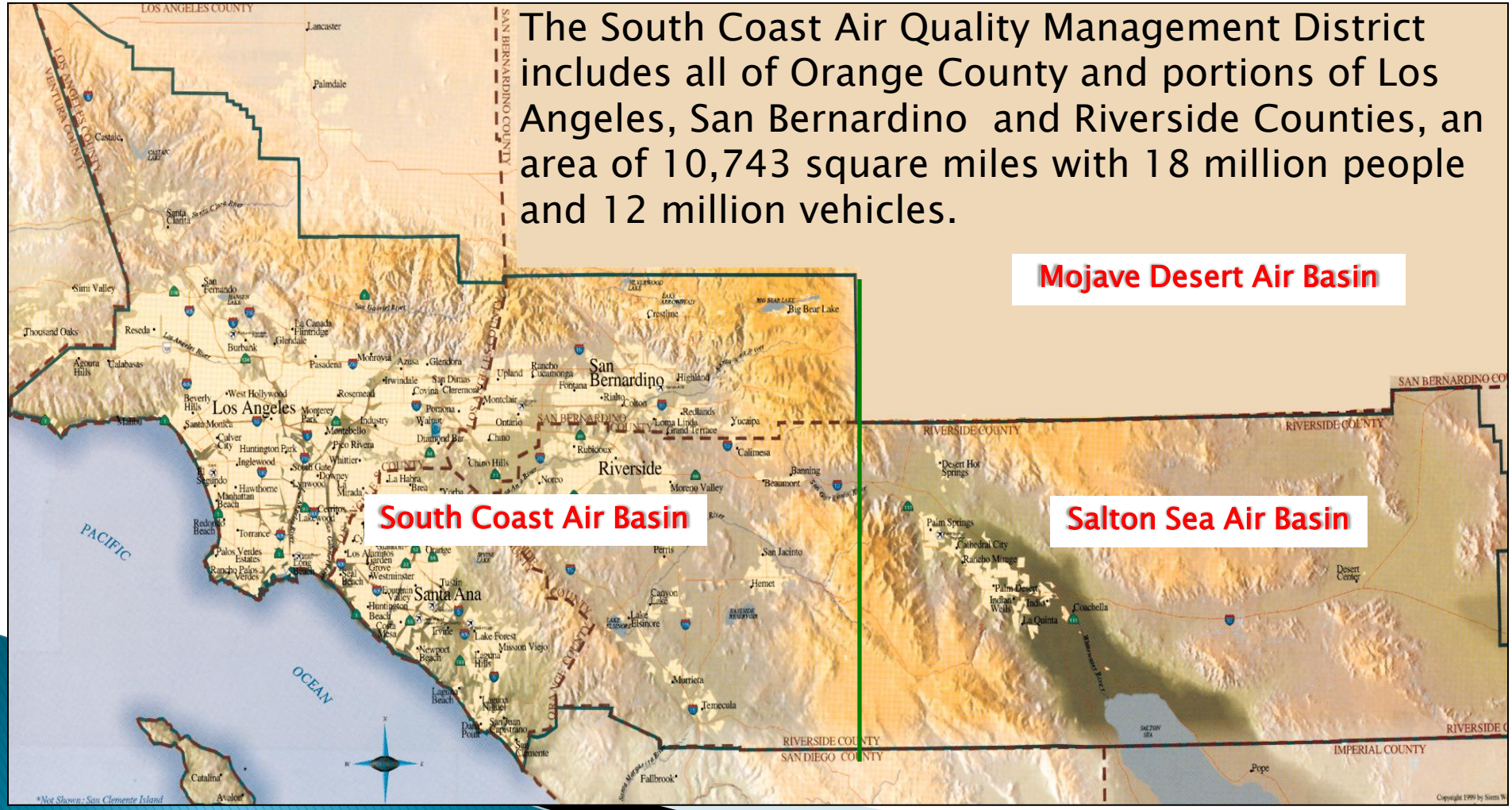
# South Coast AQMD 2025 Draft Annual Network Plan

May 23, 2025

# Overview

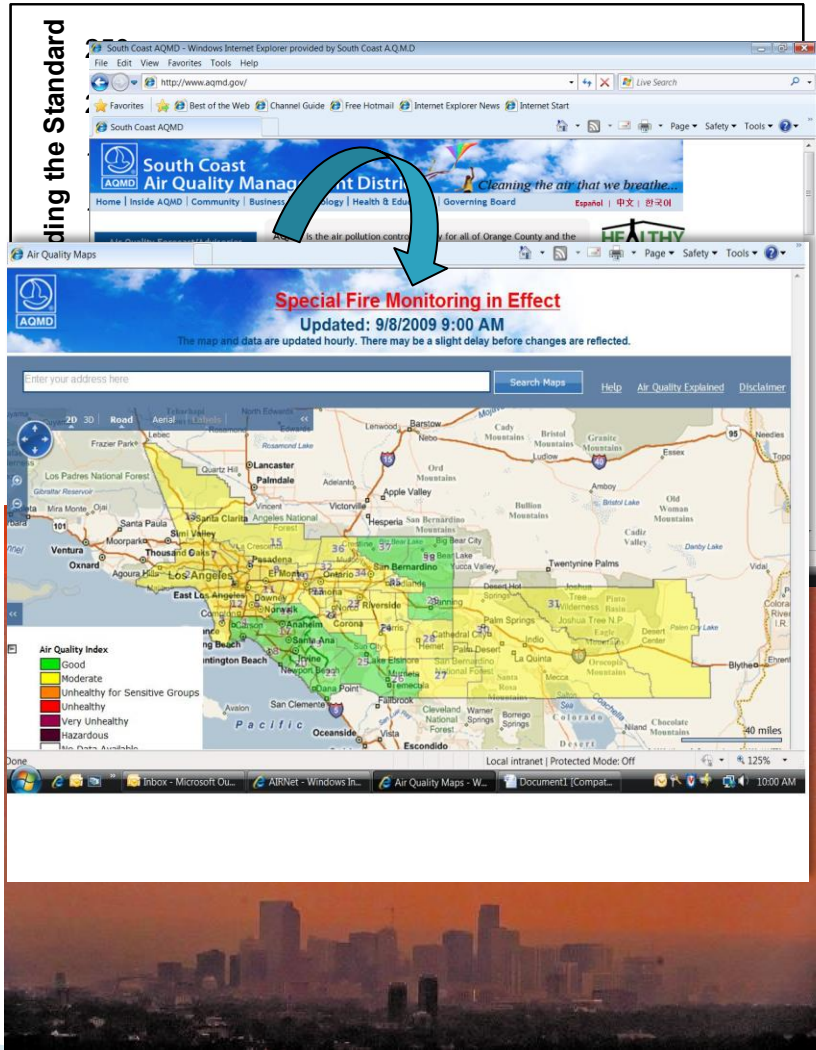
- Background
- Monitoring Network
- Annual Network Plan and Requirements
- Recent and Proposed Modifications
- Special Programs
- PM2.5 Continuous Monitor Comparability Assessment
- Concluding Remarks

# South Coast Air Quality Management District



# Objectives of Air Monitoring

- Support Compliance with Air Quality Standards and Emission Strategy Development.
- Support Air Pollution Research
- Provide Air Pollution Data to the General Public



# South Coast AQMD Monitoring Network

- 34 permanent, air pollutant monitoring stations
- 1 single pollutant monitors for source Lead (pb)
- 4 NO2 near road monitors.
- Meets U.S. EPA Program Requirements where applicable
  - Criteria Pollutants, NCore
  - PAMS – Ozone precursors
  - NATTS – Toxics measurements
  - PM2.5 Speciation

# Annual Network Plan

- Document that shows evaluation of existing network and discussion of upcoming changes for review by public and U.S. EPA
  - State Implementation Plans
  - Attainment Designations
- Available on South Coast AQMD website.
  - http://www.aqmd.gov/home/air-quality/clean-air-plans
- Requirements
  - Submitted by July 1st of each year to U.S. EPA Regional Administrator
  - Public Inspection/ Comment
  - Description of Monitors
  - Network Modifications

# NAAQS Attainment Status SCAB

| Criteria Pollutant | Averaging Time | Designation | Attainment Status |
|---|---|---|---|
| 2015 **8-Hour Ozone** | 8-Hour (0.070 ppm) | Nonattainment (Extreme) | Not Attained (2024 , 0.108) Federal Standard |
| **CO** | 1-Hour (35 ppm)<br>8-Hour (9 ppm) | Maintenance | Attained |
| **$NO_2$** | 1-Hour (100 ppb) | Unclassifiable - Attainment | Attained |
| | Annual (0.053 ppm) | Maintenance | Attained |
| **$SO_2$** | 1-Hour (75 ppb) | Designations Pending Expect Unclassifiable - Attainment | Expect Attainment |
| | 3 hours (0.5 ppm) | Unclassifiable - Attainment | Attained |
| **PM10** | 24-hour (150 $\mu g/m^3$) | Maintenance | Attained |
| **PM2.5** | 24-Hour (35 $\mu g/m^3$) | Nonattainment | 35.0 ug/m3 2024 |
| | Annual (9.0 $\mu g/m^3$) | Designations Pending (Expect Nonattainment) | 12.9 ug/m3 2024 |
| | Annual (15.0 $\mu g/m^3$) | Nonattainment | No exceedances of standard since 2013 |
| **Lead** | 3-Months Rolling (0.15 $\mu g/m^3$) | Nonattainment | No exceedances of the standard since 2015 |

# NAAQS Attainment Status of Coachella Valley Portion of the Salton Sea Air Basin

| Criteria Pollutant | Averaging Time | Designation | Attainment Status |
|---|---|---|---|
| 2015 NAAQS **8-Hour Ozone** | 8-Hour (0.070 ppm) | Nonattainment (Extreme) | Not Attained (2024, 0.085) Federal Standard |
| **CO** | 1-Hour (35 ppm)<br>8-Hour (9 ppm) | Maintenance | Attained |
| **NO2** | 1-Hour (100 ppb) | Unclassifiable - Attainment | Attained |
| | Annual (0.053 ppm) | Maintenance | Attained |
| **SO2** | 1-Hour (75 ppb) | Designations Pending Expect Unclassifiable - Attainment | Expect Attainment |
| | 24-Hour (0.14 ppm)<br>Annual (0.03 ppm) | Unclassifiable - Attainment | Attained |
| **PM10** | 24-hour (150 µg/m$^3$) | Nonattainment (Serious) | Not Attained (2024, 380) |
| **PM2.5** | 24-Hour (35 µg/m$^3$) | Unclassifiable - Attainment | Attained |
| | Annual (9.0 µg/m$^3$) | Maintenance | |
| | Annual (15.0 µg/m$^3$) | Maintenance | |
| **Lead** | 3-Months Rolling (0.15 µg/m$^3$) | Unclassifiable/Attainment | Attained |

*Max recorded in 2023. EE demonstration may lower this value

# Air Monitoring Network Requirements

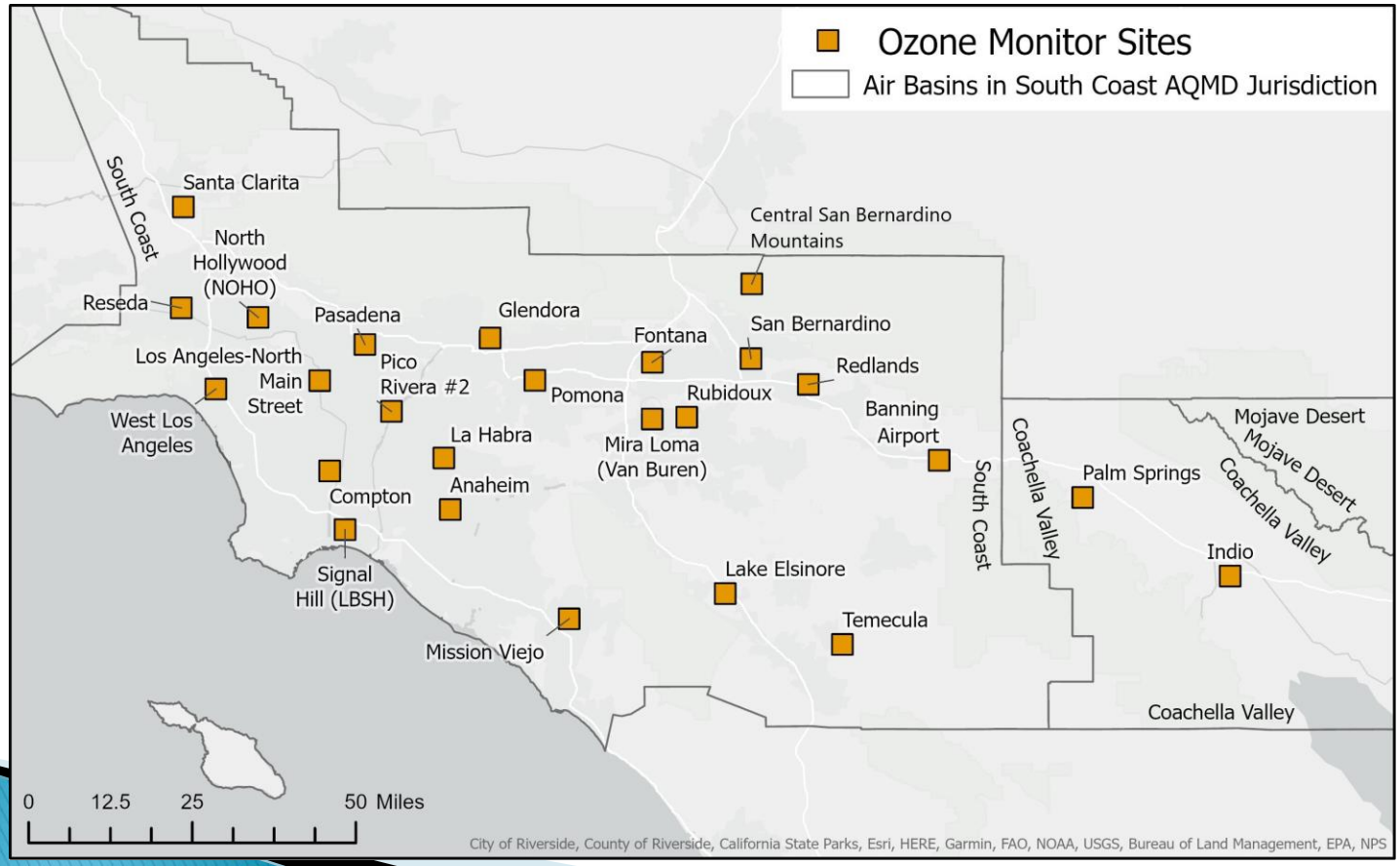
- Each pollutant requires a minimum number of monitors based upon certain criteria
- Population metrics are based upon latest available information
- Design value years are 2022-2024

| Pollutant | Minimum Monitor Criteria |
|---|---|
| Ozone | MSA Population<br>Design Value Concentration |
| Near Road NO2 | MSA Population<br>Annual Average Daily Traffic |
| NO2 | CBSA Population |
| SO2 | CBSA Population<br>SO2 Emissions (tons/year) |
| Pb | Pb Emissions (NEI) |
| PM10 | MSA Population<br>Design Value Concentration |
| PM2.5 | MSA Population<br>Design Value Concentration |

| Counties | Population (2024) |
|---|---|
| Los Angeles Orange | 12,927,614 |
| San Bernardino<br>Riverside | 4,744,214 |

# Ozone

| Counties | 8-hr Design Value (ppb) DV, Years | Design Value Site | Monitors Required | Monitors Active |
|---|---|---|---|---|
| Los Angeles<br>Orange | 101<br>2022-2024 | Glendora<br>06037016 | 4 | 14 |
| San Bernardino<br>Riverside | 108<br>2022-2024 | Redlands<br>060714003 | 3 | 11 |



# PM2.5

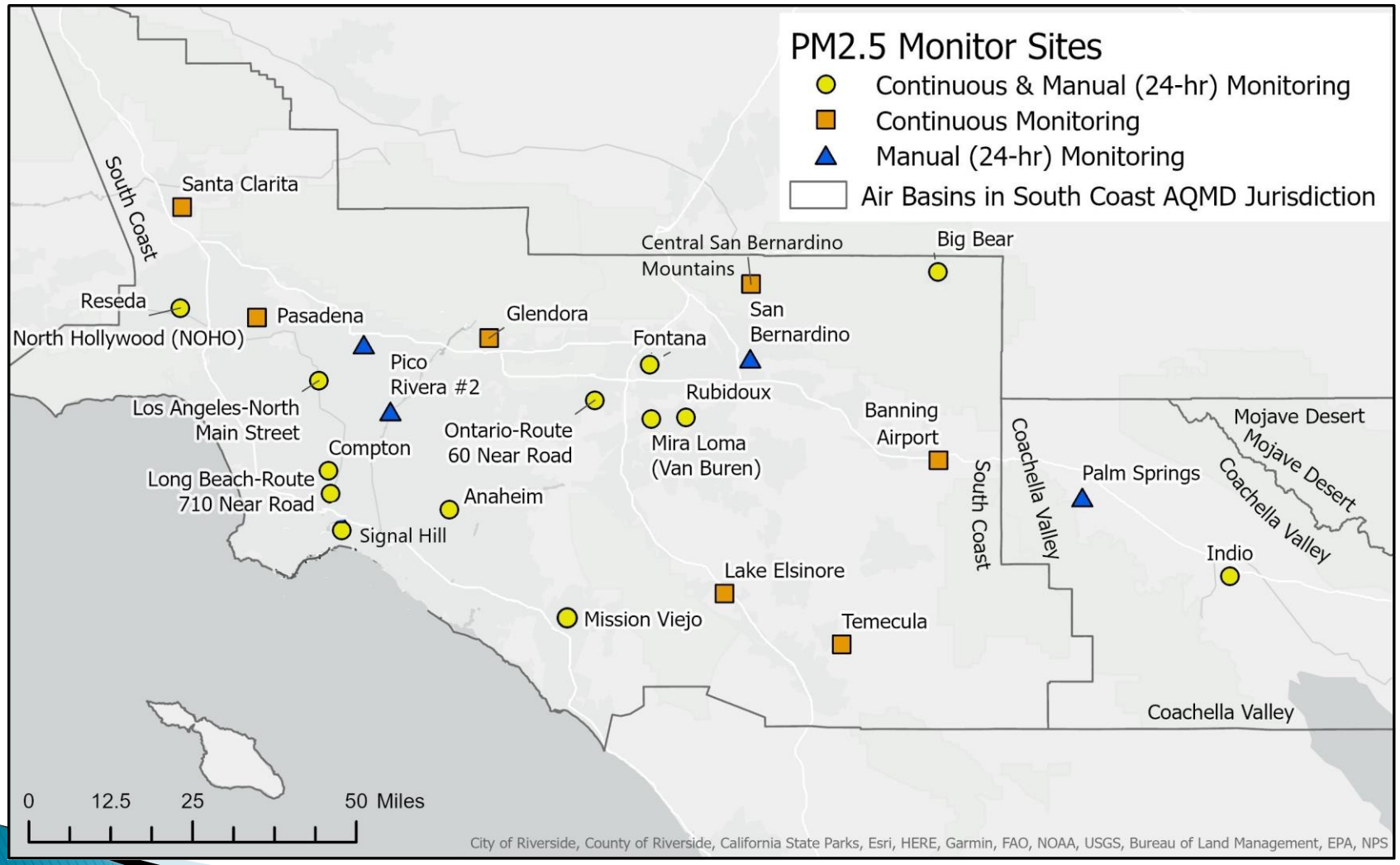
## Federal Reference Method (FRM)

| Counties | Annual Design Value [ug/m3] | Annual Design Value Site | Daily Design Value [ug/m3] | Daily Design Value site | Required SLAMS Monitors | Active SLAMS Monitors |
|---|---|---|---|---|---|---|
| Los Angeles Orange | 11.9 2022-2024 | Compton 060371302 | 32.0 2022-2024 | Compton 060371302 | 3 | 9 |
| San Bernardino Riverside | 12.9 2022-2024 | Ontario Route 60 Near Road 060710027 | 35.0 2022-2024 | Fontana 060712002 | 3 | 8 |

## Continuous: Federal Equivalent Method (FEM) and Non FEM; Speciation

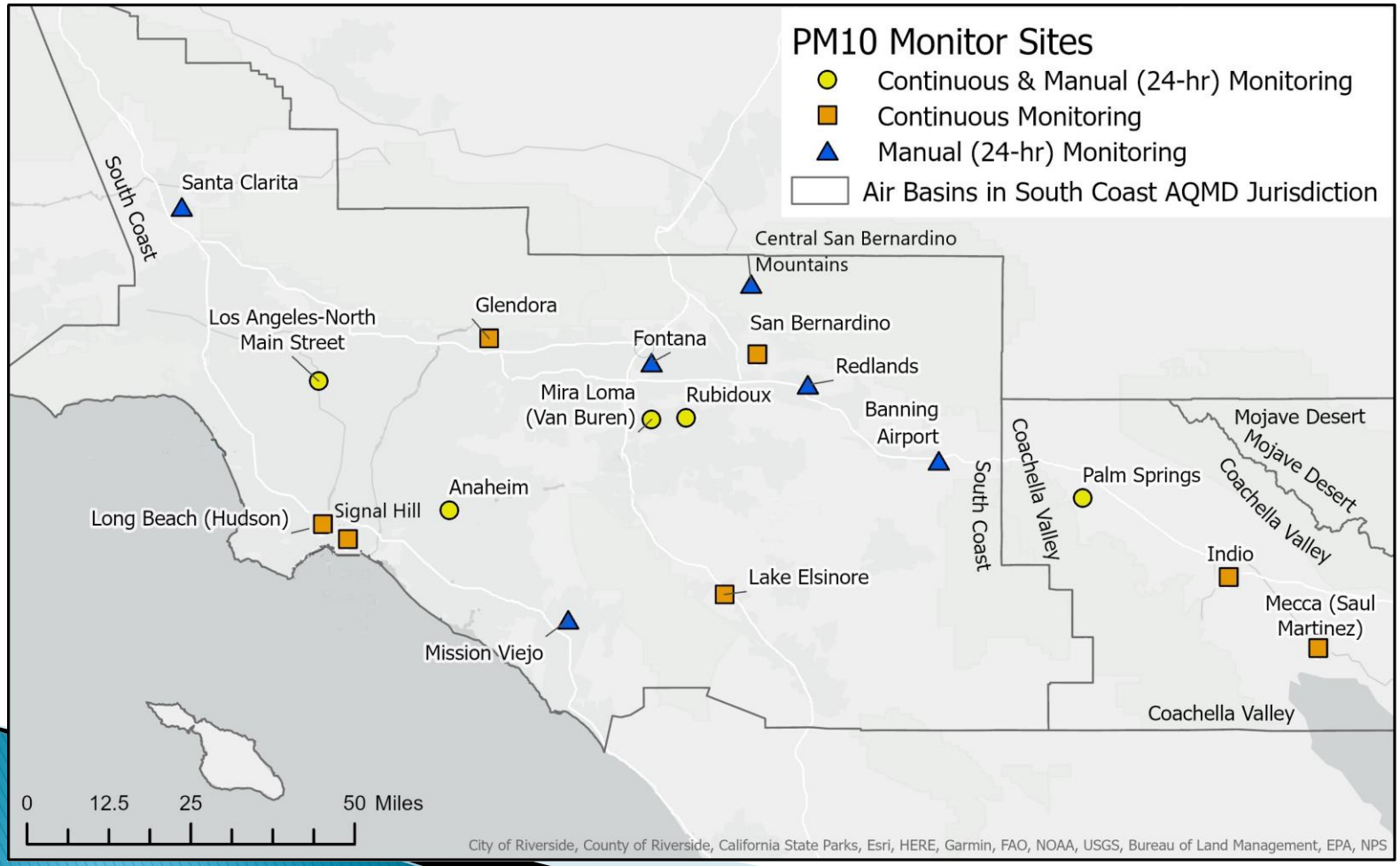
| Counties | Annual Design Value [ug/m3] | Annual Design Value | Daily Design Value [ug/m3] | Daily Design Value site | Required Continuous Monitors | Active Continuous Monitors | Speciation Monitors Required | Speciation Monitors Active |
|---|---|---|---|---|---|---|---|---|
| Los Angeles Orange | 11.9 2022-2024 | Compton 060371302 | 32.0 2022-2024 | Compton 060371302 | 2 | 10 | 1 | 3 |
| San Bernardino Riverside | 12.9 2022-2024 | Ontario Route 60 Near Road 060710027 | 35.0 2022-2024 | Fontana 060712002 | 2 | 10 | 1 | 3 |

# PM2.5 Network Map



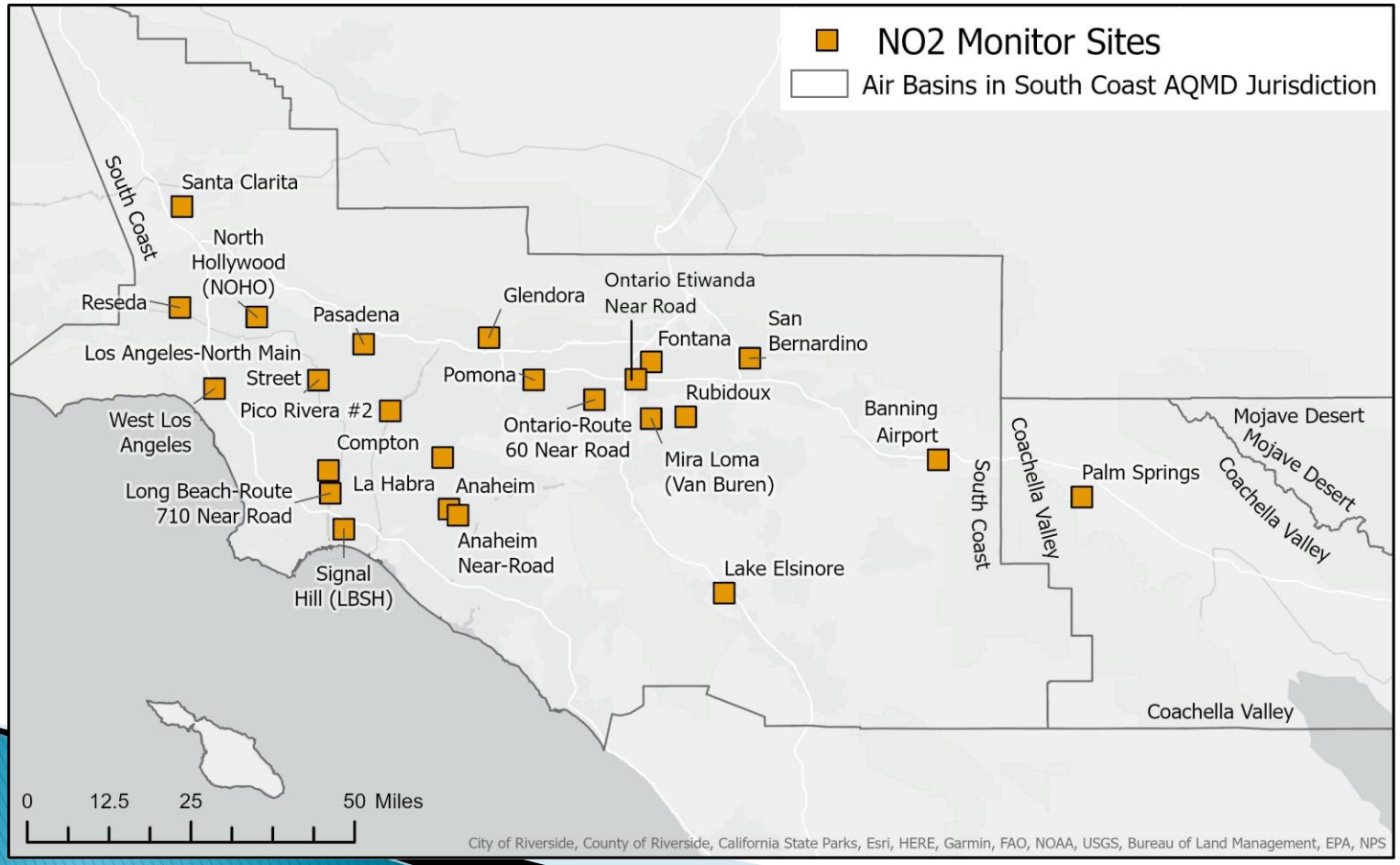
# PM10

| Counties | Daily DV Concentration [ug/m3] | Site | Required Monitors | Active Monitors | Additional Monitors Needed |
|---|---|---|---|---|---|
| Los Angeles Orange | 120 | Anaheim 060590007 | 4-8 Med. Conc. | 7 | 0 |
| San Bernardino Riverside | 380 | Mecca 060652005 | 6-10 High Conc. | 11 | 0 |



# Nitrogen Dioxide (NO2)

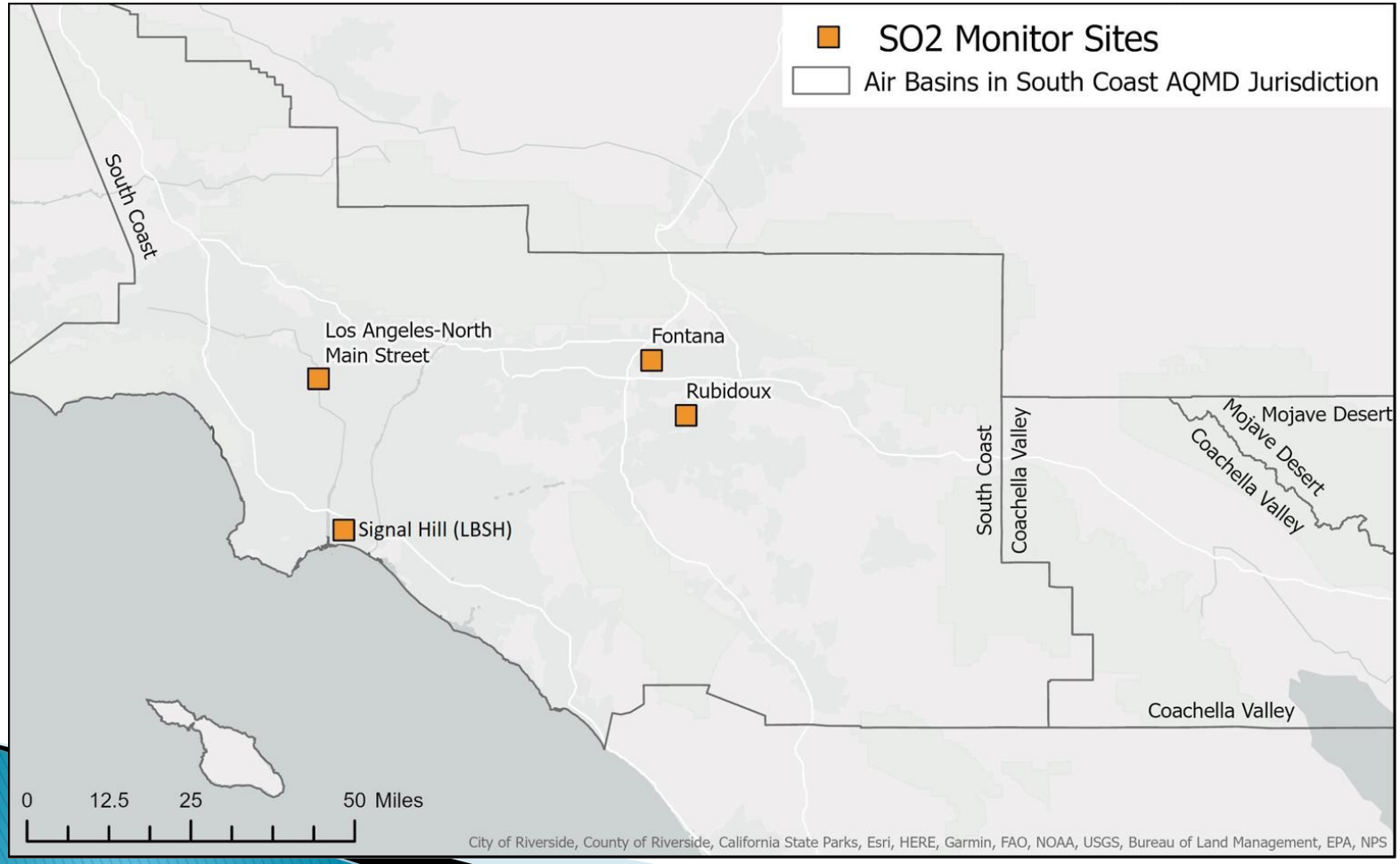
| Counties | Max AADT Counts | Required Near Road Monitors | Active Near Road Monitors | Required Area Wide Monitors | Active Area Wide Monitors |
|---|---|---|---|---|---|
| Los Angeles Orange | 386,600 2022 | 2 | 2 | 1 | 13 |
| San Bernardino Riverside | 274,000 2022 | 2 | 2 | 1 | 7 |



# Sulfur Dioxide (SO2)

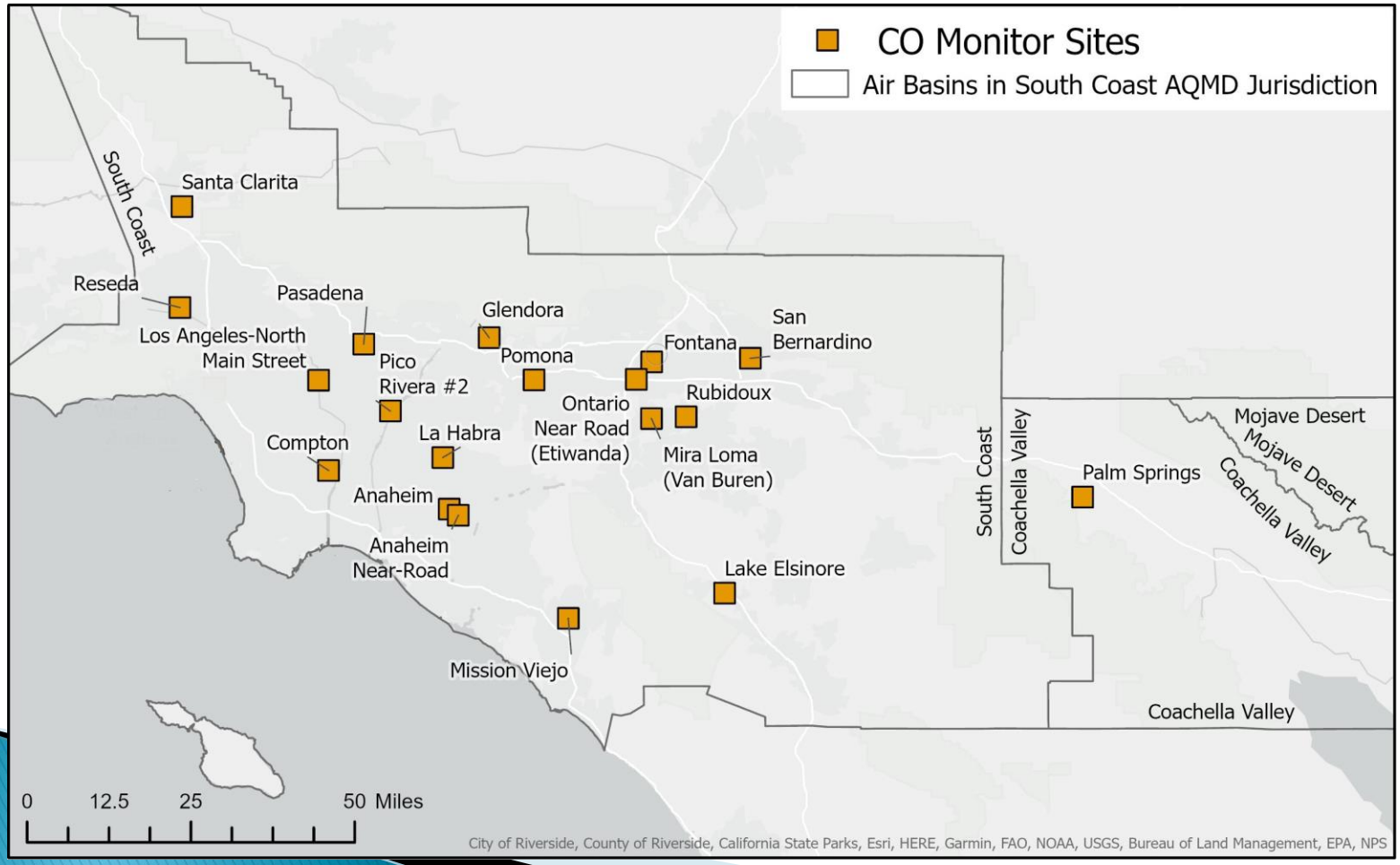
| Counties | Total SO2[1] [tons/year] | Population Weighted Emissions Index[2] [million persons-tons per year] | Required Area Wide Monitors | Active Area Wide Monitors |
|---|---|---|---|---|
| Los Angeles Orange | 5593.36 2022 | 72,309 | 1 | 2 |
| San Bernardino Riverside | 1889.95 2022 | 8,966 | 1 | 2 |

[1]Using latest NEI data 2020, available on EPA website: https://www.epa.gov/air-emissions-inventories/national-emissions-inventory
[2]Calculated by multiplying CBSA population and total SO2 and dividing product by one million.



# Carbon Monoxide (CO)

| CBSA | Required Near Road Monitors | Active Near Road Monitors | Required Area Wide Monitors | Active Area Wide Monitors |
|---|---|---|---|---|
| Los Angeles Orange | 1 | 1 | 0 | 11 |
| San Bernardino Riverside | 1 | 1 | 0 | 6 |



# Lead (Pb)

## Pb at NCore

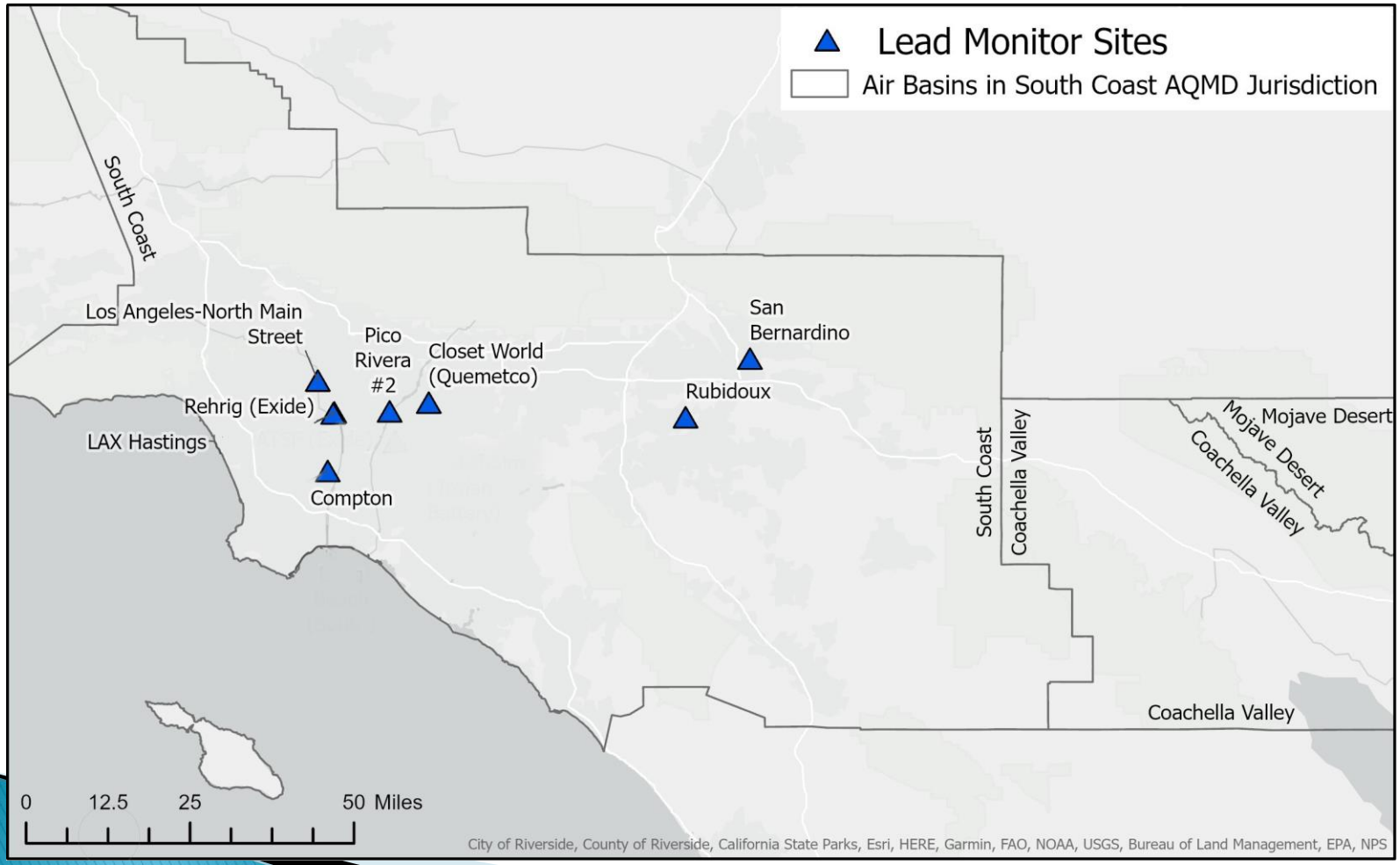
| NCore Site (name, AQS ID) | Required Monitors | Active Monitors | Additional Monitors Needed |
|---|---|---|---|
| Los Angeles (Main Street) 060371103 | 0 | 2 | 0 |
| Rubidoux 060658001 | 0 | 1 | 0 |

## Source Oriented Pb Monitoring (Including Airports)

| Source Name | Address | Pb Emissions (lbs. per year) | Emission Inventory Source and Data Year | Max 3-Month Design Value [ug/m3] | Design Value Date | Required Monitors | Active Monitors | Additional Monitors Needed |
|---|---|---|---|---|---|---|---|---|
| Exide Technologies | 2700 S Indiana St, Vernon, CA 90058 | 0.0 | NEI 2020 | 0.04 | 4;2022 | 0 | 1 | 0 |
| Quemetco Inc. | 720 S 7th Ave, City Of Industry, CA 91746 | 5.3 | NEI 2020 | 0.02 | 6; 2024 | 0 | 1 | 0 |

# Ambient Lead (Pb) Network

| CBSA | Design Value [ug/m3] | Required Area Wide Monitors | Active Area Wide Monitors |
|---|---|---|---|
| Los Angeles Orange | 0.01, 2021-2023 | 0 | 3 |
| San Bernardino Riverside | 0.01 2021-2023 | 0 | 1 |



# Photochemical Assessment Monitoring Stations (PAMS)

PAMS measurements include ozone and precursors to better characterize the nature and extent of the ozone problem. Non-attainment areas are required to have an enhanced monitoring plan.

- Ozone
- Direct NO2, NOx, Noy
- Hourly VOC
- Carbonyls 1 in 6 day (24 hour average)
- Ceilometer – hourly upper air boundary layer measurements
- Meteorology
- Solar Radiation – Ultra Violet Radiation

# PAMS Seasonal Schedule

- Intensive season May 1 – September 30
- NO2 hourly measurements
- Add hourly VOCs
- Auto GC
- Carbonyls 3 x 8 hour every 3rd day

| | | June 1 to August 31 | | |
|---|---|---|---|---|
| **Date Established as PAMS** | **Site / AQS ID#** | **VOC** | **Carbonyl** | **Comments** |
| 06/01/2009 | Los Angeles (Main St) | Auto GC hourly averages | 3 x 8 hr. sample every 3rd day | Direct Measure NO2, Barometric Pressure, UV Radiation, Solar Radiation, Precipitation and Upper Air Measurements are conducted year round |
| 06/09/2009 | Rubidoux | Auto GC hourly averages | 3 x 8 hr. sample every 3rd day | Direct Measure NO2, Barometric Pressure, UV Radiation, Solar Radiation, Precipitation and Upper Air Measurements are conducted year round |

# Recent Modifications to Network

- Site Closures
  - Santa Clarita – City of Santa Clarita relocation
    - Measured ozone, NO2, PM10, PM2.5
  - Mission Viejo – Relocation at city request
    - Measured Ozone and PM2.5
  - Azusa – at owner request
    - Measured Ozone, NO2, CO, PM10 and PM2.5
  - Indio – at City of Indio request
    - Measured Ozone, PM10, PM2.5
  - LAX (Hastings) at request of LAX
    - Measured Ozone, NO2, CO, PM10 and Pb
- Will continue to meet U.S. EPA monitoring requirements

# Proposed Modifications to Network

- Site Relocations
  - Anaheim, Anaheim Near Road, Palm Springs
- Site Closures
  - Proposed closure of the Pomona site
- Instrument reductions
  - Proposed CO reductions by 17 monitors, four remain to meet minimum requirement
  - Proposed PM10 filter based monitor reductions
- Will continue to meet or exceed monitoring requirements

# Special Programs

- **AB617** – The measure requires local air districts to take specific actions to reduce air pollution and toxic air contaminants from commercial and industrial sources.
  - http://www.aqmd.gov/nav/about/initiatives/environmental-justice/ab617-134.

- **Rule 1180** – mandates the implementation of real-time observations of air quality at or near the fenceline of all major refineries in the Basin and in nearby communities.
  - http://www.aqmd.gov/home/rules-compliance/rules/support-documents/rule-1180-refinery-fenceline-monitoring-plans.

- **MATES VI** – study to determine the Basin-wide risks associated with major airborne carcinogens
  - MATES VI (aqmd.gov)

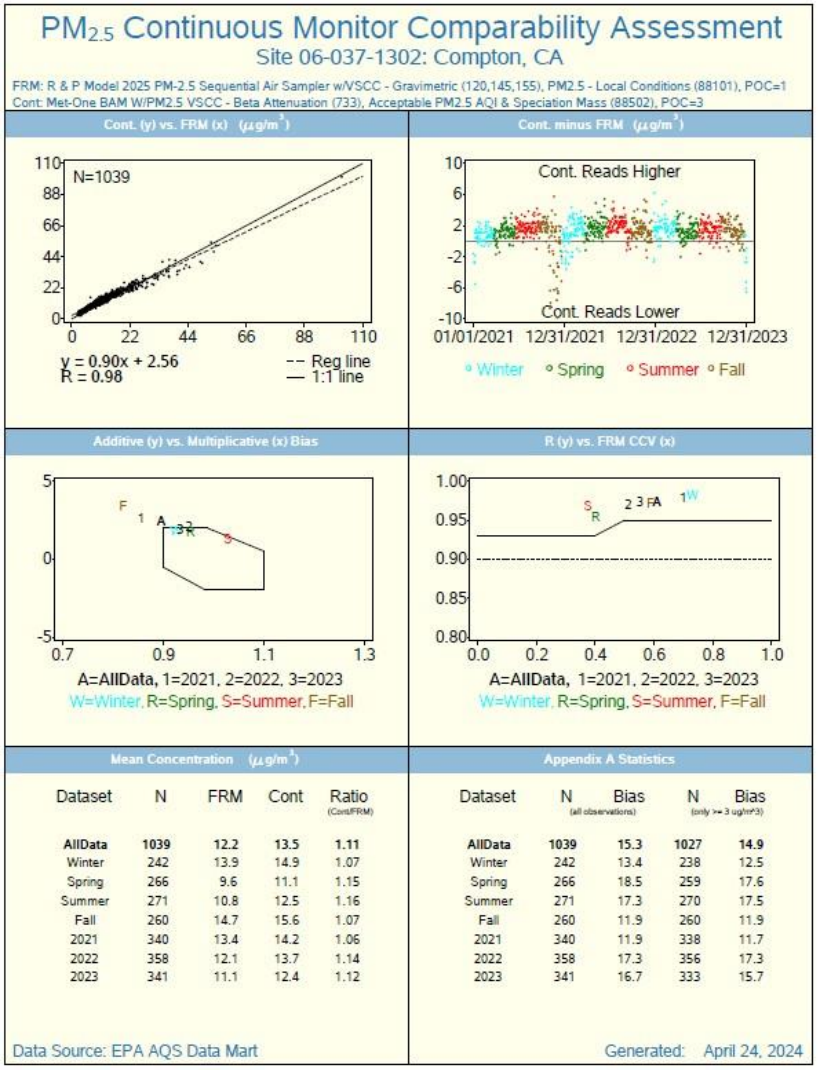
# Waiver Request – PM2.5 Continuous Monitor Comparability Assessment

- Continuous PM2.5 measurement network (FEM).
  - Supplements traditional filter-based methods (FRM).
  - Provides real-time public AQI information.
- Continuous Monitor Data must meet Slope and Bias criteria for comparison to NAAQS.
- 40 CFR §58.11(e) identifies the technical performance criteria for requesting exclusion of FEM data from comparison to the NAAQS.
  - The statistical information required in §58.11(e) were generated using EPA's "PM2.5 continuous monitor comparability tool" available on-line.

# Sites with both FRM and FEM


- Continuous monitors used as part of SCAQMD's PM2.5 monitoring program.
- FRM and FEM monitors operated concurrently at eight network locations.

# PM2.5 FEM/ FRM Method Comparison




- Anticipated Compton, Los Angeles Main Street, and Long Beach Route 710 will not meet bias and be eligible for AQI only.
- FEM can be 0 to 20% higher depending on site and year.
- These differences have been observed nationwide to varying degrees.
- Differences are due to “semi-volatile” PM material.
  - The measurement of these PM components (ammonium nitrate, organic compounds, water) are highly dependent on temperature, humidity, sample handling, and thus method.

# Request For Exclusion of PM2.5 FEM Data From Comparison to the NAAQS

- PM2.5 FEM monitor at does not meet the performance criteria specified by U.S. EPA at Compton Los Angeles Main Street and Long Beach Route 710
- As part of the 2024 Annual Monitoring Network Plan, staff are requesting a waiver from U.S. EPA for PM2.5 FEM monitor data be excluded for comparison to the NAAQS and used for AQI purposes only.
- South Coast AQMD staff are working to optimize the monitoring instrumentation to meet all monitoring objectives.
- FEM data are of sufficient quality to be used for real-time public AQI reporting

# Concluding Remarks

- Public Comments by 6/23/25
  - Contact:  Juan Garcia (909) 396 3186 (JGarcia@AQMD.Gov).

- Final Draft Submission to EPA by July 1, 2025
- U.S. EPA Complete Review by November 1, 2025