SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

FIVE YEAR AIR MONITORING NETWORK ASSESSMENT

July 1, 2025

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Introduction

A periodic network assessment of the South Coast Air Quality Management District (South Coast AQMD) ambient air monitoring network is required by Federal Regulations as a key tool to help ensure that criteria pollutants are measured in important locations and that monitoring resources are used in the most effective and efficient manner to meet the needs of multiple stakeholders. Network assessments help identify new data needs and associated technologies, find opportunities for consolidation of individual sites into multi-pollutant sites and identify geographic areas where network coverage should be increased or decreased based on changes in the population and/or emissions. The United States Environmental Protection Agency (U.S. EPA) requires that local agencies perform an assessment of the air quality surveillance system every 5 years to determine, at a minimum, if the network meets the monitoring objectives defined in Title 40, Part 58 (40 CFR § 58), Appendix D of the Code of Federal Regulations, whether new sites are needed, whether existing sites are no longer needed and can be terminated and whether new technologies are appropriate for incorporation into the ambient air monitoring network. The network assessment must consider the ability of existing and proposed sites to support air quality characterization for areas with relatively high populations of susceptible individuals and for any sites that are being proposed for discontinuance the effect on data users other than the agency itself. This report describes the assessment of the ambient air monitoring network operated by South Coast AQMD and fulfills the requirements for a periodic network review as listed in 40 CFR § 58.10. Regulation requires that the report be submitted to the U.S. EPA by July 1, 2025.

Air Quality Standards

U.S. EPA is required under the Clean Air Act (CAA) to establish National Ambient Air Quality Standards (NAAQS). Ambient air quality standards have been established by U.S. EPA for six principal pollutants, which are called "criteria" pollutants, including ozone (O_3), PM (PM_{10} and $PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2) and lead (Pb). Local air quality agencies monitor criteria pollutants in order to demonstrate NAAQS attainment or non-attainment. Table 1 shows the current NAAQS.

South Coast AQMD encompasses two Core-Based Statistical Areas (CBSA) whose boundaries and codes mirror those of the Metropolitan Statistical Areas (MSA) as defined by the U.S. Office of Management and Budget. The Los Angeles - Long Beach - Anaheim MSA\CBSA (Code 31080) has an estimated population of 12,927,614 and the Riverside - San Bernardino - Ontario MSA\CBSA (Code 40140) has an estimated population of 4,744,214 according to the most recent U.S. Census estimates available. The Los Angeles-Long Beach-Anaheim MSA is designated non-attainment for current and former federal and state O_3 standards, as well as the current $PM_{2.5}$ standards. The Los Angeles County portion of the South Coast Air Basin (Basin) is also designated as a nonattainment area for the federal Pb standard based on source-specific locations. The Coachella Valley Planning Area is part of the Riverside-San Bernardino-Ontario MSA and is designated as a nonattainment area for both O_3 and the PM_{10} NAAQS. The Basin continues to be in attainment of the CO, NO_2 and SO_2 NAAQS.

The CAA requires areas not attaining the NAAQS to develop and implement an emission reduction strategy that will bring the area into attainment in a timely manner. The criteria pollutant monitoring network is designed to support attainment and nonattainment determinations by considering the most recent three years of data from each monitoring site and pollutant to calculate a design value (DV) for comparison to NAAQS.

TABLE 1. National Ambient Air Quality standards and Design Value Requirements

Pollutant	Averaging Time**	NAAQS Level	Design Value Form of NAAQS*
Ozone ($O3$)	1-Hour (1979) [revoked 2005]	0.12 ppm	Not to be exceeded more than once per year averaged over 3 years
	8-Hour (2015)	**0.070 ppm**	**Annual fourth highest 8-hour average concentration, averaged over 3 years**
	8-Hour(2008) [revised 2015]	0.075 ppm	
	8-Hour(1997) [revoked 2015]	0.08 ppm	
Fine Particulate Matter (PM2.5)	**24-Hour (2006)**	**35 μg/m^3**	**3-year average of the annual 98th percentile of daily 24-hour concentration**
	24-Hour (1997)	**65 μg/m^3**	
	Annual (2012)	**12.0 μg/m^3**	**Annual average concentration, averaged over 3 years** *(annual averages based on average of 4 quarters)*
	Annual (1997) [revised 2012]	15.0 μg/m^3	
Respirable Particulate Matter (PM10)	**24-Hour (1987)**	**150 μg/m^3**	**Not to be exceeded more than once per year averaged over 3 years**
	Annual (1987) [revoked 2006]	50 μg/m^3	Annual average concentration, averaged over 3 years
Carbon Monoxide (CO)	**1-Hour (1971)**	**35 ppm**	**Not to be exceeded more than once a year. Design value is the higher of each year's annual second maximum in a two-year period.**
	8-Hour (1971)	**9 ppm**	
Nitrogen Dioxide (NO_2)	**1-Hour (2010)**	**100 ppb**	**3-year avg. of the annual 98th percentile of the daily maximum 1-hour average concentrations (rounded)**
	Annual (1971)	**0.053 ppm**	**Annual avg. concentration, averaged over 3 years**

TABLE 1. (Continued) National Ambient Air Quality standards and Design Value Requirements

Pollutant	Averaging Time**	NAAQS Level	Design Value Form of NAAQS*
Sulfur Dioxide (SO_2)	**1-Hour (2010)**	**75 ppb**	**99th percentile of 1-hour daily maximum concentrations, averaged over 3 years**
	24-Hour (1971) [revoked 2010]	0.14 ppm	Not to be exceeded more than once per year
	Annual (1971) [revoked 2010]	0.03 ppm	Annual arithmetic average
Lead (Pb)	**3-Month Rolling Average (2008)##**	**0.15 μg/m³**	**Highest rolling 3-month average of the 3 years**

Bold text denotes the current and most stringent NAAQS.

* The NAAQS is attained when the design value (form of concentration listed) is equal to or less than the level of the NAAQS; for pollutants with the design values based on "exceedances" (1-hour ozone, 24-hour PM10, CO, and 24-hour SO_2), the NAAQS is attained when the concentration associated with the design value is less than or equal to the standard level:
- For 1-hour ozone and 24-hour PM10, the NAAQS is attained when the fourth highest daily concentrations of the 3-year period is less than or equal to the standard level and
- For CO, the standard is attained when the maximum of the second highest daily concentration each year in the most recent two years is equal to or less than the standard level.

** Year of the U.S. EPA NAAQS update review shown in parenthesis and revoked or revised status in brackets; for revoked or revised NAAQS, areas may have continuing obligations until that standard is attained: for 1-hour ozone, the Basin has continuing obligations under the former 1979 standard; for 8-hour ozone, the NAAQS was lowered from 0.08 ppm to 0.075 ppm to 0.070 ppm, but the previous 8-hour ozone NAAQS and most related implementation rules remain in place until that standard is attained.

3-month rolling averages of the first year (of the 3-year period) include November and December monthly averages of the prior year; the 3-month average is based on the average of "monthly" averages.

Monitoring Network Background

The earliest air monitoring station was operated by the Los Angeles County Air Pollution Control District at 5201 Santa Fe St. before being relocated to the agency's headquarters at 434 South San Pedro in 1955. The oldest monitoring location still in existence is in La Habra, which opened in 1960. The newest permanent site as relocated to Indio (Amistad) during 2024 to replace the Indio (Jefferson) site. The current air monitoring network sites and the date they began monitoring are shown in Table 2.

TABLE 2. Criteria Pollutant Monitoring Sites

	Location	AQS No.	Criteria Pollutants Monitored	Start Date
1	Anaheim[2]	060590007	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	08/2001
2	Anaheim Route 5 Near Road	060590008	CO, NO_2	01/2014
3	Banning Airport[2]	060650012	NO_2, O_3, PM_{10}, $PM_{2.5}$	04/1997
4	Big Bear	060718001	$PM_{2.5}$	02/1999
5	Central San Bernardino Mountains	060710005	O_3, PM_{10}, $PM_{2.5}$	10/1973
6	Closet World (Quemetco)	060371404	Pb	10/2008
7	Compton	060371302	CO, NO_2, O_3, Pb, $PM_{2.5}$	01/2004
8	Fontana	060712002	CO, NO_2, SO_2, O_3, PM_{10}, $PM_{2.5}$	08/1981
9	Glendora	060370016	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	08/1980
10	Indio	060652007	O_3, PM_{10}, $PM_{2.5}$ H_2S	01/2024
11	La Habra	060595001	CO, NO_2, O_3	08/1960
12	Lake Elsinore	060659001	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	06/1987
13	Long Beach (Hudson)[3]	060374006	PM_{10}	01/2010
14	Long Beach Route 710 Near Road	060374008	NO_2, $PM_{2.5}$	01/2015
15	Los Angeles (Main St.)	060371103	CO, NO_2, NOy, SO2, O_3, PM_{10}, Pb, $PM_{2.5}$	09/1979
16	Mecca (Saul Martinez)	060652005	PM_{10}, H_2S	01/2011
17	Mira Loma (Van Buren)	060658005	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	11/2005
18	Mission Viejo[1]	060592022	CO, O_3, PM_{10}, $PM_{2.5}$	06/1999
19	North Hollywood	060374010	NO_2, O_3, $PM_{2.5}$	01/2020
20	Ontario Etiwanda Near Road	060710026	CO, NO_2	06/2014
21	Ontario Route 60 Near Road	060710027	NO_2, $PM_{2.5}$	01/2015
22	Palm Springs[2]	060655001	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	04/1971
23	Pasadena	060372005	CO, NO_2, O_3, $PM_{2.5}$	04/1982
24	Pico Rivera #2	060371602	CO, NO_2, O_3, PM_{10}, Pb, $PM_{2.5}$	09/2005
25	Pomona[3]	060371701	CO, NO_2, O_3	06/1965
26	Redlands	060714003	O_3, PM_{10}	09/1986
27	Rehrig (Exide)[3]	060371405	Pb	11/2007
28	Reseda	060371201	CO, NO_2, O_3, $PM_{2.5}$	03/1965
29	Rubidoux	060658001	CO, NO_2, NOy, SO_2, O_3, PM_{10}, Pb, $PM_{2.5}$	09/1972
30	San Bernardino	060719004	CO, NO_2, O_3, PM_{10}, Pb, $PM_{2.5}$	05/1986
31	Santa Clarita[4]	060376012	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	05/2001
32	Signal Hill	060374009	NO_2, O_3, $PM_{2.5}$	01/2020
33	Temecula	060650016	O_3, $PM_{2.5}$	06/2010
34	West Los Angeles	060370113	NO_2, O_3	05/1984

[1] Site is currently offline during transition to new location through Summer 2025.
[2] Site may be relocated in 2025-26.
[3] Site SMR for closure is included in Appendix D.
[4] Site SMR for relocation is included in Appendix D.

A description of the network for each criteria pollutant is provided below:

Ozone

The South Coast AQMD operates 25 sites where O_3 measurements are made as part of the Air Monitoring Network. Ozone sites are spread throughout the Basin with highest concentrations measured inland. Figure 1 in Appendix A shows the spatial distribution of these sites.

$PM_{2.5}$

South Coast AQMD operates a total of 17 Federal Reference Method (FRM) sites which exceed the minimum number of required FRM $PM_{2.5}$ State and Local Air Monitoring Stations (SLAMS) sites per 40 CFR § 58 Appendix D. These sites are located at National Core (NCore) as well as Non-NCore SLAMS sites and designed to complement each other; both types are used to meet the minimum $PM_{2.5}$ network requirements.

FRM $PM_{2.5}$ SLAMS monitoring sites are selected to represent area-wide air quality and include monitors collocated with NCore/Photochemical Assessment Monitoring Stations (PAMS) sites. The majority of monitoring sites are neighborhood scale, however, some micro scale $PM_{2.5}$ monitoring sites are considered to represent area-wide air quality including the Long Beach Route 710 and Ontario Route 60 near road sites.

In 2025, the Compton and Fontana sites were designated as daily design value sites, while the Compton and Ontario Route 60 Near Road sites were designated as annual design value sites. Minimum sampling frequencies are shown in Table 3. Monitors exceed the minimum NCore 1-in-3 requirements at the Rubidoux and Los Angeles (Main St.) sites. The federal minimum monitoring requirements for $PM_{2.5}$ are being met and/or exceeded by the South Coast AQMD $PM_{2.5}$ monitoring network.

Collocated FRM $PM_{2.5}$ sites include Los Angeles (Main St.), Mira Loma (Van Buren), and Rubidoux. 40 CFR § 58 Appendix A 3.2.3.4 (b) requires fifty percent of the collocated quality control monitors to be deployed at sites with annual average or daily concentrations estimated to be within plus or minus 20 percent of either the annual or 24-hour NAAQS and the remainder at the Primary Quality Assurance Organizations (PQAO) discretion. Of the collocated sites, Los Angeles (Main St.), Mira Loma (Van Buren), and Rubidoux are all within 20 percent of the 24-hour or annual average NAAQS as required. Supporting data is shown in Table 3. The latest historical data can be found at:

(http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year).

Continuous $PM_{2.5}$ monitors are required at 2 sites in each MSA as defined in 40 CFR § 58 Appendix D. Federal Equivalent Method (FEM) continuous analyzers are largely collocated with daily FRM monitors.

Where both 24-hour FRM $PM_{2.5}$ samplers and FEM $PM_{2.5}$ continuous analyzers are deployed together, they are sited as collocated for data comparison purposes. The FRM $PM_{2.5}$ sampler remains the primary analyzer used for attainment purposes and continuous analyzers are designated as duplicate monitors unless the primary 24-hour FRM $PM_{2.5}$ is offline then the continuous FEM analyzer data can be substituted if the FEM analyzer meets the acceptance criteria under 78 FR 3086.

Numerous sites within the South Coast AQMD FRM $PM_{2.5}$ network are in areas where $PM_{2.5}$ levels are higher than the NAAQS. Therefore, multiple sites are listed as population exposure and high concentration. If a $PM_{2.5}$ network modification were to be implemented for a site that was in exceedance of the $PM_{2.5}$ NAAQS levels, South Coast AQMD would notify U.S. EPA Region 9 via written communication. Public notice of network modifications occurs as part of the annual network plan process which is stated in the annual network plan as required in 40 CFR § 58.10 (c). All sites in the Network using FRM samplers are suitable for comparison against the annual $PM_{2.5}$ NAAQS.

TABLE 3. $PM_{2.5}$ FRM Monitor Sampling Frequency

	Location	AQS No.	24-Hour DV	33-37ug/m^3	Annual DV	< 12 ug/m^3	Required Frequency[1]	Current Frequency
1	Anaheim	060590007	25	No	9.8	Yes	1-in-3	Daily
2A	Big Bear	060718001	29	No	7.4	Yes	1-in-3	Daily
2B	Big Bear[3]	060718001	N/A	Collocated			1-in-12	1-in-6
3	Compton[4]	060371302	**32**	No	**11.9**	Yes	1-in-3	Daily
4	Fontana	060712002	**35**	Yes	11.9	Yes	Daily	1-in-3
5	Indio	060652007	21	No	9	Yes	1-in-3	Daily
6	Long Beach Route 710 Near Road[4]	060374008	26	No	11.5	Yes	1-in-6	Daily
7A	Los Angeles (Main St.) "A"	060371103	27	No	11.1	Yes	1-in-3	Daily
7B	Los Angeles (Main St.) "B"[2]	060371103	N/A	Collocated			1-in-12	1-in-6
8A	Mira Loma (Van Buren) "A"[4]	060658005	34	Yes	12.4	No	1-in-3	Daily
8B	Mira Loma (Van Buren) "B"[2]	060658005	N/A	Collocated			1-in-12	1-in-6
9	Mission Viejo	060592022	17	No	9.0	Yes	1-in-3	Daily
10	Ontario Route 60 Near Road[4]	060710027	31	No	**12.9**	No	1-in-3	Daily
11A	Palm Springs	060655001	16	No	6.3	Yes	1-in-3	Daily
11B	Palm Springs[2]	060655001	N/A	Collocated			1-in-12	1-in-6
12	Pasadena	060372005	26	No	10.0	Yes	1-in-3	1-in-3
13	Pico Rivera #2	060371602	30	No	11.5	Yes	1-in-3	1-in-3
14	Reseda	060371201	26	No	9.2	Yes	1-in-3	1-in-3
15A	Rubidoux "A"	060658001	30	No	11.4	Yes	1-in-3	Daily
15B	Rubidoux "B"[2]	060658001	N/A	Collocated			1-in-12	1-in-6
16	San Bernardino	060719004	30	No	11.7	Yes	1-in-3	1-in-3
17A	Signal Hill	060374009	22	No			9.2	Yes
17B	Signal Hill	060374009	N/A	Collocated	1-in-12	1-in-6	FRM	

[1]Required SLAMS stations whose measurements determine the 24-hour design value for their area and whose data are within ±5 percent of the level of the 24-hour $PM_{2.5}$ NAAQS must have an FRM or FEM operate on a daily schedule.
[2] Partisol 2025i run as collocated on 1-in-6 run day.
[3] Partisol 2000i run as collocated on 1-in-6 run day.
[4] Expected maximum location.

PM_{10}

Size-selective inlet manual high-volume samplers are operated at 7 sites, and continuous monitors at 14 sites to meet the requirements for PM_{10} Federal Reference Method (FRM) daily sampling. The PM_{10} monitoring network contains five sites within 20 percent of the Federal National Ambient Air Quality Standard (NAAQS) as shown in Table 6. The South Coast AQMD PM_{10} monitoring network exceeds the minimum number of monitors required as shown in Figure 2 in Appendix A.

PM_{10} sampling frequency requirements specify a 24-hour sample must be taken from midnight to midnight (local standard time) to ensure national consistency. The minimum monitoring schedule for the site in the area of expected maximum concentration shall be based on the relative level of that monitoring site concentration with respect to the 24-hour standard.

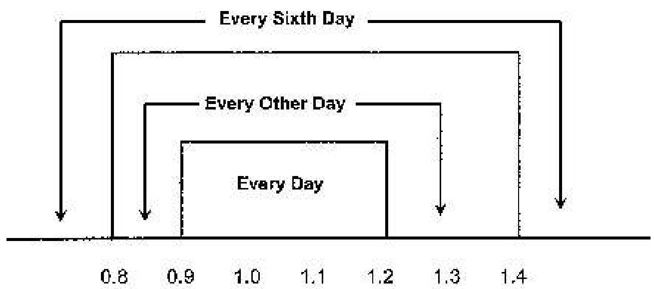

Figure 1 – Ratio to Standard

Evaluation of daily values show all PM_{10} FRM monitors may operate on a schedule of one sample every six days (1-in-6) except for Anaheim, Long Beach (Hudson), Mira Loma (Van Buren), Rubidoux, and San Bernardino. The sampling frequency requirement for these sites is met by utilizing continuous FEM PM_{10} monitors. Sampling frequencies are show in Tables 4 and 5.

Quality control for Manual PM_{10} requires 15 percent of the primary monitors to be collocated. Fifty percent of the collocated quality control monitors should be deployed at sites with daily concentrations estimated to be within plus or minus 20 percent of the applicable NAAQS and the remainder at the discretion of the Primary Quality Assurance Organization (PQAO). Guidance recommends, "if an organization has no sites with daily concentrations within plus or minus 20 percent of the NAAQS, 50 percent of the collocated quality control monitors should be deployed at those sites with the daily mean concentrations among the highest for all sites in the network and the remainder at the PQAOs discretion". Collocated sites include Rubidoux, which is within 20% of NAAQS; and Los Angeles (Main) which is collocated for quality control of NATTS program metals analysis. PM_{10} collocated sites, sampling frequency, minimum and collocated sites are shown in Table 4.

Fourteen monitor locations make up the continuous PM_{10} network. These real-time devices can produce hourly particulate concentration measurements for real-time reporting. Figure 2 in Appendix A shows the spatial distribution of the sampling sites. Real monitors are clustered in high concentration areas, with three located in the Coachella Valley desert area where windblown crustal material has caused exceedances of the 24-hour standard during exceptional events. In downwind areas of the Basin, a large fraction of particulate is formed in the atmosphere; PM_{10} typically reaches maximum levels in the Basin during late summer through early winter months.

TABLE 4. PM_{10} FRM Monitoring Stations Assigned Site Numbers

	Location	Site Code	ARB No.	AQS No.	Start Date	Schedule
1	Anaheim	ANAH	30178	060590007	01/03/1999	1-in-6
2	Banning	BNAP	33164	060650012	04/01/1997	1-in-6
3	Central San Bernardino Mountains	CRES	36181	060710005	10/01/1973	1-in-6
4A	Los Angeles (Main St.) "A"	CELA	70087	060371103	01/03/1999	1-in-6
4B	Los Angeles (Main St.) "B"[1]	CELA	70087	060371103	01/03/1999	1-in-6
5	Redlands	RDLD	36204	060714003	09/01/1986	1-in-6
6A	Rubidoux "A"	RIVR	33144	060658001	01/03/1999	1-in-3
6B	Rubidoux "B"[2]	RIVR	33144	060658001	01/03/1999	1-in-6
7	Santa Clarita	SCLR	70090	060376012	05/01/2001	1-in-6

[1] Run on 1-in-3 run day as composite sampler
[2] Run as collocated NATTS.
[3] Run as collocated on 1-in-6 run day.

TABLE 5. PM_{10} Monitor Sampling Frequency Requirement

	Location	AQS No.	2024 Design Value[2]	Required Sampling Frequency	Sampling[1] Frequency	Monitor
1	Anaheim	060590007	120	1-in-2	1-in-1	FEM
2	Banning	060650012	50	1-in-6	1-in-6	FRM
3	Central San Bernardino Mountains	060710005	40	1-in-6	1-in-6	FRM
4	Fontana	060712002	100	1-in-6	1-in-1	FEM
5	Glendora	060370016	80	1-in-6	1-in-1	FEM
6	Indio (Amistad)	060652007	220	1-in-6	1-in-1	FEM
7	Lake Elsinore	060659001	90	1-in-6	1-in-1	FEM
8	Long Beach (Hudson)	060374006	120	1-in-6	1-in-1	FEM
9	Los Angeles (Main St.)	060371103	60	1-in-6	1-in-1	FEM
10	Mecca (Saul Martinez)	060652005	380	1-in-6	1-in-1	FEM
11	Mira Loma (Van Buren)	060658005	170	1-in-1	1-in-1	FEM
12	Mission Viejo	060592022	N/A	1-in-6	1-in-1	FEM
13	Palm Springs	060655001	300	1-in-6	1-in-1	FEM
14	Redlands	060714003	60	1-in-6	1-in-6	FRM
15	Rubidoux	060658001	130	1-in-2	1-in-1	FEM
16	San Bernardino	060719004	150	1-in-1	1-in-1	FEM
17	Santa Clarita	060376012	50	1-in-6	1-in-6	FRM
18	Signal Hill	060374009	80	1-in-6	1-in-1	FEM

[1] Sampling schedule per 40 CFR 58.12(e) https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-58/subpart-B/section-58.12
[2] The design value for the site is the third highest 24 hour concentration during the three year period rounded to the nearest 10 μg/m³

Carbon Monoxide

Area wide CO monitors measure concentrations at 17 ambient locations and 2 near road locations within the South Coast AQMD ambient air monitoring network. The area-wide monitoring sites measure CO concentrations across neighborhood or larger spatial scales. Source specific near-road sites are located in areas with the highest expected CO concentrations representing concentrations on a microscale, spatial scale. For specific details on spatial representation and site types, refer to Figure 4 in Appendix A.

Nitrogen Dioxide

The NO_2 network consists of 20 area-wide monitoring sites and 4 source specific near-road sites. The area-wide monitoring sites measure NO_2 concentrations across neighborhood or larger spatial scales. Source specific near-road sites are located in areas with the highest expected NO_2 concentrations representing concentrations on a microscale, spatial scale. For spatial representation refer to Figure 3 in Appendix A.

The Near Road monitoring network consists of four sites established in January of 2014 and 2015. These sites were established based upon the U.S. EPA Near Road Technical Assistance Document and approved by U.S. EPA. The implementation plan was presented publicly at a Near Road Workshop to solicit input on site selection from the public. Near Road sites are adjacent to the most heavily traveled roadways identified in the basin where peak hourly NO_2 concentrations occur within the near-road environment. Site selection took into consideration satisfying siting criteria, site logistics (e.g., gaining access to property and safety) and population exposure for those who live, work, play, go to school, or commute within the near-roadway environment. The spatial distribution of NO_2 monitors is shown in Figure 3 in Appendix A.

Sulfur Dioxide

SO_2 monitors are located at 4 sites. Figure 5 in Appendix A shows the spatial distribution of the sites. Most SO_2 emissions result from federally regulated transportation sources such as marine vessels. The monitors are largely clustered in the areas where sources are located.

On June 22, 2010, U.S. EPA strengthened the SO_2 NAAQS. Network design requirements included new minimum requirements be determined by the Population Weighted Emissions Index (PWEI).

> The PWEI shall be calculated by States for each Core Based Statistical Area (CBSA) they contain or share with another State or States for use in the implementation of or adjustment to the SO_2 monitoring network. The PWEI shall be calculated by multiplying the population of each CBSA, using the most current census data or estimates and the total amount of SO_2 in tons per year emitted within the CBSA area, using an aggregate of the most recent county level emissions data available in the National Emissions Inventory (NEI) for each county in each CBSA. The resulting product shall be divided by one million, providing a PWEI value, the units of which are million person-tons per year. For any CBSA with a calculated PWEI value equal to or greater than 1,000,000, a minimum of three SO_2 monitors are required within that CBSA. For any CBSA with a calculated PWEI value equal to or greater than 100,000,

but less than 1,000,000, a minimum of two SO_2 monitors are required within that CBSA and for any CBSA with a calculated PWEI value equal to or greater than 5,000, but less than 100,000, a minimum of one SO_2 monitor is required within that CBSA.

TABLE 6. PWEI Calculation and Minimum Required SO_2

CBSA	Population Estimate[1]	NEI SO2 Emmissions[2]	PWEI Value	Minimum Required SO2
31080	12,927,614	5,593.36	72,309	1
40140	4,744,214	1,889.95	8,966	1

[1]2024 is the most recent Census estimate available for download at Metropolitan and Micropolitan Statistical Areas Totals: 2020-2024 (census.gov)

[2] 2020 NEI Data most recent available at https://www.epa.gov/air-emissions-inventories/national-emissions-inventory

During February 2022 Mojave Desert AQMD advised South Coast AQMD it was discontinuing SO_2 monitoring at the Victorville and Trona AMS and requested an agreement of shared SO_2 monitoring responsibilities for the 40140 Riverside-San Bernardino-Ontario MSA\CBSA. South Coast AQMD agrees to share SO_2monitoring responsibilities and notify Antelope Valley APCD of any site closures that impact the minimum monitoring requirement for SO_2.

South Coast Air Quality Management District exceeds the minimum required number of SO_2 monitors as outlined in Tables 6 and 20. An analysis of 2024 data reveals that the State and Federal standards for SO_2 have not been violated; the annual and federal standards were last exceeded in the 1960s.

Particulate Lead

Total Suspended Particulate (TSP) Pb measurements are conducted at seven sites within the particulate network. These include two sites designated as Source Impact monitoring of Pb, two NCore sites, and three sites for ambient Pb measurement. The sampling frequencies are outlined in Table 7. The spatial distribution of these sites is illustrated in Figure 6 of Appendix A.

U.S. EPA regulation requires local agencies to conduct ambient air Pb monitoring near Pb sources which are expected to or have been shown to contribute to a maximum Pb concentration in ambient air in excess of the NAAQS, considering the logistics and potential for population exposure. At a minimum, there must be one source-oriented SLAMS site located to measure the maximum Pb concentration in ambient air resulting from each non-airport Pb source which emits 0.50 (1000 lb.) or more tons per year (TPY) and from each airport which emits 1.0 (2000 lb.) or more TPY based the most recent data from the National Emissions Inventory (NEI) (https://www.epa.gov/air-emissions-inventories/national-emissions-inventory) data or other scientifically justifiable methods (such as improved emissions factors or site-specific data). The most recent data from the NEI indicates that within the South Coast AQMD jurisdiction, there are no non-airport Pb sources emitting 0.50 TPY or more, nor any airports that exceeded the 1.0 TPY threshold that would necessitate a monitoring plan. Despite this, South Coast AQMD has operated source specific Pb monitoring sites at Rehrig (Exide) and Closet World (Quemetco). It should be noted that on August 17, 2024, operations at the Rehrig site associated with Exide were terminated due to the sale of the property to BNSF, which necessitated the removal of the Pb monitor. South Coast AQMD participates in the Exide

Technical Advisory Group (ETAG) (Exide Meetings/Advisory Group | Department of Toxic Substances Control), where monitoring updates are provided to the community surrounding Exide. As part of this group, we note that activities related to the cleanup of the Exide facility are nearing completion. We anticipate that the facility will soon apply for the cessation of required monitoring, in accordance with South Coast AQMD Rule 1420.1. A detailed SMR concerning this site closure is included in the 2024 Annual Network Plan as part of Appendix D.

TABLE 7. Manual Pb FRM Monitor Sampling Frequency

	Location	AQS No.	Type	Required Sampling Frequency
1	Closet World (Quemetco)	060371404	Source Oriented	1-in-6
2A	Compton "A"	060371302	Non-Source Oriented	1-in-6
2B	Compton "B" [2]	060371302	Non-Source Oriented	1-in-6
3A	Los Angeles (Main St.)[1]	060371103	NCore	1-in-6
3B	Los Angeles (Main St.)[1, 2]	060371103	NCore Collocated	1-in-6
4	Pico Rivera #2	060371602	Non-Source Oriented	1-in-6
5A	Rehrig (Exide)[3]	060371405	Source Oriented	1-in-6
5C	Rehrig (Exide)[3]	060371405	Source Oriented	1-in-6
6	Rubidoux[1]	060658001	NCore	1-in-6
7	San Bernardino	060719004	Non-Source Oriented	1-in-6
1	Closet World (Quemetco)	060371404	Source Oriented	1-in-6
2A	Compton "A"	060371302	Non-Source Oriented	1-in-6
2B	Compton "B" [2]	060371302	Non-Source Oriented	1-in-6

[1] U.S. EPA proposed removing the requirement for Pb monitoring at NCore sites (79 FR 54395, September 11, 2014).
[2] Run as collocated on 1-in-6 run day, max values in Tables 22, 23, 24.
[3] Site ceased operation on August 17, 2024.
Note: Sampling frequency requirement per 58.12 (b)

Monitoring Programs Background

The following is a brief description of specific programs that are operated within the ambient air monitoring network:

Chemical Speciation Network (CSN)

U.S. EPA requires chemical speciation monitoring and analyses at sites designated to be part of the $PM_{2.5}$ Speciation Trends Network (STN). The selection and modification of these STN sites must be approved by the Regional Administrator (RA).

$PM_{2.5}$ speciation sampling is part of the South Coast AQMD $PM_{2.5}$ monitoring program. Chemical speciation monitors are located at Los Angeles (Main St.) and Rubidoux as part of U.S. EPA $PM_{2.5}$ CSN. These sites were selected and approved with the concurrence of the RA. The $PM_{2.5}$ CSN sites include analysis for elements, selected anions, cations and carbon by a U.S. EPA contracted laboratory. Additional $PM_{2.5}$ chemical speciation is conducted at Los Angeles (Main St.), Rubidoux, Anaheim and Fontana as part of the South Coast AQMD monitoring network. These monitors are separate from CSN and samples are analyzed at the South Coast AQMD laboratory. Speciated data is used to develop implementation plans and support atmospheric/health effects related studies.

National Air Toxics Trends Station (NATTS)

The NATTS program was developed to fulfill the need for long-term Hazardous Air Pollutant (HAP) monitoring data of consistent quality nationwide and is considered part of the larger Urban Air Toxics Monitoring Program (UATMP). The program has allowed for the identification of compounds that are prevalent in ambient air and for participating agencies to screen air samples for concentrations of air toxics that could potentially result in adverse human health effects. South Coast AQMD has conducted several air toxics measurement campaigns in the past, which demonstrated the variety and spatial distribution of air toxics sources across the Basin. A single air toxics measurement site cannot reflect the levels and trends of air toxics throughout the Basin. For this reason, two NATTS sites are used to characterize the Basin's air toxics levels. The first site is a central urban core site in Los Angeles that reflects concentrations and trends due primarily to urban mobile source emissions. A second, more rural, inland site in Rubidoux captures the transport of pollutants from a variety of upwind mobile and industrial sources in the most populated areas of the air basin. NATTS monitoring began in February 2007 and continues at the Los Angeles (Main St.) and Rubidoux air monitoring sites. During May 2023, an in-person system audit was conducted by U.S. EPA, which assessed the South Coast AQMD NATTS program. The audit found no significant issues with the operation of the network.

NCore

NCore monitoring rules required that South Coast AQMD make NCore sites operational by January 1, 2011. To meet this goal, South Coast AQMD installed trace level analyzers for CO, NOy and SO_2 at the Rubidoux and Los Angeles (Main St.) sites. Both the Los Angeles (Main St.) and Rubidoux sites are NATTS and PAMS monitoring locations.

PAMS

The South Coast AQMD Enhanced Monitoring Plan (EMP) for PAMS measurements, in accordance with 40 CFR § 58 Appendix D paragraph 5(a) was submitted to the RA on July 1, 2018.

State air monitoring agencies were required to begin EMP PAMS measurements at their NCore location(s) by June 1, 2019. The equipment needed to measure PAMS parameters were to be purchased by U.S. EPA using a nationally negotiated contract and delivered to the monitoring agencies. U.S. EPA announced that due to contract delays, the necessary equipment would not be delivered in time to begin making PAMS measurements by June 1, 2019 and has extended the start date to June 1, 2021. South Coast AQMD began making PAMS measurements at the Los Angeles (Main St.) and Rubidoux NCore locations during the 2020 intensive season and continues enhanced measurements.

The updated plan submitted to U.S. EPA is attached as Appendix C and includes PAMS site locations, types of instruments and frequency of measurements. South Coast AQMD utilizes PAMS data for trends analysis, trajectory modeling and source emissions inventory reconciliation. The PAMS network monitoring objectives are summarized in Table 8. Figure 7 in Appendix A shows the distribution of the PAMS network.

TABLE 8. PAMS Network

		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 NO_2, 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 NO_2, Barometric Pressure, UV Radiation, Solar Radiation, Precipitation and Upper Air Measurements are conducted year round.

New Technology

The ability of the ambient monitoring network to support air quality characterization has been enhanced with new technology. In some cases, new technologies have been appropriate for incorporation into the ambient air monitoring network to support air quality characterization. This includes availability of data for forecasting, air quality data tracking in the laboratory, translation into meaningful form for Quality Assurance (QA) and Quality Control (QC) purposes. South Coast AQMD has incorporated the following technologies and recommends further study of alternative methods for analysis.

The South Coast AQMD filter based particulate network generates over 10,000 filters annually. PM_{10} and Pb samplers remained unchanged for the last three decades. Recent changes have incorporated sample flow rate data for these samplers to be consistent with $PM_{2.5}$ FRM analysis. Paper chain of custody forms were manually reviewed and archived for QA/QC purposes. A Laboratory Information Management System (LIMS) along with data processing software EQuIS, have been incorporated to reduce paperwork and streamline the documentation process. This software has been in use by local, state and federal agencies and is accepted by the U.S. EPA. The data generated by the PM programs ultimately resides in U.S. EPA's Air Quality System (AQS) database.

AirVision is utilized at South Coast AQMD field monitoring locations to provide both real time visualization of air monitoring data for field technicians and system redundancy. It serves as a backup system to the primary Data Management System (DMS), ensuring operational continuity in the event of a DMS failure. AirVision transmits data from field sites and is capable of performing all critical functions such as data processing, quality control, performance tracking, and data export if the DMS becomes inoperable or needs to be replaced. This redundancy ensures that data collection and management can continue without interruption, thereby safeguarding data quality and completeness.

The South Coast AQMD air monitoring network DMS was upgraded from a FORTRAN based system to the current platform, which is capable of processing, exporting, and archiving data. The DMS also tracks instrument performance, applies automatic quality control checks, allows field staff to apply null codes to data, and sends performance alerts via email. Additionally, it facilitates exports of data into the EPA's Air Quality System (AQS). While there are no current plans to replace the DMS due to cost considerations, South Coast AQMD is actively exploring future options to enhance or upgrade the system. The integration of AirVision as a redundant platform further ensures system resilience and supports continuous, high quality data operations.

The $PM_{2.5}$ and PM_{10} continuous particulate monitoring networks have faced significant challenges in identifying reliable and consistent instrumentation to replace older Met One BAM and TEOM monitors. Historically, many older continuous particulate monitors did not compare favorably with Federal Reference Method (FRM) monitors, resulting in data quality concerns. As part of the ARP grant, South Coast AQMD upgraded 14 continuous particulate monitors. While these upgraded monitors offered improvements, they initially experienced issues such as faulty grounding, lower grade replacement components, and firmware instability. These problems have largely been resolved in collaboration with the manufacturer.

Many of the FRM PM_{10} monitors have already been replaced with continuous monitors, and South Coast AQMD is actively upgrading the remaining $PM_{2.5}$ monitors to the most recent version of the Met One 1020 BAM. A few older 1020 BAM units remain in the network and are currently being phased out along with the remaining FRM units. Despite this shift toward continuous monitoring, South Coast AQMD remains committed to maintaining some filter-based $PM_{2.5}$ FRM monitoring to support the use of the $PM_{2.5}$ Continuous Monitor Comparability Assessment Tool. This tool plays a critical quality control role by verifying the proper operation and performance of continuous instruments against the FRM benchmark.

After testing various replacement options, including the Thermo 5014i and Teledyne T640, South Coast AQMD has selected the Met One 1020 BAM as the preferred instrument for ongoing network deployment due to its overall performance and comparability. However, we will continue to evaluate and test new continuous particulate monitoring instruments as they become available to ensure reliability, data quality, and long-term sustainability of the particulate network.

Alternative methods for elemental carbon (EC) and organic carbon (OC) analysis within the Chemical Speciation Network (CSN) were evaluated as part of ongoing efforts to improve reliability and resolution. Traditional laboratory-based thermal analysis methods for EC and OC are labor intensive, lack high temporal resolution, and rely on operationally defined protocols that can vary between instrument models. Previously, this posed a long-term concern as the thermal instruments used by the South Coast AQMD laboratory were no longer manufactured, and replacement parts were unavailable.

This issue has since been resolved with the acquisition of the DRI 2015 Series 2 carbon analyzer, an advanced thermal/optical instrument that provides improved reliability, automation, and long-term operational stability. The analyzer enhances consistency in EC and OC measurements while maintaining compatibility with established analytical protocols.

In parallel, South Coast AQMD has collocated the CSN network with aethalometers and one-hour total carbon (TC) filter-based measurements using two Magee Scientific TCA-08 instruments. Results show strong agreement between black carbon (BC) measurements from the aethalometers and EC values from the DRI 2015 Series 2, as well as consistency in TC measurements across both techniques.

U.S. EPA Guidance and Memos

To support the five-year network assessment required under 40 CFR § 58.10(e), the U.S. EPA has issued updated guidance for state, local, and tribal air monitoring agencies. Early guidance from March 1998—including the SLAMS, NAMS, and PAMS Network Review Guidance—recommended evaluation of compliance with network design criteria, monitoring objectives, and the minimum number of required sites, along with siting considerations as outlined in 40 CFR Part 58, Appendix E.

In February 2007, EPA issued the Ambient Air Monitoring Network Assessment Guidance (EPA-454/D-07-001), which remains the principal resource for conducting network assessments. This guidance outlines an approach that emphasizes identifying the monitoring network's purpose, performing technical analyses (e.g., site-by-site and bottom-up evaluations), and using those results to make recommendations about optimizing the network. It highlights analytical tools such as correlation analysis, population exposure, area served, and removal bias to assess monitor value and network redundancy. The guidance also encourages assessing the impact of emerging monitoring technologies and shifting population demographics.

EPA's framework recommends six general steps: (1) updating network and regional context, (2) evaluating historical network development, (3) performing statistical analyses to identify redundancy or gaps, (4) conducting situational assessments to evaluate network performance and value, (5) proposing changes based on findings, and (6) obtaining input from stakeholders before finalizing recommendations. The guidance underscores the importance of considering sensitive populations, and public health research when proposing any monitor discontinuation or network reconfiguration.

Individual Monitor Evaluation – Network Design

The criteria pollutant monitoring network is evaluated based on how well *individual monitors* support key elements of network design as defined in 40 CFR § 58 Appendix D. Each monitor is assessed and assigned a score from one to five based on specific metrics that reflect its role in achieving the overall network design objectives. A score of five indicates strong alignment with design criteria and a high-value contribution to network goals; a score of one indicates minimal alignment or limited contribution.

The following section describes the evaluation criteria used to assess each monitor's role in supporting monitoring objectives, site type alignment, spatial scale appropriateness, compliance with minimum monitoring requirements, and utility in air quality planning and forecasting. A summary of the scoring framework is provided in Table 13.

Monitoring Objectives

The ambient air monitoring networks must be designed to meet three basic monitoring objectives. These basic objectives are listed below. The appearance of any one objective in the order of this list is not based upon a prioritized scheme. Each objective is important and must be considered individually**.**

1. Provide air pollution data to the general public in a timely manner. Data can be presented to the public in a number of attractive ways including through air quality maps, newspapers, internet sites and as part of weather forecasts and public advisories.
2. Support compliance with ambient air quality standards and emissions strategy development. Data from FRM, FEM and Approved Regional Method (ARM) monitors for NAAQS pollutants will be used for comparing an area's air pollution levels against the NAAQS. Data from monitors of various types can be used in the development of attainment and maintenance plans. SLAMS and especially NCore station data, will be used to evaluate the regional air quality models used in developing emission strategies and to track trends in air pollution abatement control measures' impact on improving air quality. In monitoring locations near major air pollution sources, source-oriented monitoring data can provide insight into how well industrial sources are controlling their pollutant emissions.
3. Support for air pollution research studies. Air pollution data from the NCore network can be used to supplement data collected by researchers working on health effects assessments and atmospheric processes, or for monitoring methods development work.

Site Type

In order to support the air quality management work indicated in the three basic air monitoring objectives, a network must be designed with a variety of types of monitoring sites. Monitoring sites must be capable of informing managers about many things including the peak air pollution levels, typical levels in populated areas, air pollution transported into and outside of a city or region and air pollution levels near specific sources. To summarize some of these sites, here is a listing of six general site types:

1. Sites located to determine the highest concentrations expected to occur in the area covered by the network.
2. Sites located to measure typical concentrations in areas of high population density.

3. Sites located to determine the impact of significant sources or source categories on air quality.
4. Sites located to determine general background concentration levels.
5. Sites located to determine the extent of regional pollutant transport among populated areas; and in support of secondary standards.
6. Sites located to measure air pollution impacts on visibility, vegetation damage, or other welfare-based impacts.

Spatial Scale

To clarify the nature of the link between general monitoring objectives, site types and the physical location of a particular monitor, the concept of spatial scale of representativeness is defined. The goal in locating monitors is to correctly match the spatial scale represented by the sample of monitored air with the spatial scale most appropriate for the monitoring site type, air pollutant to be measured and the monitoring objective.

Spatial Scale of representativeness is the physical dimension of the air parcel surrounding the air monitoring site where pollutant concentrations are reasonably similar. The scales of representativeness of most interest for the monitoring site types described above are as follows:

1. Microscale: Defines the concentrations in air volumes associated with area dimensions ranging from several meters up to about 100 meters.
2. Middle scale: Defines the concentration typical of areas up to several city blocks in size with dimensions ranging from about 100 meters to 0.5 kilometers.
3. Neighborhood scale: Defines concentrations within some extended area of the city that has relatively uniform land use with dimensions in the 0.5 to 4.0 kilometers range. The neighborhood and urban scales listed below have the potential to overlap in applications that concern secondarily formed or homogeneously distributed air pollutants.
4. Urban scale: Defines concentrations within an area of city-like dimensions, on the order of 4 to 50 kilometers. Within a city, the geographic placement of sources may result in there being no single site that can be said to represent air quality on an urban scale.
5. Regional scale: Defines usually a rural area of reasonably homogeneous geography without large sources and extends from tens to hundreds of kilometers.
6. National and global scales: These measurement scales represent concentrations characterizing the nation and the globe as a whole.

Proper siting of a monitor requires specification of the monitoring objective, the types of sites necessary to meet the objective and then the desired spatial scale of representativeness. Table 9 illustrates the relationship between the various site types that can be used to support the three basic monitoring objectives and the scales of representativeness that are generally most appropriate for that type of site.

TABLE 9. Relationship Between Site Type and Sale of Representativeness

Site type	Appropriate siting scales
1. Highest concentration	Micro, middle, neighborhood (*sometimes* urban or regional for secondarily formed pollutants).
2. Population oriented	Neighborhood, urban.
3. Source impact	Micro, middle, neighborhood.
4. General/background & regional transport	Urban, regional.
5. Welfare-related impacts	Urban, regional.

Minimum Monitoring Requirement

As a general requirement, the U.S. EPA specifies the minimum numbers of sites required in a network based on the latest census population data and DV concentrations for specific criteria pollutants. The minimum number of instruments for monitoring networks are summarized below and updated annually in the network plan.

Ozone

Local agencies must operate O_3 sites depending on population (in terms MSA) and typical peak concentrations (expressed in percentages below, or near the O_3 NAAQS). Specific O_3 site minimum requirements are included in Table 10. The total number of O_3 sites needed to support the basic monitoring objectives of public data reporting, air quality mapping, compliance and understanding O_3 related atmospheric processes are more sites than the minimum required in Table 10.

TABLE 10. Ozone Minimum Monitoring Requirement

MSA population	Most recent 3-year design value concentrations ≥85% of any O_3 NAAQS	Most recent 3-year design value concentrations <85% of any O_3 NAAQS
>10 million	4	2
4-10 million	3	1
350,000-<4 million	2	1
50,000-<350,000	1	0

$PM_{2.5}$

Local agencies must operate the minimum number of $PM_{2.5}$ SLAMS sites depending on typical DV concentrations in comparison to NAAQS. Specific $PM_{2.5}$ site minimum requirements are included in Table 11. The total number of $PM_{2.5}$ sites needed to support the basic monitoring objectives of public data reporting, air quality mapping, compliance may be more sites than the minimum required in Table 11.

TABLE 11. $PM_{2.5}$ Minimum Monitoring Requirement

MSA population	Most recent 3-year design value ≥85% of any $PM_{2.5}$ NAAQS	Most recent 3-year design value <85% of any $PM_{2.5}$ NAAQS
>1,000,000	3	2
500,000-1,000,000	2	1
50,000-<500,000	1	0

PM_{10}

Local agencies must operate the approximate number of permanent stations required in MSAs to characterize national and regional PM_{10} air quality trends and geographical patterns. The number of PM_{10} stations in areas where MSA populations exceed 1,000,000 must be in the range from 2 to 10 stations, while in low population urban areas, no more than two stations are required. A range of monitoring stations is specified in Table 12 because sources of pollutants and local control efforts can vary from one part of the country to another and therefore, some flexibility is allowed in selecting the actual number of stations in any one locale.

TABLE 12. $PM_{2.5}$ Minimum Monitoring Requirement

Population category	High concentration	Medium concentration	Low concentration
>1,000,000	6-10	4-8	2-4
500,000-1,000,000	4-8	2-4	1-2
250,000-500,000	3-4	1-2	0-1
100,000-250,000	1-2	0-1	0

Carbon Monoxide

Local agencies must operate one CO monitor collocated with each required near road NO_2 monitor in CBSAs having a population of 1,000,000 or more persons. If a CBSA has more than one required near road NO_2 monitor, only one CO monitor is required to be collocated with a near road NO_2 monitor within that CBSA. The RA may require additional CO monitors above the minimum if the number of monitors is insufficient to meet monitoring objectives.

NO_2

Local agencies must operate one microscale near road NO_2 monitoring station in each CBSA with a population of 1,000,000 or more persons to monitor a location of expected maximum hourly concentrations sited near a major road with high Annual Average Daily Traffic (AADT) counts. An additional near road NO_2 monitoring station is required for any CBSA with a population of 2,500,000 persons or more, or in any CBSA with a population of 1,000,000 or more persons that has one or more roadway segments with 250,000 or greater AADT counts to monitor a second location of expected maximum hourly concentrations.

Within the NO_2 network, there must be one monitoring station in each CBSA with a population of 1,000,000 or more persons to monitor a location of expected highest NO_2 concentrations representing the neighborhood or larger spatial scales. The RA may require additional NO_2 monitors above the minimum if the number of monitors is insufficient to meet monitoring objectives.

SO_2

Local agencies must operate a minimum number of required SO_2 monitoring sites based on the PWEI.

The PWEI shall be calculated by each CBSA for use in the implementation of the SO_2 monitoring network. The PWEI shall be calculated by multiplying the population of each CBSA, using the most current census data or estimates and the total amount of SO_2 in TPY emitted within the CBSA area, using the most recent county level emissions data available in the NEI for each county in each CBSA. The resulting product shall be divided by one million, providing a PWEI value, the units of which are million persons-tpy. For any CBSA with a calculated PWEI value equal to or greater than 1,000,000, a minimum of three SO_2 monitors are required within that CBSA. For any CBSA with a calculated PWEI value equal to or greater than 100,000, but less than 1,000,000, a minimum of two SO_2 monitors are required within that CBSA. For any CBSA with a calculated PWEI value equal to or greater than 5,000, but less than 100,000, a minimum of one SO_2 monitor is required within that CBSA. The RA may require additional SO_2 monitors above the minimum if the number of monitors is insufficient to meet monitoring objectives.

Pb

Local agencies are required to conduct ambient air Pb monitoring near Pb sources which are expected to or have been shown to contribute to a maximum Pb concentration in ambient air in excess of the NAAQS, taking into account the logistics and potential for population exposure. At a minimum, there must be one source-oriented SLAMS site located to measure the maximum Pb concentration in ambient air resulting from each non-airport Pb source which emits 0.50 or more TPY and from each airport which emits 1.0 or more TPY based on either the most recent NEI or other scientifically justifiable methods and data taking into account logistics and the potential for population exposure. The U.S. EPA RA may require additional monitoring beyond the minimum monitoring requirements where the likelihood of Pb air quality violations is significant or where the emissions density, topography, or population locations are complex and varied.

NATTS

The NATTS program was developed to fulfill the need for long-term HAP monitoring data of consistent quality. The sites are part of a national network of air toxics monitoring stations. OAQPS, in conjunction with the U.S. EPA Regional Offices and local air pollution control agencies, developed the network which is comprised of ambient air monitoring stations. Los Angeles (Main St.) and Rubidoux Air Monitoring Stations (AMS) have been designated NATTS monitoring locations.

CSN

As part of the $PM_{2.5}$ NAAQS review completed in 1997, U.S. EPA established a $PM_{2.5}$ CSN consisting of STN sites and supplemental speciation sites. The CSN is a component of the National $PM_{2.5}$ Monitoring Network, whose goal is to establish if the NAAQS are being attained. However, CSN data are not used for attainment or nonattainment decisions but are intended to complement the activities of the larger gravimetric $PM_{2.5}$ measurement network component

Local agencies shall continue to conduct chemical speciation monitoring and analyses at sites designated to be part of the $PM_{2.5}$ STN. The selection and modification of these STN sites must be approved by the RA. Chemical speciation is encouraged at additional sites where the chemically resolved data would be useful in developing state implementation plans and supporting atmospheric or health effects-related studies. Los Angeles (Main St.) and Rubidoux AMS have been designated CSN monitoring locations.

NCORE

Each state is required to operate at least one NCore site. The NCore locations should be leveraged with other multi-pollutant air monitoring sites including PAMS sites, National NATTS sites and STN sites. Site leveraging includes using the same monitoring platform and equipment to meet the objectives of the variety of programs where possible and advantageous. Los Angeles (Main St.) and Rubidoux AMS have been designated NCORE monitoring locations.

PAMS

Local monitoring agencies are required to collect and report PAMS measurements at each required NCore site located in a CBSA with a population of 1,000,000 or more, based on the latest available census figures. States with many MSAs often contain multiple air sheds with unique characteristics and, often, elevated air pollution. These states are required to identify one to two additional NCore sites in order to account for their unique situations. The NCore locations should be leveraged with other multi-pollutant air monitoring sites including PAMS sites, NATTS sites, CASTNET sites and STN sites. Site leveraging includes using the same monitoring platform and equipment to meet the objectives of the variety of programs where possible and advantageous. Los Angeles (Main St.) and Rubidoux AMS have been designated PAMS monitoring locations.

Air Quality Planning and Forecasting

The criteria pollutant monitoring network provides data to support compliance with ambient air quality standards and emissions strategy development. Additionally, site data is used to calculate the Air Quality Index (AQI) for dissemination to the general public and forecasting. Air monitoring site requirements for these purposes include:

1. Importance to forecasting and forecast validation.
2. Placement for dust and smoke advisories.
3. Determination of background concentrations for point source modeling review.
4. Monitoring placement for gridded real time AQI map.
5. Determination of highest concentrations.
6. Placement of monitoring site to aid in the development of exceptional event demonstrations.

TABLE 13. Scoring Criteria - Individual Monitors - Network Design

Score/Metric	5 – Strong Contribution	3 – Moderate Contribution	1 – Limited Contribution
Monitoring Objective	The monitor supports all three network design objectives: (1) real-time public reporting, (2) NAAQS compliance and emissions strategy development, and (3) research or method development (e.g., NCore, health or atmospheric studies).	The monitor supports at least two objectives but has limited or no role in research applications.	The monitor supports only one objective and contributes minimally to broader network goals.
Site Type	The monitor fulfills a critical site type role (e.g., peak concentration, regional background, source-oriented) and strengthens the diversity and coverage of the network design.	The monitor aligns with a valid site type (e.g., typical urban exposure), but may duplicate roles already served by other monitors.	The monitor's role does not align clearly with a defined site type and provides little added value to network design.
Spatial Scale	The monitor's spatial representativeness (e.g., microscale, neighborhood scale) is well-matched to the monitoring objective and pollutant measured, consistent with EPA guidance.	The monitor 's scale is generally appropriate but may not be optimal for the objective or pollutant.	The monitor 's spatial scale is poorly defined or mismatched to its intended function.
Minimum Monitoring Requirement	The monitor is essential for meeting minimum federal requirements (e.g., required NO_2 near-road, PAMS, or $PM_{2.5}$ SLAMS). Its removal would result in noncompliance.	The monitor is not required but enhances the network beyond minimum thresholds.	The monitor is supplemental and not necessary for compliance; may be duplicative.
Air Quality Planning and Forecasting	The monitor plays a critical role in air quality forecasting, AQI reporting, or AQMP modeling support.	The monitor provides moderate support for forecasting or planning functions.	The monitor does not contribute meaningfully to planning or forecasting needs.

Note: Each score reflects the contribution of an individual monitor to key network design elements defined in 40 CFR Part 58, Appendix D. While multiple monitors may be located at the same site, they are evaluated independently based on their role, monitoring objective, and alignment with network criteria.

In addition to evaluating individual monitor contributions, the network assessment also includes a separate evaluation of the monitoring sites themselves, focusing on long-term sustainability, siting integrity, and programmatic support

Monitoring Site Evaluation – Sustainability and Planning
This section evaluates individual monitoring sites based on their contribution to the long-term integrity, comparability, and planning value of the ambient air monitoring network. Criteria include compliance with probe and monitoring path siting requirements (40 CFR § 58 Appendix E), historical data continuity, future occupancy security, and the site's role in supporting forecasting, planning, research, and multi-program coordination. Each site is scored on a scale from one to five, with higher scores indicating greater alignment with strategic objectives and sustainable air quality management. A summary of the evaluation criteria is provided in Table 16.

Historical Trend
Improving air quality is one of the U.S. EPA's top priorities. Evaluation of local agencies air quality status and long-term trends is critical in assessing air quality strategies. The longevity of an air monitoring site is a key factor in the site assessment.

Security of Future Occupancy
To support continued historical trends, U.S. EPA has recommended local agencies establish air monitoring leases for a minimum of five years. The ability to establish leases for a minimum of five years will ensure site security for future occupancy and is an important factor in assessing an air monitoring site.

Probe Siting Criteria

The probe and monitoring path siting criteria in 40 CFR § 58 Appendix E must be followed to the maximum extent possible. It is recognized that there may be situations where some deviation from the siting criteria may be necessary. However, adherence to these siting criteria is necessary to ensure the uniform collection of compatible and comparable air quality data. The following probe siting criteria are considered in the assessment.

Horizontal and Vertical Placement

Inlet probes must be placed both horizontally and vertically so that at least 80 percent of monitoring path is between 2 and 15m above ground level for neighborhood scale sites and between 2 and 7m above ground level for microscale sites. The probe or at least 90 percent of the monitoring path must be at least 1 meter vertically or horizontally away from any supporting structure, walls, parapets, penthouses, etc. and away from dusty or dirty areas. If the probe or a significant portion of the monitoring path is located near the side of a building or wall, then it should be located on the windward side of the building relative to the prevailing wind direction during the season of highest concentration potential for the pollutant being measured.

Spacing from Minor Sources

Spacing requirements are dependent upon the monitoring objective. If the objective is to measure the impact of a stationary source's primary pollutant emissions, then the probe may be located close to the source and be classified as a micro-scale site. A micro-scale site typically represents an area up to 100m in size. If the objective is to measure pollutants over a larger area such as a neighborhood or city, then the monitoring location should be located away from minor sources of pollutants so as not to impact air quality data collected at the site. Particulate matter sites should not be located in unpaved areas where windblown dust can influence data collected. Special attention should be placed on horizontal and vertical probe placement from furnace or incineration flues to prevent scavenging of O_3 by NO and O_3 reactive hydrocarbons.

Spacing from Obstructions

Buildings and other obstacles may scavenge SO_2, O_3, or NO_2 and restrict airflow for any pollutant measured. To prevent this influence, the probe must have unrestricted airflow and be located away from obstacles. The distance from an obstacle to the probe should be twice the height that the obstacle protrudes above the inlet. For particulate sampling, a minimum of 2 meters separation is required between monitors, walls, parapets and structures.

Spacing from Trees

Trees can scavenge SO_2, O_3 and NO_2 by adsorption and provide a surface for particle deposition. Trees also act as obstructions and special attention should be made to adhere to correct spacing. To reduce interference, the probe inlet should be at least 10m from the drip line of the tree. For micro-scale sites, no trees should exist between the probe inlet and the source being measured.

Spacing from Roadways

O_3 and NO_2 in particular are susceptible to interference from roadway emissions. When siting monitors for neighborhood scale and urban scales, it is important to minimize roadway interference. Recommended spacing from roadways for O_3, NO_2, CO and PM samplers are summarized in Tables 14, 15 and Figure 1.

TABLE 14. Recommended Spacing from Roadways for O_3, NO/NOX, NOY

Roadway average daily traffic, vehicles per day	Minimum distance (meters)	Minimum distance (meters)
≤1,000	10	10
10,000	10	20
15,000	20	30
20,000	30	40
40,000	50	60
70,000	100	100
≥110,000	250	250

TABLE 15. Recommended Spacing from Roadways for CO

Roadway average daily traffic, vehicles per day	Minimum distance (meters)
≤10,000	10
15,000	25
20,000	45
30,000	80
40,000	115
50,000	135
≥60,000	150

Figure 1. Recommended Spacing from Roadways for PM

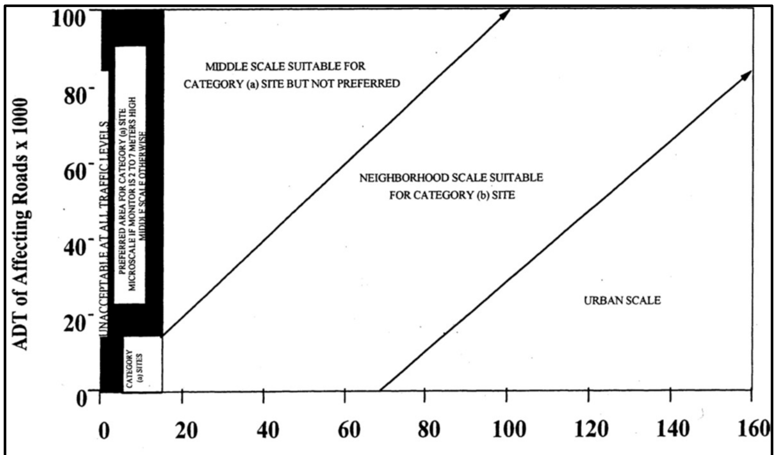

Figure E-1. Distance of PM samplers to nearest traffic lane (meters)

Non-NAAQS Data Uses

In addition to NAAQS compliance status evaluation and progress demonstrations, data from South Coast AQMD air monitoring stations is used for real-time public notification of air pollution events, air quality forecasting and modeling for strategic plan development, including the preparation of the Air Quality Management Plan (AQMP). Due to the large population in Southern California and the complexity of geography and meteorology, a relatively large number of air monitoring stations are needed to adequately describe air quality and meteorology in South Coast AQMD's jurisdiction. The following are Non-NAAQS data uses considered in the assessment.

Public Notification

Data from the criteria pollutants that are measured continuously are available to the public in near real time, through the South Coast AQMD, U.S. EPA AirNow and California Air Resourced Board websites. Additional real time information is available through the South Coast AQMD application for Android and iPhone. Warnings of current air pollution events that occur are transmitted to the public via the South Coast AQMD website, fax, email, recorded phone messages, press releases and Android and iPhone applications. The U.S. EPA EnviroFlash alert system is used to alert subscribers of measured unhealthy air quality by email, RSS feeds or Twitter alerts. At this time, air quality notifications are primarily driven by $PM_{2.5}$ and summertime O_3 measurements, although PM_{10} episodes can also occur occasionally during exceptional events (e.g., natural windblown dust events, wildfires and fireworks displays). A robust real-time network is needed to support the accurate mapping of data and transmittal of episodic health information for the large population and geographic diversity of the Basin and the Coachella Valley.

Air Quality Forecasting

South Coast AQMD provides daily air quality forecasts to the public, predicting day-in-advance concentrations and AQI values of O_3, $PM_{2.5}$, PM_{10}, CO and NO_2 for 38 source-receptor areas throughout AQMD's jurisdiction. The forecasts are disseminated to the public through the South Coast AQMD and U.S. EPA AirNow websites, the South Coast AQMD IVR phone system and through the news media, as well as by subscription via fax, email, RSS feeds, Twitter (using EnviroFlash) and the South Coast AQMD application for Android and iPhone. South Coast AQMD also provides high wind/windblown dust forecasts for the Coachella Valley for South Coast AQMD Rule 403.1, agricultural and wildland prescribed fire burn forecasts and residential wood burning forecasts. South Coast AQMD air quality forecast tools utilize forecaster experience, empirical/statistical models and prognostic grid models. Current and historical air quality and meteorological data are critical to the forecasting process. The South Coast AQMD measurements are used to develop empirical models and to provide current inputs during daily forecast preparation. The monitoring data is also used to evaluate and refine the prognostic grid models.

Air Quality Planning

Air quality measurements are important for the air quality planning process, including strategic plan development to demonstrate attainment of the NAAQS. Current levels and historic air quality trends are documented as a component of the AQMP and reasonable further progress analyses. Meteorological and air quality models are used to simulate representative past episodes or longer periods, as compared to measured air quality data throughout the region. A relatively dense monitoring network of pollutants and their precursors is needed throughout the modeling domain to adequately evaluate the ability of the models to simulate air quality.

Health Studies

Support for air pollution research studies is prime objective in assessing the value of an air monitoring location. Air pollution data collected is used to supplement data collected by researchers working on health effects assessments. Sites used as platforms for scientific studies, involved with health or welfare impacts, measurement methods development, or used as collaborative efforts with researchers are considered due to their important role in supporting the air quality management programs, such as AB617 initiatives.

During July 2017 the Governor of the State of California signed Assembly Bill 617 (AB617). The legislation requires local air districts to develop and implement additional monitoring in an effort to reduce air pollution exposure in disadvantaged communities. In support of the program, toxics monitoring and health effects studies take place at air monitoring locations throughout the network. Support of these studies is taken into consideration while determining the value of an air monitoring location.

Synergies

Consideration of potential synergies between monitoring programs and external objectives are taken into account while establishing the value of the monitoring location.

1. Assessment of synergies between SLAMS and U.S. EPA Monitoring programs such as NATTS, CSN, PAMS and NCORE as required. U.S. EPA recommends NCore locations should be leveraged with other multi-pollutant air monitoring sites including PAMS sites, NATTS sites and CSN sites. Site leveraging includes using the same monitoring platform and equipment to meet the objectives of the variety of programs where possible and advantageous.
2. Assessment of synergies between SLAMS, U.S. EPA monitoring programs, Department of Homeland Security (DHS) programs, South Coast AQMD health studies, AB 617, Rule 1180 and university or non-profit research studies that take advantage of historical data trends from multi-pollutant monitoring programs.
3. Assessment of synergies that are external to the air monitoring network are taken into consideration while determining the value of a site includes the use of facilities by air monitoring and compliance staff as office space and for data communications.

TABLE 16. Scoring Criteria - Monitoring Sites (Sustainability and Planning)

Metric / Score	5 – Strong Contribution	3 – Moderate Contribution	1 – Limited Contribution
Historic Trend	The site has hosted continuous air monitoring operations for over 20 years, supporting long-term trend analysis and regulatory planning. Its removal would significantly impact trend continuity.	The site has operated for 10–20 years, contributing to trend analysis but with less long-term depth. Removal would moderately affect continuity.	The site has been operating for fewer than 10 years and provides limited value to long-term trend assessments. Data continuity is minimal.
Security of Future Occupancy	The site has a secure long-term lease or facility agreement (5+ years), with no known risk to continued occupancy or operational disruption.	The site has a short- to mid-term lease (2–5 years) or informal agreement with some uncertainty regarding continued access.	The site is on a short-term (less than 2 years) or informal basis, with unresolved occupancy concerns or risk of forced relocation.
Probe Siting Criteria	The site fully complies with all siting criteria for inlet placement, spacing from obstructions, sources, trees, and roadways. Siting is optimal for regulatory comparability.	The site has minor deviations from siting criteria, such as marginal clearance or proximity to minor sources. These are unlikely to significantly affect data representativeness.	The site does not meet multiple siting criteria or includes major obstructions or pollutant interferences that compromise data quality.
Non NAAQS Data Uses	The site is actively used for forecasting, AQMP modeling, real-time alerts, EJ or AB617 health studies, and other strategic programs. Its data are integral to public health communication and planning.	The site supports some non-NAAQS functions such as forecasting or health studies, but its role is limited to a subregional or supplementary level.	The site is not used for any regular non-NAAQS applications and does not contribute meaningfully to forecasting, planning, or research.
Synergies	The site serves as a hub for multiple programs (e.g., SLAMS, NCore, PAMS, NATTS, AB617, Rule 1180) and offers physical or technical support (e.g., data relay, office use, co-location with research projects).	The site supports at least one additional program or collaborative effort and may offer limited logistical benefits (e.g., shared equipment or partial co-location).	The site operates independently with no integration into other regulatory, research, or agency programs. No synergies exist beyond primary monitoring.

Note: These scores reflect the contribution of each monitoring site to the overall sustainability, reliability, and strategic planning capabilities of the network. Unlike individual monitor evaluations, these criteria focus on location-based attributes such as infrastructure longevity, lease security, siting suitability, and inter-program coordination potential.

Results of Individual Monitor Evaluation - Network Design

The following assessment summarizes the evaluation results for individual monitors within each pollutant-specific network. Using a scoring matrix based on the criteria outlined in 40 CFR § 58 Appendix D and other relevant design considerations, each monitor was rated on a scale from one to five across key metrics such as monitoring objective, site type, spatial scale, and relevance to minimum monitoring requirements. These ratings reflect the monitor's alignment with network design principles and its overall contribution to the effectiveness of the monitoring network.

The results presented in Tables 17 through 29 are intended to inform network planning decisions, including potential relocation, retention, or discontinuation of monitors. Evaluations are pollutant-specific and account for both regulatory and programmatic objectives across the South Coast AQMD network.

Table 17. Ozone Monitor Network Design Evaluation

Overall Rank	Monitoring location	Monitoring Objective	Site Type	Spatial Scale	Minimum Monitoring Requirement	Air Quality Planning and Forecasting	Average Score
1	Central San Bernardino Mountains	5	5	5	5	5	5.0
2	Glendora	5	5	5	5	5	5.0
3	Indio	5	5	5	5	5	5.0
4	Los Angeles (Main St.)	5	5	5	5	5	5.0
5	Mission Viejo	5	5	5	5	5	5.0
6	Palm Springs	5	5	5	5	5	5.0
7	Redlands	5	5	5	5	5	5.0
8	San Bernardino	5	5	5	5	5	5.0
9	Santa Clarita	5	5	5	5	5	5.0
10	Banning Airport	5	5	5	5	5	5.0
11	Fontana	5	5	5	4	4	4.6
12	Anaheim	5	5	5	5	3	4.6
13	Temecula	5	5	5	5	3	4.6
14	Rubidoux	4	5	5	4	4	4.4
15	Mira Loma (Van Buren)	4	5	5	4	3	4.2
16	Reseda	4	5	5	4	3	4.2
17	West Los Angeles	4	5	5	4	3	4.2
18	North Hollywood	4	4	4	5	3	4.0
19	Lake Elsinore	4	4	4	4	3	3.8
20	Pico Rivera #2	4	4	4	4	3	3.8
21	Signal Hill	4	4	4	4	3	3.8
22	Compton	4	4	4	4	3	3.8
23	La Habra	4	4	4	4	3	3.8
24	Pasadena	3	4	4	4	3	3.6
25	Pomona	1	1	1	1	1	1.0

Table 18. $PM_{2.5}$ FRM Monitor Network Design Evaluation

Overall Rank	Monitoring location	Monitoring Objective	Site Type	Spatial Scale	Minimum Monitoring Requirement	Air Quality Planning and Forecasting	Average Score
1	Compton	5	5	5	5	5	5.0
2	Indio	5	5	5	5	5	5.0
3	Long Beach Route 710 Near Road	5	5	5	5	5	5.0
4	Los Angeles (Main St.)	5	5	5	5	5	5.0
5	Mira Loma (Van Buren)	5	5	5	5	5	5.0
6	Ontario Route 60 Near Road	5	5	5	5	5	5.0
7	Rubidoux	5	5	5	4	4	4.6
8	Big Bear	4	4	5	3	3	3.8
9	Palm Springs	4	4	4	3	3	3.6
10	Anaheim	3	4	4	3	3	3.4
11	Fontana	3	4	4	5	5	4.2
12	Pico Rivera #2	3	4	4	3	3	3.4
13	San Bernardino	3	4	4	4	4	3.8
14	Signal Hill	3	3	4	3	3	3.2
15	Mission Viejo	3	3	4	4	4	3.6
16	Pasadena	3	3	4	3	3	3.2
17	Reseda	3	3	4	3	3	3.2

Table 19. $PM_{2.5}$ FEM Network Design Assessment

Overall Rank	Monitoring location	Monitoring Objective	Site Type	Spatial Scale	Minimum Monitoring Requirement	Air Quality Planning and Forecasting	Average Score
1	Long Beach Route 710 Near Road	5	5	5	5	5	5.0
2	Los Angeles (Main St.)	5	5	5	5	5	5.0
3	Mira Loma (Van Buren)	5	5	5	5	5	5.0
4	Ontario Route 60 Near Road	5	5	5	5	5	5.0
5	Rubidoux	5	5	5	5	5	5.0
6	Compton	5	5	5	5	5	5.0
7	Indio	5	5	5	5	5	5.0
8	Fontana	5	4	5	5	5	4.8
9	Anaheim	4	4	4	4	5	4.2
10	North Hollywood	5	4	4	3	5	4.2
11	Banning Airport	4	4	4	3	5	4.0
12	Central San Bernardino Mountains	4	4	4	3	5	4.0
13	Santa Clarita	4	4	4	3	5	4.0
14	Temecula	4	4	4	3	5	4.0
15	Glendora	3	4	4	3	5	3.8
16	Lake Elsinore	4	3	4	3	5	3.8
17	Big Bear	3	4	4	3	5	3.8
18	Reseda	3	3	4	3	5	3.6
19	Mission Viejo	3	3	4	4	4	3.6
20	Signal Hill	3	4	4	3	3	3.4

Table 20. PM_{10} FRM Monitor Network Design Evaluation

Overall Rank	Monitoring location	Monitoring Objective	Site Type	Spatial Scale	Minimum Monitoring Requirement	Air Quality Planning and Forecasting	Average Score
1	Los Angeles (Main St.)	4	5	5	5	5	4.8
2	Rubidoux	4	5	5	5	5	4.8
3	Banning Airport	4	5	5	3	3	4.0
4	Anaheim	4	4	3	3	3	3.4
5	Central San Bernardino Mountains	4	3	4	3	3	3.4
6	Redlands	4	3	4	3	3	3.4
7	Santa Clarita	4	3	4	3	3	3.4

Table 21. PM_{10} FEM Network Design Assessment

Overall Rank	Monitoring location	Monitoring Objective	Site Type	Spatial Scale	Minimum Monitoring Requirement	Air Quality Planning and Forecasting	Average Score
1	Indio	5	5	5	5	5	5.0
2	Mecca (Saul Martinez)	5	5	5	5	5	5.0
3	Los Angeles (Main St.)	4	5	5	5	5	4.8
4	Rubidoux	4	5	5	5	5	4.8
5	Mira Loma (Van Buren)	5	5	4	3	5	4.4
6	Palm Springs	5	3	4	3	5	4.0
7	San Bernardino	5	3	4	3	5	4.0
8	Anaheim	4	4	4	4	4	3.8
9	Mission Viejo	4	3	4	4	4	3.8
10	Fontana	4	4	4	4	3	3.6
11	Glendora	4	4	4	4	3	3.6
12	Lake Elsinore	4	4	4	4	3	3.6
13	Signal Hill	4	3	4	3	4	3.6
14	Long Beach (Hudson)	1	2	1	2	2	1.6

Table 22. CO Monitor Network Design Assessment

Overall Rank	Monitoring location	Monitoring Objective	Site Type	Spatial Scale	Minimum Monitoring Requirement	Air Quality Planning and Forecasting	Average Score
1	Anaheim Route 5 Near Road	5	5	5	5	1	4.2
2	Ontario Etiwanda Near Road	5	5	5	5	1	4.2
3	Compton	5	5	5	1	1	3.4
4	Los Angeles (Main St.)	5	5	5	1	1	3.4
5	Rubidoux	5	5	5	1	1	3.4
6	Mission Viejo	1	1	1	1	1	1.0
7	Palm Springs	1	1	1	1	1	1.0
8	San Bernardino	1	1	1	1	1	1.0
9	Santa Clarita	1	1	1	1	1	1.0
10	Anaheim	1	1	1	1	1	1.0
11	La Habra	1	1	1	1	1	1.0
12	Mira Loma (Van Buren)	1	1	1	1	1	1.0
13	Reseda	1	1	1	1	1	1.0
14	Fontana	1	1	1	1	1	1.0
15	Glendora	1	1	1	1	1	1.0
16	Pasadena	1	1	1	1	1	1.0
17	Pico Rivera #2	1	1	1	1	1	1.0
18	Pomona	1	1	1	1	1	1.0
19	Lake Elsinore	1	1	1	1	1	1.0

Table 23. NO_2 Monitor Network Design Evaluation

Overall Rank	Monitoring location	Monitoring Objective	Site Type	Spatial Scale	Minimum Monitoring Requirement	Air Quality Planning and Forecasting	Average Score
1	Anaheim Route 5 Near Road	5	5	5	5	5	5.0
2	Long Beach Route 710 Near Road	5	5	5	5	5	5.0
3	Ontario Etiwanda Near Road	5	5	5	5	5	5.0
4	Ontario Route 60 Near Road	5	5	5	5	5	5.0
5	Los Angeles (Main St.)	5	5	5	4	4	4.6
6	Rubidoux	5	5	5	4	4	4.6
7	Compton	4	3	5	4	4	4.0
8	Mira Loma (Van Buren)	4	4	5	3	4	4.0
9	San Bernardino	4	4	5	4	3	4.0
10	Pico Rivera #2	4	3	5	3	4	3.8
11	Anaheim	3	3	5	3	4	3.6
12	Banning Airport	3	3	5	3	4	3.6
13	North Hollywood	3	3	5	3	4	3.6
14	Signal Hill	3	3	5	3	4	3.6
15	Fontana	3	3	5	3	3	3.4
16	Glendora	3	3	5	3	3	3.4
17	Lake Elsinore	3	3	5	3	3	3.4
18	Palm Springs	3	3	5	3	3	3.4
19	Pasadena	3	3	5	3	3	3.4
20	Reseda	3	3	5	3	3	3.4
21	Santa Clarita	3	3	5	3	3	3.4
22	West Los Angeles	3	3	5	3	3	3.4
23	La Habra	3	3	5	3	2	3.2
24	Pomona	1	1	1	1	1	1.0

Table 24. SO_2 Monitor Network Design Evaluation

Overall Rank	Monitoring location	Monitoring Objective	Site Type	Spatial Scale	Minimum Monitoring Requirement	Air Quality Planning and Forecasting	Average Score
1	Los Angeles (Main St.)	5	5	5	5	5	5.0
2	Signal Hill	5	5	5	5	4	4.8
3	Rubidoux	5	5	5	5	4	4.8
4	Fontana	5	4	5	5	2	4.2

Table 25. Pb Monitor Network Design Evaluation

Overall Rank	Monitoring location	Monitoring Objective	Site Type	Spatial Scale	Minimum Monitoring Requirement	Air Quality Planning and Forecasting	Average Score
1	Closet World (Quemetco)	5	5	4	5	2	4.2
2	Los Angeles (Main St.)	4	4	4	3	3	3.6
3	Compton	4	4	4	3	3	3.6
4	Rubidoux	4	4	4	3	3	3.6
5	Pico Rivera #2	4	4	4	3	1	3.2
6	San Bernardino	4	4	4	3	1	3.2
7	Rehrig (Exide)	1	1	4	1	1	1.6

Table 26. NATTS Network Design Evaluation

Monitoring location	Pollutant	Monitoring Objective	Site Type	Spatial Scale	Minimum Monitoring Requirement	Air Quality Planning and Forecasting	Average Score
Los Angeles (Main St.)	Hexavalent Chromium	5	5	5	5	4	4.8
Los Angeles (Main St.)	PM10 Metals	5	5	5	5	4	4.8
Los Angeles (Main St.)	VOCs	5	5	5	5	4	4.8
Los Angeles (Main St.)	PAHs	5	5	5	5	4	4.8
Rubidoux	Hexavalent Chromium	5	5	5	5	4	4.8
Rubidoux	PM10 Metals	5	5	5	5	4	4.8
Rubidoux	VOCs	5	5	5	5	4	4.8
Rubidoux	PAHs	5	5	5	5	4	4.8

Table 27. CSN Network Design Evaluation

Monitoring location	Pollutant	Agency	Monitoring Objective	Site Type	Spatial Scale	Minimum Monitoring Requirement	Air Quality Planning and Forecasting	Average Score
Los Angeles (Main St.)	Speciated PM2.5	U.S. EPA	5	5	5	5	4	4.8
Rubidoux	Speciated PM2.5	U.S. EPA	5	5	5	5	4	4.8
Los Angeles (Main St.)	Speciated PM2.5	South Coast AQMD	5	5	5	3	3	4.2
Rubidoux	Speciated PM2.5	South Coast AQMD	5	5	5	3	3	4.2
Fontana	Speciated PM2.5	South Coast AQMD	4	4	5	3	3	3.8
Anaheim	Speciated PM2.5	South Coast AQMD	4	4	5	3	3	3.8

Table 28. PAMS Network Evaluation

Monitoring location	Pollutant(s)	Monitoring Objective	Site Type	Spatial Scale	Minimum Monitoring Requirement	Air Quality Planning and Forecasting	Average Score
Los Angeles (Main St.)	O3	5	5	5	5	4	4.8
Los Angeles (Main St.)	NO/NOX	5	5	5	5	4	4.8
Los Angeles (Main St.)	Direct NO2	5	5	5	5	4	4.8
Los Angeles (Main St.)	VOCs	5	5	5	5	4	4.8
Los Angeles (Main St.)	Wind Speed & Direction	5	5	5	5	4	4.8
Los Angeles (Main St.)	Solar Radiation	5	5	5	5	4	4.8
Los Angeles (Main St.)	UV Radiation	5	5	5	5	4	4.8
Los Angeles (Main St.)	Barometric Pressure	5	5	5	5	4	4.8
North Hollywood	Precipitation	5	5	5	5	4	4.8
Los Angeles (Main St.)	Total NMOC	5	5	5	5	4	4.8
Los Angeles (Main St.)	Carbonyls	5	5	5	5	4	4.8
Rubidoux	O3	5	5	5	5	4	4.8
Rubidoux	NO/NOX	5	5	5	5	4	4.8
Rubidoux	Direct NO2	5	5	5	5	4	4.8
Rubidoux	VOCs	5	5	5	5	4	4.8
Rubidoux	Wind Speed & Direction	5	5	5	5	4	4.8
Rubidoux	Solar Radiation	5	5	5	5	4	4.8
Rubidoux	UV Radiation	5	5	5	5	4	4.8
Rubidoux	Barometric Pressure	5	5	5	5	4	4.8
Rubidoux	Precipitation	5	5	5	5	4	4.8
Rubidoux	Total NMOC	5	5	5	5	4	4.8
Rubidoux	Carbonyls	5	5	5	5	4	4.8

Table 29. NCORE Network Evaluation

Monitoring location	Pollutant(s)	Monitoring Objective	Site Type	Spatial Scale	Minimum Monitoring Requirement	Air Quality Planning and Forecasting	Average Score
Los Angeles (Main St.)	O3	5	5	5	5	4	4.8
Los Angeles (Main St.)	PM2.5 Speciation	5	5	5	5	4	4.8
Los Angeles (Main St.)	PM2.5 FRM Mass	5	5	5	5	4	4.8
Los Angeles (Main St.)	Contious PM2.5 Mass	5	5	5	5	4	4.8
Los Angeles (Main St.)	PM10-PM2.5 Mass	5	5	5	1	4	4.0
Los Angeles (Main St.)	CO	5	5	5	5	4	4.8
Los Angeles (Main St.)	NO	5	5	5	5	4	4.8
Los Angeles (Main St.)	NO_Y	5	5	5	5	4	4.8
Los Angeles (Main St.)	SO2	5	5	5	5	4	4.8
Los Angeles (Main St.)	Wind Speed & Direction	5	5	5	5	4	4.8
Los Angeles (Main St.)	Solar Radiation	5	5	5	5	4	4.8
Los Angeles (Main St.)	UV Radiation	5	5	5	5	4	4.8
Los Angeles (Main St.)	Barometric Pressure	5	5	5	5	4	4.8
Los Angeles (Main St.)	Precipitation	5	5	5	5	4	4.8
Los Angeles (Main St.)	VOCs	5	5	5	5	4	4.8
Rubidoux	O3	5	5	5	5	4	4.8
Rubidoux	PM2.5 Speciation	5	5	5	5	4	4.8
Rubidoux	PM2.5 FRM Mass	5	5	5	5	4	4.8
Rubidoux	Contious PM2.5 Mass	5	5	5	5	4	4.8
Rubidoux	PM10-PM2.5 Mass	5	5	5	1	4	4.0
Rubidoux	CO	5	5	5	5	4	4.8
Rubidoux	NO	5	5	5	5	4	4.8
Rubidoux	NO_Y	5	5	5	5	4	4.8
Rubidoux	SO2	5	5	5	5	4	4.8
Rubidoux	Wind Speed & Direction	5	5	5	5	4	4.8
Rubidoux	Solar Radiation	5	5	5	5	4	4.8
Rubidoux	UV Radiation	5	5	5	5	4	4.8
Rubidoux	Barometric Pressure	5	5	5	5	4	4.8
Rubidoux	Precipitation	5	5	5	5	4	4.8
Rubidoux	VOCs	5	5	5	5	4	4.8

Results of Monitoring Site Evaluation

This section presents the results of the monitoring site assessment, which evaluates each site's contribution to long-term network sustainability, compliance with probe siting criteria, and support for air quality planning, forecasting, and health-related applications. The assessment applies the criteria described in the Monitoring Site Assessment Criteria section and uses a 1-to-5 scoring system across key site-level metrics. Scoring criteria for each site are based on the metrics described in the Monitoring Site Assessment Criteria section. Results for individual monitoring sites are summarized in Tables 30 through 34.

TABLE 30. Historical Trend Site Evaluation

Overall Rank	Location	AQS No.	Criteria Pollutants Monitored	Start Date	Years	Assessment Score
1	Anaheim	60590007	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	08/01/01	23.9	2.4
2	Anaheim Route 5 Near Road	60590008	CO, NO_2	01/01/14	11.5	1.6
3	Banning Airport	60650012	NO_2, O_3, PM_{10}, $PM_{2.5}$	04/01/97	28.3	2.7
4	Big Bear	60718001	$PM_{2.5}$	02/01/99	26.4	2.6
5	Central San Bernardino Mountains	60710005	O_3, PM_{10}, $PM_{2.5}$	10/01/73	51.8	4.2
6	Closet World (Quemetco)	60371404	Pb	10/01/08	16.7	2.0
7	Compton	60371302	CO, NO_2, O_3, Pb, $PM_{2.5}$	01/01/04	21.5	2.3
8	Fontana	60712002	CO, NO_2, SO_2, O_3, PM_{10}, $PM_{2.5}$	08/01/81	43.9	3.7
9	Glendora	60370016	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	08/01/80	44.9	3.7
10	Indio	60652007	O_3, PM_{10}, $PM_{2.5}$ H_2S	01/01/24	1.5	1.0
11	La Habra	60595001	CO, NO_2, O_3	08/01/60	64.9	5.0
12	Lake Elsinore	60659001	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	06/01/87	38.1	3.3
13	Long Beach (Hudson)[3]	60374006	PM_{10}	01/01/10	15.5	1.9
14	Long Beach Route 710 Near Road	60374008	NO_2, $PM_{2.5}$	01/01/15	10.5	1.6
15	Los Angeles (Main St.)	60371103	CO, NO_2, NOy, SO2, O_3, PM_{10}, Pb, $PM_{2.5}$	09/01/79	45.8	3.8
16	Mecca (Saul Martinez)	60652005	PM_{10}, H_2S	01/01/11	14.5	1.8
17	Mira Loma (Van Buren)	60658005	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	11/01/05	19.7	2.2
18	Mission Viejo	60592022	CO, O_3, PM_{10}, $PM_{2.5}$	06/01/99	26.1	2.6
19	North Hollywood	60374010	NO_2, O_3, $PM_{2.5}$	01/01/20	5.5	1.3
20	Ontario Etiwanda Near Road	60710026	CO, NO_2	06/01/14	11.1	1.6
21	Ontario Route 60 Near Road	60710027	NO_2, $PM_{2.5}$	01/01/15	10.5	1.6
22	Palm Springs	60655001	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	04/01/71	54.3	4.3
23	Pasadena	60372005	CO, NO_2, O_3, $PM_{2.5}$	04/01/82	43.3	3.6
24	Pico Rivera #2	60371602	CO, NO_2, O_3, PM_{10}, Pb, $PM_{2.5}$	09/01/05	19.8	2.2
25	Pomona[3]	60371701	CO, NO_2, O_3	06/01/65	60.1	4.7
26	Redlands	60714003	O_3, PM_{10}	09/01/86	38.8	3.4
27	Rehrig (Exide)	60371405	Pb	11/01/07	17.7	2.0
28	Reseda	60371201	CO, NO_2, O_3, $PM_{2.5}$	03/01/65	60.4	4.7
29	Rubidoux	60658001	CO, NO_2, NOy, SO_2, O_3, PM_{10}, Pb, $PM_{2.5}$	09/01/72	52.8	4.2
30	San Bernardino	60719004	CO, NO_2, O_3, PM_{10}, Pb, $PM_{2.5}$	05/01/86	39.2	3.4
31	Santa Clarita	60376012	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	05/01/01	24.2	2.4
32	Signal Hill	60374009	NO_2, SO_2, O_3, $PM_{2.5}$	01/01/20	5.5	1.3
33	Temecula	60650016	O_3, $PM_{2.5}$	06/01/10	15.1	1.9
34	West Los Angeles	60370113	NO_2, O_3	05/01/84	41.2	3.5

TABLE 31. Security of Future Occupancy Site Evaluation

Overall Rank	Location	AQS No.	Criteria Pollutants Monitored	Start Date	Lease Term	Assessment Score
1	Reseda	60371201	CO, NO_2, O_3, $PM_{2.5}$	3/1/1965	5.0	5.0
2	Rubidoux	60658001	CO, NO_2, NOy, SO_2, O_3, PM_{10}, Pb, $PM_{2.5}$	9/1/1972	5.0	5.0
3	Central San Bernardino Mountains	60710005	O_3, PM_{10}, $PM_{2.5}$	10/1/1973	5.0	5.0
4	West Los Angeles	60370113	NO_2, O_3	5/1/1984	5.0	5.0
5	Redlands	60714003	O_3, PM_{10}	9/1/1986	5.0	5.0
6	Big Bear	60718001	$PM_{2.5}$	2/1/1999	5.0	5.0
7	Mission Viejo	60592022	CO, O_3, PM_{10}, $PM_{2.5}$	6/1/1999	5.0	5.0
8	Santa Clarita	60376012	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	5/1/2001	5.0	5.0
9	Pico Rivera #2	60371602	CO, NO_2, O_3, PM_{10}, Pb, $PM_{2.5}$	9/1/2005	5.0	5.0
10	Temecula	60650016	O_3, $PM_{2.5}$	6/1/2010	5.0	5.0
11	Mecca (Saul Martinez)	60652005	PM_{10}, H_2S	1/1/2011	5.0	5.0
12	Long Beach Route 710 Near Road	60374008	NO_2, $PM_{2.5}$	1/1/2015	5.0	5.0
13	Ontario Route 60 Near Road	60710027	NO_2, $PM_{2.5}$	1/1/2015	5.0	5.0
14	North Hollywood	60374010	NO_2, O_3, $PM_{2.5}$	1/1/2020	5.0	5.0
15	Signal Hill	60374009	NO_2, O_3, $PM_{2.5}$	1/1/2020	5.0	5.0
16	Indio	60652007	O_3, PM_{10}, $PM_{2.5}$ H_2S	1/1/2024	5.0	5.0
17	Mira Loma (Van Buren)	60658005	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	11/1/2005	5.0	5.0
18	Los Angeles (Main St.)	60371103	CO, NO_2, NOy, SO2, O_3, PM_{10}, Pb, $PM_{2.5}$	9/1/1979	5.0	5.0
19	Compton	60371302	CO, NO_2, O_3, Pb, $PM_{2.5}$	1/1/2004	4.0	4.0
20	Glendora	60370016	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	8/1/1980	4.0	4.0
21	Fontana	60712002	CO, NO_2, SO_2, O_3, PM_{10}, $PM_{2.5}$	8/1/1981	4.0	4.0
22	Pasadena	60372005	CO, NO_2, O_3, $PM_{2.5}$	4/1/1982	4.0	4.0
23	San Bernardino	60719004	CO, NO_2, O_3, PM_{10}, Pb, $PM_{2.5}$	5/1/1986	4.0	4.0
24	Lake Elsinore	60659001	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	6/1/1987	4.0	4.0
25	Closet World (Quemetco)	60371404	Pb	10/1/2008	4.0	4.0
26	Ontario Etiwanda Near Road	60710026	CO, NO_2	6/1/2014	3.0	3.0
27	Long Beach (Hudson)[3]	60374006	PM_{10}	1/1/2010	3.0	3.0
28	Banning Airport	60650012	NO_2, O_3, PM_{10}, $PM_{2.5}$	4/1/1997	3.0	3.0
29	Anaheim Route 5 Near Road	60590008	CO, NO_2	1/1/2014	2.0	2.0
30	La Habra	60595001	CO, NO_2, O_3	8/1/1960	1.0	1.0
31	Pomona	60371701	CO, NO_2, O_3	6/1/1965	1.0	1.0
32	Palm Springs	60655001	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	4/1/1971	1.0	1.0
33	Anaheim	60590007	CO, NO_2, O_3, PM_{10}, $PM_{2.5}$	8/1/2001	1.0	1.0
34	Rehrig (Exide)	60371405	Pb	11/1/2007	1.0	1.0

TABLE 32. Probe Siting Criteria Site Evaluation

Overall Rank	Monitoring location	Horizontal and Vertical Placement	Spacing from Minor Sources	Spacing from Obstructions	Spacing from Trees	Spacing from Roadways	Average Score
1	Anaheim Route 5 Near Road	5	5	5	5	5	5.0
2	Azusa	5	5	5	5	5	5.0
3	Banning Airport	5	5	5	5	5	5.0
4	Big Bear	5	5	5	5	5	5.0
5	Long Beach Route 710 Near Road	5	5	5	5	5	5.0
6	Mecca (Saul Martinez)	5	5	5	5	5	5.0
7	Mira Loma (Van Buren)	5	5	5	5	5	5.0
8	Mission Viejo	5	5	5	5	5	5.0
9	North Hollywood	5	5	5	5	5	5.0
10	Ontario Etiwanda Near Road	5	5	5	5	5	5.0
11	Ontario Route 60 Near Road	5	5	5	5	5	5.0
12	Rehrig (Exide)	5	5	5	5	5	5.0
13	Reseda	5	5	5	5	5	5.0
14	Rubidoux	5	5	5	5	5	5.0
15	Santa Clarita	5	5	5	5	5	5.0
16	Temecula	5	5	5	5	5	5.0
17	San Bernardino	5	5	5	4	5	4.8
18	Signal Hill	5	5	4	5	5	4.8
19	Compton	5	5	5	4	4	4.6
20	Glendora	5	5	4	4	5	4.6
21	Indio	5	3	5	5	5	4.6
22	Lake Elsinore	5	5	4	4	5	4.6
23	Pico Rivera #2	5	5	3	5	5	4.6
24	Los Angeles (Main St.)	5	2	5	5	5	4.4
25	Redlands	5	5	4	3	5	4.4
26	Closet World (Quemetco)	4	5	2	5	5	4.2
27	Fontana	5	4	4	3	5	4.2
28	Palm Springs	4	5	4	3	5	4.2
29	West Los Angeles	5	5	2	4	5	4.2
30	Pasadena	5	5	2	2	5	3.8
31	Anaheim	5	4	4	4	1	3.6
32	Central San Bernardino Mountains	5	5	1	1	5	3.4
33	Pomona	3	4	1	4	1	2.6
34	Long Beach (Hudson)	2	2	2	5	1	2.4

TABLE 33. Non-NAAQS Data Uses Site Evaluation

Overall Rank	Monitoring location	Public Notification	Air Quality Forecasting	Air Quality Planning	Health Studies	Average Score
1	Anaheim	5	5	5	5	5.0
2	Banning Airport	5	5	5	5	5.0
3	Central San Bernardino Mountains	5	5	5	5	5.0
4	Compton	5	5	5	5	5.0
5	Glendora	5	5	5	5	5.0
6	Indio	5	5	5	5	5.0
7	Long Beach Route 710 Near Road	5	5	5	5	5.0
8	Los Angeles (Main St.)	5	5	5	5	5.0
9	Mecca (Saul Martinez)	5	5	5	5	5.0
10	Mira Loma (Van Buren)	5	5	5	5	5.0
11	Mission Viejo	5	5	5	5	5.0
12	Palm Springs	5	5	5	5	5.0
13	Redlands	5	5	5	5	5.0
14	Reseda	5	5	5	5	5.0
15	Rubidoux	5	5	5	5	5.0
16	San Bernardino	5	5	5	5	5.0
17	Santa Clarita	5	5	5	5	5.0
18	Signal Hill	5	5	5	5	5.0
19	Temecula	5	5	5	5	5.0
20	West Los Angeles	5	5	5	5	5.0
21	Big Bear	5	4	4	4	4.3
22	Fontana	5	4	4	4	4.3
23	Lake Elsinore	5	4	4	4	4.3
24	North Hollywood	5	4	4	4	4.3
25	Ontario Etiwanda Near Road	5	4	4	4	4.3
26	Ontario Route 60 Near Road	5	4	4	4	4.3
27	Anaheim Route 5 Near Road	5	3	3	3	3.5
28	La Habra	5	3	3	3	3.5
29	Pasadena	5	3	3	3	3.5
30	Pico Rivera #2	5	3	3	3	3.5
31	Long Beach (Hudson)	3	2	2	2	2.3
32	Pomona	2	2	2	2	2.0
33	Closet World (Quemetco)	3	1	1	1	1.5
34	Rehrig (Exide)	3	1	1	1	1.5

TABLE 34. Synergies Site Evaluation

Overall Rank	Monitoring location	SLAMS/U.S. EPA, DHS Program Synergies	U.S. EPA Programs/South Coast AQMD Health Study Synergies	AM Network/Office Synergies	Average Score
1	Los Angeles (Main St.)	5	5	5	5.0
2	Rubidoux	5	5	5	5.0
3	Ontario Etiwanda Near Road	5	5	4	4.7
4	Ontario Route 60 Near Road	5	5	4	4.7
5	San Bernardino	4	5	4	4.3
6	Anaheim Route 5 Near Road	5	4	4	4.3
7	Central San Bernardino Mountains	5	4	4	4.3
8	Long Beach Route 710 Near Road	5	4	4	4.3
9	Anaheim	4	5	3	4.0
10	North Hollywood	3	5	4	4.0
11	Big Bear	4	4	4	4.0
12	Pico Rivera #2	4	4	4	4.0
13	Signal Hill	4	4	4	4.0
14	Temecula	4	4	4	4.0
15	Indio	3	5	3	3.7
16	Compton	5	3	3	3.7
17	Glendora	5	3	3	3.7
18	Lake Elsinore	3	5	3	3.7
19	Mecca (Saul Martinez)	5	3	3	3.7
20	Mission Viejo	4	4	3	3.7
21	Redlands	4	4	3	3.7
22	Santa Clarita	4	4	3	3.7
23	West Los Angeles	3	3	5	3.7
24	Mira Loma (Van Buren)	5	3	3	3.7
25	Closet World (Quemetco)	5	2	3	3.3
26	Fontana	5	1	4	3.3
27	La Habra	3	3	3	3.0
28	Long Beach (Hudson)	3	3	3	3.0
29	Palm Springs	3	2	4	3.0
30	Pasadena	3	3	3	3.0
31	Reseda	3	2	3	2.7
32	Banning Airport	1	1	4	2.0
33	Rehrig (Exide)	2	1	1	1.3
34	Pomona	1	1	1	1.0

TABLE 35. Combined Monitoring Site Evaluation Summary

Overall Rank	Monitoring location	Historical Trend	Security of Future Occupancy	Probe Siting	Non-NAAQS Data Uses	Synergies	Average Score
1	Rubidoux	4.2	5.0	5.0	5.0	5.0	4.8
2	Central San Bernardino Mountains	4.2	5.0	5.0	5.0	4.3	4.7
3	Los Angeles (Main St.)	3.8	5.0	4.4	5.0	5.0	4.6
4	Reseda	4.7	5.0	5.0	5.0	2.7	4.5
5	San Bernardino	3.4	4.0	4.8	5.0	4.3	4.3
6	Redlands	3.4	5.0	4.4	5.0	3.7	4.3
7	West Los Angeles	3.5	5.0	4.2	5.0	3.7	4.3
8	Mission Viejo	2.6	5.0	5.0	5.0	3.7	4.2
9	Santa Clarita	2.4	5.0	5.0	5.0	3.7	4.2
10	Long Beach Route 710 Near Road	1.6	5.0	5.0	5.0	4.3	4.2
11	Temecula	1.9	5.0	5.0	5.0	4.0	4.2
12	Big Bear	2.6	5.0	5.0	4.3	4.0	4.2
13	Mira Loma (Van Buren)	2.2	5.0	5.0	5.0	3.7	4.2
14	Glendora	3.7	4.0	4.2	5.0	3.7	4.1
15	Mecca (Saul Martinez)	1.8	5.0	5.0	5.0	3.7	4.1
16	Ontario Route 60 Near Road	1.6	5.0	5.0	4.3	4.7	4.1
17	Signal Hill	1.3	5.0	4.8	5.0	4.0	4.0
18	Fontana	3.7	4.0	4.6	4.3	3.3	4.0
19	Lake Elsinore	3.3	4.0	4.6	4.3	3.7	4.0
20	North Hollywood	1.3	5.0	5.0	4.3	4.0	3.9
21	Indio	1.0	5.0	4.6	5.0	3.7	3.9
22	Pico Rivera #2	2.2	5.0	4.6	3.5	4.0	3.9
23	Compton	2.3	4.0	4.2	5.0	3.7	3.8
24	Ontario Etiwanda Near Road	1.6	3.0	5.0	4.3	4.7	3.7
25	Pasadena	3.6	4.0	3.8	3.5	3.0	3.6
26	Banning Airport	2.7	3.0	5.0	5.0	2.0	3.5
27	Palm Springs	4.3	1.0	4.2	5.0	3.0	3.5
28	La Habra	5.0	1.0	4.6	3.5	3.0	3.4
29	Anaheim Route 5 Near Road	1.6	2.0	5.0	3.5	4.3	3.3
30	Anaheim	2.4	1.0	3.6	5.0	4.0	3.2
31	Closet World (Quemetco)	2.0	4.0	3.4	1.5	3.3	2.8
32	Long Beach (Hudson)	1.9	3.0	2.4	2.3	3.0	2.5
33	Pomona	4.7	1.0	2.6	2.0	1.0	2.3
34	Rehrig (Exide)	2.0	1.0	5.0	1.5	1.3	2.2

Assessment Summaries

This section outlines potential changes to the South Coast AQMD air monitoring network and identifies areas for improvement based on the network and monitoring site assessments. The overarching goal of these potential modifications is to enhance the network's ability to meet multiple monitoring objectives while ensuring the efficient use of limited resources.

The network assessment provides a framework to ensure that criteria pollutants are measured at key locations and that monitoring resources are used effectively to meet the needs of diverse stakeholders.

It serves as a tool to identify emerging data needs and associated technologies, evaluate opportunities to consolidate single-pollutant sites into multi-pollutant locations, and assess geographic areas where network coverage should be expanded or reduced based on shifts in population or emissions.

The assessment determines whether the monitoring objectives outlined in 40 CFR Part 58, Appendices D and E are being met. It also considers whether new sites are warranted, whether existing sites may be discontinued, and whether new technologies should be incorporated into the ambient air monitoring network.

The completed assessment considers both existing and proposed monitoring sites, with a focus on supporting air quality characterization in areas with relatively high populations of sensitive individuals. For sites recommended for discontinuation, the assessment also considers the potential impact on data users. The following are key conclusions from the preceding assessment:

Individual Monitor Network Design Evaluation

The pollutant networks assessment determined whether individual monitors within the network were consistent with CFR § 58 Appendix D network design criteria for ambient air monitoring. The scoring matrix developed showed the value of each monitor within the pollutant network and it's contribution toward achieving the criteria. Monitors which have compromises and do not completely meet network design criteria are lower value and received a lower score. Monitors which meet the network design criteria are higher value and received higher scores. The results of the assessment are shown in Tables 17 through 29 and assessment categories are summarized below along with recommended changes to the pollutant networks.

Monitoring Objectives

The ambient air monitoring networks are designed to meet the three basic monitoring objectives. Real time data from South Coast AQMD air monitoring stations is used for real-time public notification of air pollution events, air quality forecasting, and the analysis and modeling for strategic plan development, including the preparation of the AQMP. Data from the criteria pollutants that are measured continuously are available to the public in near real time through the South Coast AQMD, U.S. EPA AirNow, and California Air Resourced Board websites. Additional real time information is available through the South Coast AQMD application for Android and iPhone. Support for air pollution research studies is a prime objective for monitoring sites within the network and supported at several locations. The South Coast AQMD monitoring network fully meets this requirement.

Site Type

The ambient air monitoring network supports the monitoring objectives by having a variety of monitoring types. The pollutant network monitors are located to determine the highest concentrations, typical concentrations in high population areas, impact of sources, regional transport and welfare based impacts where appropriate. Designations are shown in Table 9. The South Coast AQMD monitoring network fully meets this requirement.

Spatial Scale

Monitors are located to correctly match the spatial scale the site type. These must be consistent with monitoring objectives and are shown in Table 9. Although further work can be done to refine the relationship between site type and spatial scale, the South Coast AQMD monitoring network fully meets this requirement.

Minimum Requirements

U.S. EPA specifies the minimum number of sites required in a network based on the latest census population data and DV concentrations for specific criteria pollutants. The South Coast AQMD meets or exceeds the minimum monitoring requirement for all criteria pollutants and monitoring programs and takes into consideration the change in populations over the last five years. The minimum monitoring requirements for all criteria pollutants are shown in the Annual Network Plan. The South Coast AQMD monitoring network exceeds minimum monitoring requirement and no new sites are needed as a result of the assessment.

Air Quality Planning and Forecasting

The South Coast AQMD air monitoring network plays a critical role in supporting compliance with ambient air quality standards, emissions strategy development, and public information services. It provides data essential to:

1. Forecasting and forecast validation
2. Dust and smoke advisories
3. Background concentration estimates for point source modeling
4. Grid-based real-time AQI mapping
5. Identification of peak concentration areas
6. Exceptional event demonstrations

Input from the Air Quality Assessment (AQA) team emphasized the increasing importance of representative continuous monitoring data to support these applications. To enhance regional air quality forecasting and event response, the AQA group prioritized the need for continuous O_3, $PM_{2.5}$, and PM_{10} monitoring in populated areas with limited existing coverage. An internal spatial analysis identified Hemet and Temecula as high-priority locations due to large population centers and long distances from the nearest continuous monitors. The addition of continuous PM_{10} and $PM_{2.5}$ monitors in Hemet, and continuous PM_{10} in Temecula, is recommended to improve forecast resolution and support air quality advisories in the Inland Empire and southern Riverside County.

These enhancements will bolster the AQI system, particularly during smoke, dust, and wildfire events:

1. Forecasting and forecast validation.
2. Dust and smoke advisories.
3. Determination of background concentrations for point source modeling review.
4. Monitoring placement for the gridded real time AQI map.
5. Determination of highest concentrations.
6. Development of exceptional event demonstrations.

The internal assessment conducted by air quality assessment team showed that the South Coast AQMD monitoring network fully meets the need for data to support compliance with ambient air quality standards and emissions strategy development. The monitoring network provides data to support the teams essential duties.

Monitors which are critical for this purpose received higher scores in the assessment. Lower scores indicated the monitors are lower value for this purpose.

Recommended Changes to Pollutant Monitor Networks

The South Coast AQMD pollutant networks meet or exceed minimum requirements for CO, NO_2, Pb, and PM_{10}. Except for PM_{10} in the Coachella Valley, these pollutants have achieved NAAQS attainment. Consequently, parts of the network may shift from regulatory to maintenance roles and may be reduced in size. Most CO, NO_2, Pb, and PM_{10} monitors are co-located with O_3 or $PM_{2.5}$ monitors at multi-pollutant sites. As a result, the cost of continued monitoring for these pollutants is minimal, and not all low-scoring monitors are recommended for immediate closure. Tables 17 through 29 identify lower-value monitors.

Recommended monitor closures, pending consultation with South Coast AQMD Planning and U.S. EPA, are summarized in the following table:

TABLE 36. Monitor Evaluation Summary

Pollutant	Site(s) Recommended for Closure
Ozone	Pomona
PM_{10} FRM*	Santa Clarita, Redlands, Central San Bernardino Mountains, Anaheim, Banning Airport, Long Beach (Hudson)
Carbon Monoxide	Pomona, Lake Elsinore, Pico Rivera #2, Pasadena, Glendora, Fontana, Azusa, Reseda, Mira Loma (Van Buren), La Habra, Anaheim, Santa Clarita, San Bernardino, Palm Springs, Mission Viejo
NO_2	Pomona
Pb (Source-Oriented)	Rehrig (Exide)

*FRM sites are recommended to be transitioned to FEM.

South Coast AQMD pollutant networks meet or exceed minimum requirements for CO, NO_2, Pb, and PM_{10}.

Except for PM_{10} in the Coachella Valley, these pollutants have achieved NAAQS attainment. Consequently, parts of the network may shift from regulatory to maintenance roles and may be reduced in size.

Most CO, NO_2, Pb, and PM_{10} monitors are co-located with O_3 or $PM_{2.5}$ monitors at multi-pollutant sites. As a result, the cost of continued monitoring for these pollutants is minimal, and not all low-scoring monitors are recommended for immediate closure, these monitors are summarized in Table 36.

System modification requests for these monitors were submitted as part of the 2025 Annual Network Plan, where applicable, in accordance with 40 CFR § 58.14(c)(1–6). These closures would not affect data continuity for maintenance areas, and the network will still exceed minimum federal requirements.

In addition to recommending closures of lower-value monitors, the following network enhancements are recommended based on both the network assessment and the April 2025 AQA team prioritization exercise:

1. Add a new multi-pollutant monitoring site in Hemet with continuous $PM_{2.5}$, PM_{10}, and O_3 monitoring capabilities to improve spatial coverage and support air quality forecasting in an underserved but densely populated area.

2. Add continuous PM_{10} monitoring at the existing Temecula air monitoring site to enhance regional AQI mapping, reduce dependence on FRM sampling, and support public health alerts.
3. Where feasible, replace PM_{10} FRM monitors with continuous FEM monitors to provide real-time data access for the public and reduce resource demands associated with filter-based sampling.

These network enhancements are aligned with AQA group priorities for real-time AQI, forecasting, design value calculations, and exceptional event demonstrations.
The $PM_{2.5}$, SO_2, Pb, NATTS, CSN, PAMS, and NCORE monitors were found to have met all minimum monitoring requirements, with no monitors identified as low value.

Monitoring Site Evaluation Summary

The monitoring site assessment determined whether individual monitoring locations within the network were consistent with Probe and Monitoring Path Siting Criteria for Ambient Air Quality Monitoring as defined in 40 CFR § 58 Appendix E. Additionally, other important considerations were taken into account which support air quality planning strategies. The scoring matrix developed showed the value of each site in the network and it's contribution toward achieving the criteria. Monitoring sites which have compromises and do not completely meet the assessment criteria are lower value and receive a lower score. Monitors which meet the criteria are higher value and receive higher scores. The results of the assessment are shown in Tables 30 through 34 and summarized in Table 35. Any sites considered for closure will be in in consultation with South Coast AQMD Planning and U.S. EPA. The following sites are recommended for closure based on the preceding assessment:

Recommended Site Closures

- The Pomona AMS has been in operation for 60 years. The current location has compromised siting and fails to meet siting criteria in 40 CFR § 58 Appendix E spacing from trees and distance from roadway. The lease is on a month to month schedule and the location is not typically used for health studies. There are few synergies between air monitoring programs and those external to the network.
- The Rehrig AMS has been in operation for 18 years. The current site is located in a parking lot which could compromise probe siting. The lease is on a month to month schedule and the location is not typically used for health studies. There are few synergies between air monitoring programs and those external to the network. The infrastructure is inadequate as there are no indoor facilities which allow for monitoring of criteria pollutants. The source-oriented Pb site is not required based on the most recent NEI estimates. There have been no violations of the 3 month rolling average during the last three years of operation and it is anticipated a request for closure would be granted under 40 CFR 58 Appendix D §4.5(a)(ii).

System modification requests have been submitted to U.S. EPA for the preceding monitoring sites identified for closure. There would be no effect on users as the monitoring sites being considered for closure are not the only SLAMS monitors operating within the maintenance areas and the monitoring networks will still exceed minimum monitoring requirements. System modifications would be requested under 40 CFR Part 58.14 (c) (1-6) or 40 CFR 58 Appendix D §4.5(a)(ii).

TABLE 37. Monitor Evaluation Summary

Site	Pollutant(s)	Justification Summary
Pomona AMS	O_3, NO_2	Site has long-standing siting limitations, is not a Design Value (DV) site, and does not meet Appendix E. NO_2 qualifies under §58.14(c)(1); O_3 does not but is proposed for closure under general provisions due to redundancy and siting issues.
Rehrig AMS (Exide)	Pb (Source-Oriented)	Monitoring ceased August 17, 2024, due to loss of property access. The source (Exide) has permanently closed, emissions are zero, and the site meets closure justification under Appendix D §4.5(a)(ii).