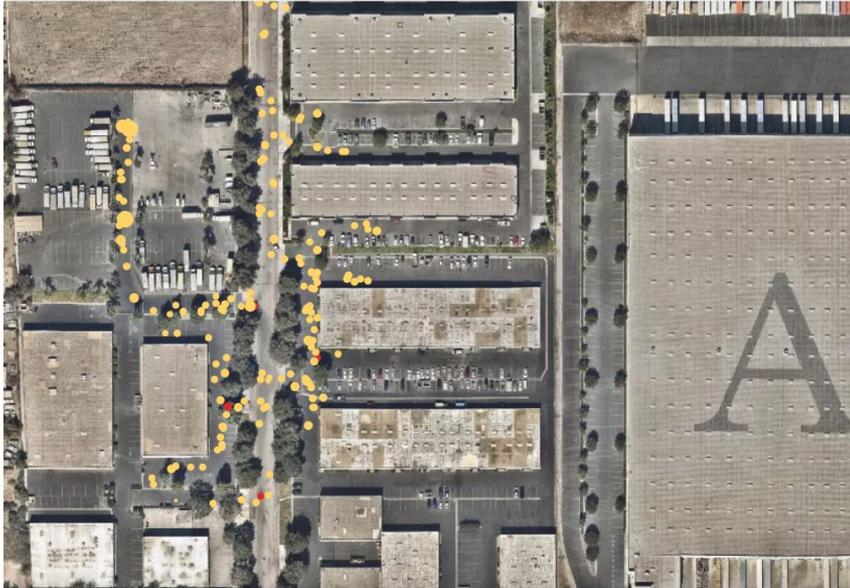
-  [Storage facilities](#)
-  [Auto body shops](#)
-  [Apex Drum Co.](#)
-  [Idling trains](#)

This location is within 500 ft of a block with elevated particulate matter (PM_{2.5}).

SECTION 06

Early Stage VOC Analysis

VOC Peaks





THANK YOU.