2026 Ambient Air Monitoring Network Plan

Shelby County Health Department
Air Pollution Control Program Including the Metropolitan Statistical Area (Memphis, TN-MS-AR)

Public Health
Prevent. Promote. Protect.
Shelby County Health Department

May 22, 2026

Table of Contents

I. Introduction to the 2026 Ambient Air Monitoring Plan 3

II. Shelby County's Interpretation of Air Monitoring Requirements 4

III. Map of Shelby County Site Locations 5

IV. Shelby County Air Monitoring Sites (Background, Discussion & Site Evaluation Form and Site Pictures) 6

A. Frayser 7

B. Alabama 11

C. Shelby Farms NCore 17

D. Shelby Farms-PAMS 27

E. Southwest Tennessee Community College Near Road 35

F. Edmund Orgill Park 41

G Riverview 45

V. Shelby County Climatology and Geography 51

VI. Local Programs Submittals of Ambient Air Monitoring Plan 54

A. Memphis Air Monitoring Plan 55

B. 2026 Shelby County Active Sites 57

VII. Appendix 58

A. Memorandum of Agreement for Memphis, TN-MS-AR

I. Introduction to the 2026 Ambient Air Monitoring Plan

Shelby County Health Department

Pollution Control Section

Air Monitoring Branch

The Shelby County Health Department (SCHD) Air Monitoring Branch (AMB) is required to evaluate the ambient air monitoring network each year in accordance with the requirements specified in 40 CFR Part 58, Subpart B § 58.10. An overview of the geography, general climate, wind direction and population trends are included to provide background information that will assist in understanding the current air monitoring network and reasons for placement of the existing monitoring sites.

The principal areas in Shelby County with air monitoring sites are depicted showing the location for each of the monitoring sites. The sites are identified by a site number, site name, site address, an air quality site identification number and the types of pollutants monitored at each location. Tables containing relevant information are also included. A Network Review that requests for changes or provides updates is included along with the Memorandum of Agreement between Crittenden County, AR and Desoto County, MS.

This Network Plan submitted by Shelby County will be incorporated with the other local programs from the State of Tennessee and included in the 2026 Annual Network Plan provided by the State of Tennessee Department of Environment and Conservation Division of Air Pollution Control and submitted to the Region 4 offices of the Environmental Protection Agency by July 1 of each calendar year.

II. Shelby County's Interpretation of Ambient Air Monitors Needed to Meet the 40CFR, Part 58 Requirements

Census Area Identification and Population Data			14129 Lead		42101 CO		42401 SO_2		42602 NO_2		44201 Ozone			81102 PM_{10}		88101 $PM_{2.5}$				88502 $PM_{2.5}$ Specia-tion		88101 $PM_{2.5}$ Contin-uous	
CBSA Code	Census 2020 /Est. 2024	CBSA Title (MS Areas)	Operating	Required	Operating	Required	Operating	Required	Operating	Required	Operating	2023-2025 8 Hr. DV	Required	Operating	Required	Operating	2023 -2025 Annual DV µg/m³	2023 -2025 24 Hr. DV µg/m³	Required	Operating	Required	Operating	Required
32820	1316100/ 1346045	Memphis, TN-MS-AR	0	0	2[2,3]	1	1[2]	1	2[1,2]	2	4[3]	0.073 Shelby Farms NCore	2	1[1,4]	2 - 4	3[1,4]	8.6	20	2	1	1	1[4]	1 - 2

[1]The Shelby County Health Department and the states of Arkansas and Mississippi have implemented a joint MOA that provides for meeting the MSA monitoring requirements for the combined MSA area. See Appendix A.

[2] Includes trace level analyzer at Shelby Farms NCore Air Monitoring Station

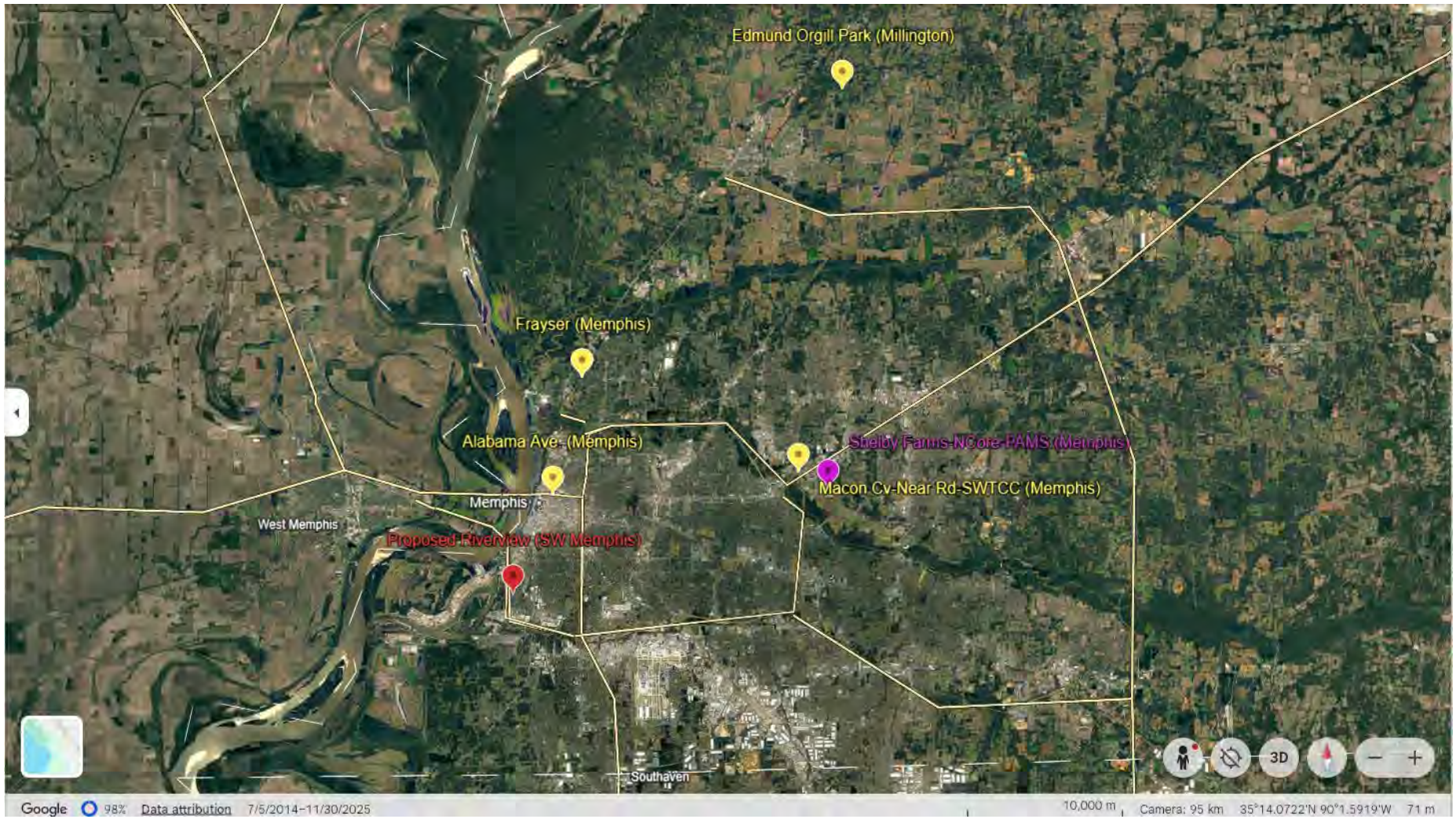
[3] Added a CO monitor and an ozone monitor at the new Riverview site in SW Memphis

[4] These numbers are subject to change later in the year as monitors are added and/or replaced. See changes/future plans later in the document.

Discussions of any proposals to re-locate monitors in the next 18 months and suitability of $PM_{2.5}$ sites for use in comparisons to the annual $PM_{2.5}$ standard:

- Two Teledyne API T640x $PM_{2.5}$ particulate monitors will be replacing existing monitors and/or added later in the 2026 season as approved by EPA R4.

III. Map of Shelby County Site Locations



IV. Shelby County Air Monitoring Sites

(Background, Discussion, Site Evaluation Form and Site Pictures)

A. Frayser
B. Alabama
C. Shelby Farms NCore
D. Macon Cove Near Road (Southwest Tennessee Community College)
E. Edmund Orgill Park
F. Riverview

All SCHD AMB sites meet the siting criteria as found in 40 CFR Part 58, Appendix E for probe and monitoring path for particulate matter (PM_{10} and $PM_{2.5}$), ozone (O_3), carbon monoxide (CO), nitrogen oxides ($NO/NO_2/NO_y$), and sulfur dioxide (SO_2). These sites will be reevaluated annually for compliance with this criterion. These sites are part of the SCHD ambient air monitoring network and operated to ensure continued compliance to 40 CFR Part 58, Appendix D network design requirements. These sites are summarized in Section II. Current site evaluations with site pictures and distance measurements are provided in Section IV.

A. Frayser, Shelby County, TN

Reporting Org. Name	Memphis/Shelby County Health Dept.
PQAO	673
Address	1330 Frayser Blvd.
AQS ID	47-157-0021
County Name	Shelby
CBSA	32820
Latitude	35.217501
Longitude	-90.019707
Parameter Code	44201
Parameter Name	Ozone
Monitor Type	SLAMS
POC	1
Interval	1
Year	2026
Collection Frequency	Hourly
Method	087
FRM/FEM Monitoring Instrument	Teledyne Advanced Pollution Instrumentation, Inc. Model T400
Analysis	Ultraviolet Absorption
Ref. Method ID	EQOA-0992-087
Monitor Objective Type	Population Exposure
Dominant Source	Area
Measurement Scale	Neighborhood
Land Use Type	Residential
Location Setting	Suburban
Date Site Established	19720901

Site Background and Discussion

This site is located on Frayser Blvd. in Shelby County, Tennessee and currently supports monitoring for ozone. This site was originally established in 1972 and is expected to operate during CY's 2026 and 2027.

This site is located downwind of the Metro-Memphis area in a heavily populated area. There are railroad tracks and an overpass that are approximately 250 meters west of the site.

Site Evaluation Field Form

SITE NAME: FRAYSER

AQS Site ID: 47-157-0021 Location: 1330 Frayser Blvd. Date: 05/21/26 Evaluator: MJ

Site Coordinates: LATITUDE 35.217501 LONGITUDE -90.019707

Monitoring Scale: Neighborhood

Pollutant	Sampler/Probe Inlet Height (IH in m)	Inlet Location	Horizontal Distance (m)	Vertical Distance (m)	Pass/ Fail
O_3	4.3 m	Roof			Pass

Object	Object Height (OH)	Object Distance (OD)	2(OH-IH)	Obstruction?
Tree east of site	23.8 m	25.8 m	39.0 m	Yes
Tree north of site	23.5 m	22.2 m	38.4 m	Yes

Dripline should be >20 m from the dripline of tree(s) and must be 10 m from the dripline when the tree(s) act as an obstruction. For Horizontal and Vertical Distances: Separation Distance = (1 meter for O_3, CO, SO_2, NO_2) and (2 meters for PM, Pb) When probe is located on a rooftop, this separation distance is in reference to walls, parapets, or penthouses located on roof.

Are all probes at least 1 meter apart? N/A

Are all collocated low volume samplers between 1 to 4 meters apart? N/A

Are all collocated high volume samplers between 2 to 4 meters apart? N/A

Are all probes located in an area that is paved or has vegetative ground cover? Yes

Are all rooftop samplers located at least 2 meters away from any structure? Yes

Is there unrestricted air flow 270 degrees around the probe or sampler? Yes

Comments: Although both trees are closer than 2(OH-IH), they are greater than 20m away.

What is the distance of monitor site to the nearest road? 20 meters (Frayser Blvd.)

What are the distances of the closest traffic counters to the monitor site? 0.8 km (Frayser Blvd) & 1.9 km (U.S. Hwy 51)

What are the AADT counts? 5,997 (Frayser Blvd-2025) & 29,651 (U.S. Hwy 51-2025)

Frayser (North)

Frayser (Northeast)

Frayser (East)

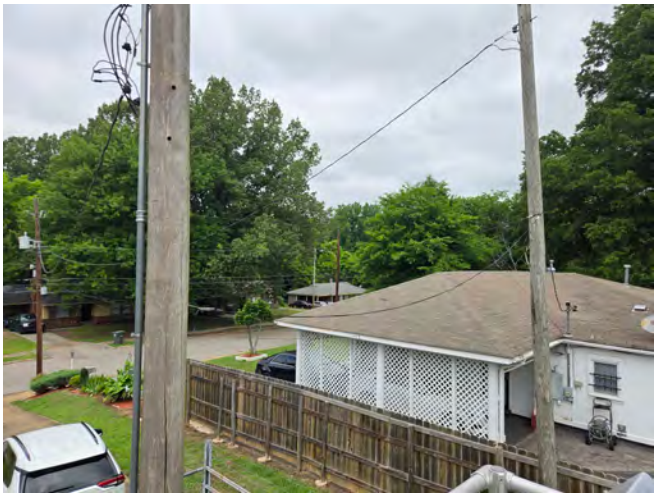
Frayser (Southeast)

Frayser (South)

Frayser (Southwest)

Frayser (West)

Frayser (Northwest)



B. Alabama Ave., Shelby County, TN

Reporting Org. Name	Memphis/Shelby County Health Dept.		
PQAO	673		
Address	416 Alabama Ave.		
AQS ID	47-157-0024		
County Name	Shelby		
CBSA	32820		
Latitude	35.151194		
Longitude	-90.041559		
Parameter Code	88101	88101	81102
Parameter Name	PM 2.5	PM 2.5	PM 10
Monitor Type	SLAMS	SLAMS	SLAMS
POC	1	2	1
Interval	7	7	1
Year	2026	2026	2026
Collection Frequency	1 in 3	1 in 12	Hourly
Method	145	145	079
FRM/FEM Monitoring Instrument	Thermo 2025I PM 2.5 Sequential Sampler	Thermo 2025 PM 2.5 Sequential Sampler	Thermo Scientific TEOM 1405 Ambient Particulate Monitor
Analysis	Gravimetric	Gravimetric	Gravimetric
Ref. Method ID	RFPS-0498-118	RFPS-0498-118	EQPM-1090-079
Monitor Objective Type	Population Exposure	Population Exposure	Population Exposure
Dominant Source	Area	Area	Area
Measurement Scale	Neighborhood	Neighborhood	Neighborhood
Land Use Type	Residential	Residential	Residential
Location Setting	Suburban	Suburban	Suburban
Date Site Established	20170101	20210101	20160403

Site Evaluation Field Form

SITE NAME: ALABAMA

AQS Site ID: 47-157-0024 Location: 416 Alabama Ave. Date: 05/21/26 Evaluator: MJ

Site Coordinates: LATITUDE 35.151194 LONGITUDE: -90.041559

Monitoring Scale: Neighborhood

Pollutant	Sampler/Probe Inlet Height (IH in m)	Inlet Location	Horizontal Distance (m)	Vertical Distance (m)	Pass/ Fail
$PM_{2.5}$ (POC 1)	2.1 m	Slab Behind Building	3.3 m		Pass
$PM_{2.5}$ (POC 2)	2.1 m	Slab Behind Building	3.3 m		Pass
PM_{10} (TEOM) (continuous)	4.7 m	Roof			Pass

Object	Object Height (OH)	Object Distance (OD)	2(OH-IH)	Obstruction?
Site Building	3.1 m	5.8 m	2.0 m	No
Treeline (NW)	7.7 m	11.3 m	11.2 m	No

Dripline should be >20 m from the dripline of tree(s) and must be 10 m from the dripline when the tree(s) act as an obstruction.
For Horizontal and Vertical Distances: Separation Distance = (1 meter for O_3, CO, SO_2, NO_2) and (2 meters for PM, Pb)
When probe is located on a rooftop, this separation distance is in reference to walls, parapets, or penthouses located on roof.

Are all probes at least 1 meter apart? Yes

Are all collocated low volume samplers between 1 to 4 meters apart? Yes

Are all collocated high volume samplers between 2 to 4 meters apart? N/A

Are all probes located in an area that is paved or has vegetative ground cover? Yes

Are all rooftop samplers located at least 2 meters away from any structure? Yes

Is there unrestricted air flow 270 degrees around the probe or sampler? Yes

What is the distance of the monitor site to the nearest road? 34 meters (N. Danny Thomas Blvd.)

What is the distance of the closest traffic counter to the monitoring site? 60 meters (Interstate 40)

What is the AADT count? 52,140 (Interstate 40-2025)

Comments: Treeline is close to being an obstruction. Treeline will be cut before 2027.

Site Pictures for Alabama

Alabama (North)

Alabama (Northeast)

Alabama (East)

Alabama (Southeast)

Site Pictures for Alabama

Alabama (South)

Alabama (Southwest)

Alabama (West)

Alabama (Northwest)

Site Background and Discussion

The Alabama Ave. site is located in Shelby County, Tennessee and currently supports monitoring for $PM_{2.5}$, PM_{10} (TEOM) and the Radnet program. A collocated $PM_{2.5}$ sampler was added to the site at the beginning of 2021 to meet collocation requirements for $PM_{2.5}$ FRM sampling. This site is approximately 25 meters south of Interstate 40 and 50 meters north of apartment complexes. The site will continue to operate in CY's 2026 and 2027, but there are expected changes to occur later in the year. See Section A.

C. Shelby Farms NCore,
Shelby County, TN

Reporting Org. Name		Memphis/Shelby County Health Dept.	
PQAO		673	
Address		6388 Haley Rd.	
AQS ID		47-157-0075	
County Name		Shelby	
CBSA		32820	
Latitude		35.151699	
Longitude		-89.850249	
Parameter Code	42101	42401	42600
Parameter Name	CO (trace)	SO_2 (trace)	NOy
Monitor Type	NCore (SLAMS)	NCore (SLAMS)	NCore (SLAMS)
POC	1	1	1
Interval	1	1	1
Year	2026	2026	2026
Collection Frequency	Hourly	Hourly	Hourly
Method	593	600	699
FRM/FEM Monitoring Instrument	Teledyne Advanced Pollution Instrumentation, Inc. Model T300U	Teledyne Advanced Pollution Instrumentation, Inc. Model T100U	Teledyne Advanced Pollution Instrumentation, Inc. Models T200U/T200EU/
Analysis	Gas Filter Correlation	Ultraviolet Fluorescence	Chemiluminescence
Ref. Method ID	RFCA-1093-093	EQSA-0495-100	RFNA-1194-699
Monitor Objective Type	Population Exposure	Population Exposure	Population Exposure
Dominant Source	Area	Area	Area
Measurement Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale
Land Use Type	Industrial	Industrial	Industrial
Location Setting	Urban	Urban	Urban
Date Site Established	20110401	20110621	20110617

C. Shelby Farms NCore,
Shelby County, TN

Reporting Org. Name		Memphis/Shelby County Health Dept.	
PQAO		673	
Address		6388 Haley Rd.	
AQS ID		47-157-0075	
County Name		Shelby	
CBSA		32820	
Latitude		35.151699	
Longitude		-89.850249	
Parameter Code	44201	61103	61104
Parameter Name	O_3	Wind Speed-Resultant	Wind Direction - Resultant
Monitor Type	NCore (SLAMS)	NCore (SLAMS)	NCore (SLAMS)
POC	1	1	1
Interval	1	1	1
Year	2026	2026	2026
Collection Frequency	Hourly	Hourly	Hourly
Method	087	065	065
FRM/FEM Monitoring Instrument	Teledyne Advanced Pollution Instrumentation, Inc. Model T400	RM Young Model 05305	RM Young Model 05305
Analysis	Ultraviolet Absorption	miles per hour	Degrees compass
Ref. Method ID	EQOA-0992-087	N/A	N/A
Monitor Objective Type	Population Exposure	Population Exposure	Population Exposure
Dominant Source	Area	Area	Area
Measurement Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale
Land Use Type	Industrial	Industrial	Industrial
Location Setting	Urban	Urban	Urban
Date Site Established	20110311	20120701	20120701

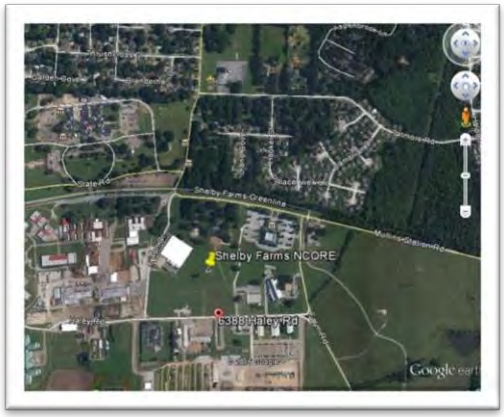
C. Shelby Farms NCore,
Shelby County, TN

Reporting Org. Name		Memphis/Shelby County Health Dept.	
PQAO		673	
Address		6388 Haley Rd.	
AQS ID		47-157-0075	
County Name		Shelby	
CBSA		32820	
Latitude		35.151699	
Longitude		-89.850249	
Parameter Code	62101	62201	64101
Parameter Name	Outdoor Temperature	Relative Humidity	Barometric Pressure
Monitor Type	NCore (SLAMS)	NCore (SLAMS)	NCore (SLAMS)
POC	1	1	1
Interval	1	1	1
Year	2026	2026	2026
Collection Frequency	Hourly	Hourly	Hourly
Method	060	060	014
FRM/FEM Monitoring Instrument	RM Young 41382VC	RM Young 41382VC	Barometric Sensor
Analysis	Degrees-Fahrenheit	Percent-Relative Humidity	Millibars
Ref. Method ID	N/A	N/A	N/A
Monitor Objective Type	Population Exposure	Population Exposure	Population Exposure
Dominant Source	Area	Area	Area
Measurement Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale
Land Use Type	Industrial	Industrial	Industrial
Location Setting	Urban	Urban	Urban
Date Site Established	20120701	20120701	20120701

C. Shelby Farms NCore,
Shelby County, TN

Reporting Org. Name		Memphis/Shelby County Health Dept.	
PQAO			673
Address			6388 Haley Rd.
AQS ID			47-157-0075
County Name			Shelby
CBSA			32820
Latitude			35.151699
Longitude			-89.850249
Parameter Code	81102 (STP)	85101 (LC)	88101
Parameter Name	PM_{10}	PM_{10}	$PM_{2.5}$
Monitor Type	NCore (SLAMS)	NCore (SLAMS)	NCore (SLAMS)
POC	3	4	3
Interval	1	1	1
Year	2026	2026	2026
Collection Frequency	Hourly	Hourly	Hourly
Method	639	639	638
FRM/FEM Monitoring Instrument	Teledyne Model T640 PM Mass Monitor with 640x option-firmware update	Teledyne Model T640 PM Mass Monitor with 640x option-firmware update	Teledyne Model T640 PM Mass Monitor with 640x option-firmware update
Analysis	Light Scattering	Light Scattering	Light Scattering
Ref. Method ID	EQPM-0516-239	EQPM-0516-239	EQPM-0516-238
Monitor Objective Type	Population Exposure	Population Exposure	Population Exposure
Dominant Source	Area	Area	Area
Measurement Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale
Land Use Type	Industrial	Industrial	Industrial
Location Setting	Urban	Urban	Urban
Date Site Established	20210101	20210101	20210101

C. Shelby Farms NCore,
Shelby County, TN



Reporting Org. Name		Memphis/Shelby County Health Dept.	
PQAO		673	
Address		6388 Haley Rd.	
AQS ID		47-157-0075	
County Name		Shelby	
CBSA		32820	
Latitude		35.151699	
Longitude		-89.850249	
Parameter Code	86101	88101	88502
Parameter Name	$PM_{10-2.5}$ (coarse)	$PM_{2.5}$	$PM_{2.5}$ Speciation
Monitor Type	NCore (SLAMS)	NCore (SLAMS)	NCore (SLAMS)
POC	3	2	6
Interval	1	7	7
Year	2026	2026	2026
Collection Frequency	Hourly	1 in 3	1 in 3
Method	640	145	N/A
FRM/FEM Monitoring Instrument	Teledyne Model T640 PM Mass Monitor with 640x option-firmware update	Thermo Partisol Plus 2025i PM 2.5 Sequential Sampler	Met One SuperSASS 810/ URG 3000N
Analysis	Light Scattering	Gravimetric	Speciation Analysis
Ref. Method ID	EQPM-0516-240	RFPS-0498-118	N/A
Monitor Objective Type	Population Exposure	Population Exposure	Population Exposure
Dominant Source	Area	Area	Area
Measurement Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale
Land Use Type	Industrial	Industrial	Industrial
Location Setting	Urban	Urban	Urban
Date Site Established	20210101	20160101	20110208

Site Evaluation Field Form

SITE NAME: SHELBY FARMS NCore

AQS Site ID: 47-157-0075 Location: 6388 Haley Rd. Date: 05/21/26 Evaluator:MJ
Site Coordinates: LATITUDE 35.151699 LONGITUDE -89.850249

Monitoring Scale: Neighborhood and Urban Scale

Pollutant	Sampler/Probe Inlet Height (IH in m)	Inlet Location	Horizontal Distance (m)	Vertical Distance (m)	Pass/ Fail
$PM_{2.5}$ FRM (collocated)	4.1 m	On scaffolding	1.9 m		Pass
$PM_{2.5}$, PM_{10}, $PM_{10-2.5}$ (T640x)	4.1 m	Roof	1.9 m		Pass
CO	3.7 m	Side of shelter	1.1 m		Pass
NO_y, NO	8.6 m	Met tower			Pass
O_3	3.6 m	Side of shelter	1.4 m		Pass
SO_2	3.5 m	Side of shelter	1.1 m		Pass

Object	Object Height (OH)	Object Distance (OD)	2(OH-IH)	Obstruction?
PAMS Shelter (N)	3.3 m	13.2 m	2.6 m	No
Tree (N)	25.8 m	78.6 m	44.6 m	No
Tree (E)	22.2 m	73.0 m	37.4 m	No

Dripline should be >20 m from the dripline of tree(s) and must be 10 m from the dripline when the tree(s) act as an obstruction. For Horizontal and Vertical Distances: Separation Distance = (1 meter for O_3, CO, SO_2, NO_2) and (2 meters for PM, Pb) When probe is located on a rooftop, this separation distance is in reference to walls, parapets, or penthouses located on roof.

Are all probes at least 1 meter apart? Yes

Are all collocated low volume samplers between 1 to 4 meters apart? Yes

Are all collocated high volume samplers between 2 to 4 meters apart? N/A

Are all probes located in an area that is paved or has vegetative ground cover? Yes

Are all rooftop samplers located at least 2 meters away from any structure? Yes

Is there unrestricted air flow 270 degrees around the probe or sampler? Yes

What is the distance of the monitor site to the nearest road? 140 meters (Haley Rd)

What are the distances of the closest traffic counters to the monitor site? 352 meters (Mullins Station Rd.) & 2.4 kilometers (Interstate 240)

What are the AADT counts? 5,935 (Mullins Station Rd.-2025) & 174,669 (Interstate 240-2025)

Site Pictures for Shelby Farms NCore

Shelby Farms NCore (North)

Shelby Farms NCore (Northeast)

Shelby Farms NCore (East)

Shelby Farms NCore (Southeast)

Site Pictures for Shelby Farms NCore

Shelby Farms NCore (South)

Shelby Farms NCore (Southwest)

Shelby Farms NCore (West)

Shelby Farms NCore (Northwest)

Site Background and Discussion for Shelby Farms NCore

The Shelby Farms NCore site is located in Shelby County Tennessee and currently supports monitoring for carbon monoxide (trace), ozone, total reactive nitrogen (trace), sulfur dioxide (trace), particulate matter ($PM_{2.5}$; $PM_{10-2.5}$ and PM_{10}), and meteorological data (ambient temperature, barometric pressure, relative humidity, wind direction and wind speed).

This site was established in 2011 and will continue to operate in CY's 2026 and 2027.

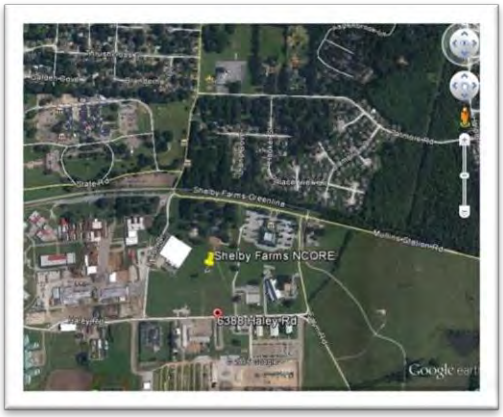
The placement of the NCore site is east of the urban core and provides the best location for measuring transport and secondary pollutant formation from that area. The site is located downwind of most of the industrialized areas and major transportation arteries.

The ozone monitor at the Shelby Farms-NCore site possesses the highest design value concentration among the 5 area ozone monitor sites (73 parts per billion 2023-2025).

The SCHD AMB began PAMS monitoring on June 1, 2021. The updated regulations in 40 CFR Part 58 Appendix D Section 5.0 promulgated in October 2015 prescribed the updates to the required PAMS monitoring. This was associated with the revision to the 8-hour ozone NAAQS. These revised regulations standardized the operation of the PAMS network at approximately 43 geographically separated PAMS required sites and required the measurement of a common list of pollutants and meteorological parameters. The updated regulations required PAMS monitoring at each NCore site within a CBSA having a population of 1,000,000 persons or more. To meet the requirements in the regulations promulgated in October 2015, all PAMS Required Sites were to be operational and reporting quality assured and validated data for the required parameters to the EPA's Air Quality System by June 1, 2019. Due to a number of issues related to the startup of PAMS, the new start date was postponed to June 1, 2021. The SCHD Air Monitoring Branch is currently collecting pollutant data as listed in the tables above. In addition to the previous parameters mentioned, the following descriptions and tables listed on the following pages on the following pages describe the pollutants that are measured at the NCore station to meet PAMS requirements as well as other parameters such as solar radiation, UV radiation and precipitation.

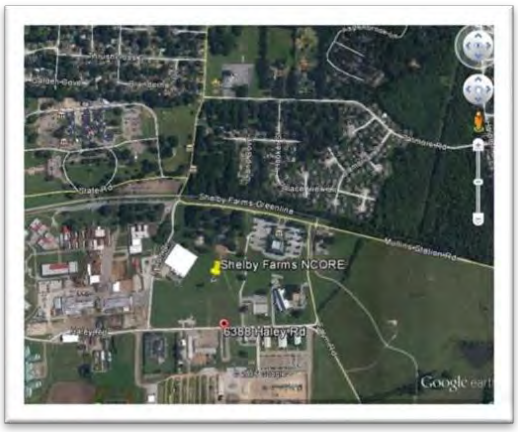
- The priority speciated VOCs (classified as olefin, aromatic, paraffin, halogenated, monoterpene olefin, alkyne, or alcohol) as well as the total non-methane organic carbon (TNMOC) are analyzed using the airmoVOC C6-C12 with the Lead Technical Specialist, airmoCAL, airmoVOC C2-C6, and Hydroxychrom – hydrogen generator manufactured by Chromatotec and provided by Consolidated Analytical Systems (CAS). Hourly averaged concentration of each priority speciated VOC are collected and reported. Samples are collected from June 1 through August 31. The inlet height is 4.1 m from the ground. The sample tubing is made of stainless steel and is attached to the side of the building. The stainless steel tubing is inside of conduit that is bent and 1 meter away from the side of the building. The instrument normally begins operation by June 1 and operates through the PAMS season (August 31). The gas chromatograph (GC) instrument did not operate during the 2025 PAMS season due to budget constraints. The SCHD Air Monitoring Branch is working to have the GC operational in 2026, but the status is unknown at the time this report was written. It is a Shelby County Health Department goal to acquire funding for the GC to be operational in the 2027 PAMS season.

C. Shelby Farms PAMS,
Shelby County, TN



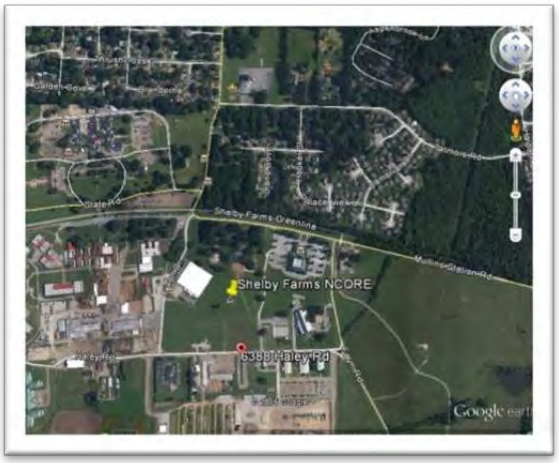
Reporting Org. Name	Memphis/Shelby County Health Dept.	
PQAO		673
Address		6388 Haley Rd.
AQS ID		47-157-0075
County Name		Shelby
CBSA		32820
Latitude		35.1518599
Longitude		-89.8503803
Parameter Code	42602	61301
Parameter Name	NO_2	Mixing Height
Monitor Type	NCore (PAMS)	NCore (PAMS)
POC	1	1
Interval	1	1
Year	2026	2026
Collection Frequency	Hourly	Hourly
Method	212	128
FRM/FEM Monitoring Instrument	Teledyne Advanced Pollution Instrumentation T500U Nitrogen Dioxide Analyzer	Vaisala CL-51
Analysis	Chemiluminescence	Pulsed Diode LIDAR
Ref. Method ID	EQNA-0514-212	N/A
Monitor Objective Type	Population Exposure	Population Exposure
Dominant Source	Area	Area
Measurement Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale
Land Use Type	Industrial	Industrial
Location Setting	Urban	Urban
Date Site Established	20210601	20210601

C. Shelby Farms PAMS
Shelby County, TN



Reporting Org. Name		Memphis/Shelby County Health Dept.	
PQAO			673
Address			6388 Haley Rd.
AQS ID			47-157-0075
County Name			Shelby
CBSA			32820
Latitude			35.1518599
Longitude			-89.8503803
Parameter Code	Mult.Parameters-see pg 30	43500	63301
Parameter Name	Multiple VOC Chemicals	Carbonyls	Solar Radiation
Monitor Type	NCore (PAMS)	NCore (PAMS)	NCore (PAMS)
POC	1	1	1
Interval	1	7	1
Year	2026	2026	2026
Collection Frequency	Hourly	1 in 3	Hourly
Method	N/A	N/A	011
FRM/FEM Monitoring Instrument	Chromatotec GC866 auto GC Analyzer	ATEC 8000 Cartridge Sampler	Eppley Precision Spectral Pyranometer (PSP)
Analysis	Gas Chromatography	Liquid Chromatography	Photovoltaic
Ref. Method ID	N/A	N/A	N/A
Monitor Objective Type	Population Exposure	Population Exposure	Population Exposure
Dominant Source	Area	Area	Area
Measurement Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale
Land Use Type	Industrial	Industrial	Industrial
Location Setting	Urban	Urban	Urban
Date Site Established	20210601	20210601	20210601

C. Shelby Farms PAMS,
Shelby County, TN



Reporting Org. Name	Memphis/Shelby County Health Dept.	
PQAO	673	
Address	6388 Haley Rd.	
AQS ID	47-157-0075	
County Name	Shelby	
CBSA	32820	
Latitude	35.1518599	
Longitude	-89.8503803	
Parameter Code	63302	65102
Parameter Name	UV Radiation	Rain/melt precipitation
Monitor Type	NCore (PAMS)	NCore (PAMS)
POC	1	1
Interval	1	1
Year	2026	2026
Collection Frequency	Hourly	Hourly
Method	011	014
FRM/FEM Monitoring Instrument	The Epply Laboratory Total Ultraviolet Radiometer	R.M Young Model 52202 Tipping Bucket Rain Gauge 0.1mm
Analysis	Radiospectrometry	Hourly Accumulation
Ref. Method ID	N/A	N/A
Monitor Objective Type	Population Exposure	Population Exposure
Dominant Source	Area	Area
Measurement Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale
Land Use Type	Industrial	Industrial
Location Setting	Urban	Urban
Date Site Established	20210601	20210601

Priority and Optional PAMS Chemical Parameters

Priority Chemical Parameters (Required)	AQS Parameter Code	Compound Class	Optional Chemical Parameters	AQS Parameter Code	Compound Class
1,2,3-trimethylbenzene	45225	aromatic	1,3,5-trimethylbenzene	45207	aromatic
1,2,4-trimethylbenzene	45208	aromatic	1-pentene	43224	olefin
1-butene	43280	olefin	2,2-dimethylbutane	43244	paraffin
2,2,4-trimethylpentane	43250	paraffin	2,3,4-trimethylpentane	43252	paraffin
[a]acetaldehyde	**43503**	**carbonyl**	2,3-dimethylbutane	43284	paraffin
benzene	45201	aromatic	2,3-dimethylpentane	43291	paraffin
cis-2-butene	43217	olefin	2,4-dimethylpentane	43247	paraffin
ethane	43202	paraffin	2-methylheptane	43960	paraffin
ethylbenzene	45203	aromatic	2-methylhexane	43263	paraffin
ethylene	43203	olefin	2-methylpentane	43285	paraffin
[a]formaldehyde	**43502**	**carbonyl**	3-methylheptane	43253	paraffin
isobutane	43214	paraffin	3-methylhexane	43249	paraffin
isopentane	43221	paraffin	3-methylpentane	43230	paraffin
isoprene	43243	olefin	**[a]acetone**	**43551**	**carbonyl**
m&p-xylenes	45109	aromatic	acetylene	43206	alkyne
m-ethyltoluene	45212	aromatic	cis-2-pentene	43227	olefin
n-butane	43212	paraffin	cyclohexane	43248	paraffin
n-hexane	43231	paraffin	cyclopentane	43242	paraffin
n-pentane	43220	paraffin	isopropylbenzene	45210	aromatic
o-ethyltoluene	45211	aromatic	m-diethlybenzene	45218	aromatic
o-xylene	45204	aromatic	methylcyclohexane	43261	paraffin
p-ethyltoluene	45213	aromatic	methylcyclopentane	43262	paraffin
propane	43204	paraffin	n-decane	43238	paraffin
propylene	43205	olefin	n-heptane	43232	paraffin
styrene	45220	aromatic	n-nonane	43235	paraffin
toluene	45202	aromatic	n-octane	43233	paraffin
trans-2-butene	43216	olefin	n-propylbenzene	45209	aromatic
total non-methane organic carbon	43102	total VOCs, non-methane	n-undecane	43954	paraffin
			p-diethylbenzene	45219	aromatic
			trans-2-pentene	43226	olefin
			α-pinene	43256	monoterpene olefin
			β-pinene	43257	monoterpene olefin
			1,3 butadiene	43218	olefin
			[a]benzaldehyde	**45501**	**carbonyl**
			carbon tetrachloride	43804	halogenated
			ethanol	43302	alcohol
			tetrachloroethylene	43817	halogenated

[a]carbonyl sampler measurements

Site Evaluation Field Form

SITE NAME: SHELBY FARMS-PAMS

AQS Site ID: 47-157-0075 Location: 6388 Haley Rd. Date: 05/21/26 Evaluator: MJ

Ave. Site Coordinates: LATITUDE 35.1518599 LONGITUDE: -89.8503803

Monitoring Scale: Neighborhood

Pollutant	Sampler/Probe Inlet Height (IH in m)	Inlet Location	Horizontal Distance (m)	Vertical Distance (m)	Pass/ Fail
PAMS Chemical Parameters (GC)	3.9 m	Back of Shelter	4.0 m		Pass
True NO_2	3.8 m	Back of Shelter	1.2 m		Pass
Carbonyl	3.8 m	Back of Shelter	1.2 m		Pass

Object	Object Height (OH)	Object Distance (OD)	2(OH-IH)	Obstruction?
Tree (N)	25.8 m	58.0 m	44.0 m	No
Tree (E)	22.2 m	73.0 m	36.8 m	No

Dripline should be >20 m from the dripline of tree(s) and must be 10 m from the dripline when the tree(s) act as an obstruction.
For Horizontal and Vertical Distances: Separation Distance = (1 meter for O_3, CO, SO_2, NO_2) and (2 meters for PM, Pb)
When probe is located on a rooftop, this separation distance is in reference to walls, parapets, or penthouses located on roof.

Are all probes at least 1 meter apart? Yes

Are all collocated low volume samplers between 1 to 4 meters apart? N/A

Are all collocated high volume samplers between 2 to 4 meters apart? N/A

Are all probes located in an area that is paved or has vegetative ground cover? Yes

Are all rooftop samplers located at least 2 meters away from any structure? Yes

Is there unrestricted air flow 270 degrees around the probe or sampler? Yes

Note: Shelby Farms-NCORE shelter height is lower than all PAMS inlets. All driplines are >20m away.

What is the distance of the monitor site to the nearest road? 160 meters (Haley Rd.)

What are the distances of the closest traffic counters to the monitor site? 347 meters (Mullins Station Rd.) & 2.5 kilometers (Interstate 240)

What are the AADT counts? 5,935 (Mullins Station Rd.-2025) & 174,669 (Interstate 240-2025)

- Carbonyl sampling is conducted on a frequency of three sequential 8-hour samples on a one-in- three-day sample schedule (3x~30= ~90 samples) per PAMS sampling season (June 1-August 31). The TO-11A method provided by ATEC is used to collect the samples. Samples were collected for the 2021-2025 PAMS seasons and will be collected for the 2026 PAMS season. The sample inlet probe height is 3.8 meters above ground level.

- The PAMS Shelter shares the same address as the NCore site building, but stands adjacent to the NCore building (less than 8 meters edge to edge, but not inlet to inlet).

Shelby Farms-PAMS (North)

Shelby Farms-PAMS (Northeast)

Shelby Farms-PAMS (East)

Shelby Farms-PAMS (Southeast)

Shelby Farms-PAMS (South)

Shelby Farms-PAMS (Southwest)

Shelby Farms-PAMS (West)

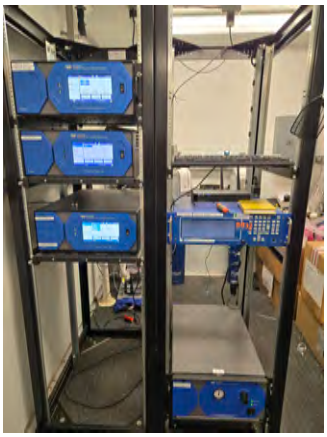
Shelby Farms-PAMS (Northwest)

D. Macon Cove-SWTCC,

Near Road Monitoring Station, Shelby County, TN

Reporting Org. Name	Memphis/Shelby County Health Dept.	
PQAO		673
Address		5767 Macon Cove
AQS ID		47-157-0100
County Name		Shelby
CBSA		32820
Latitude		35.161264
Longitude		-89.870646
Parameter Code	42101	42602
Parameter Name	CO	NO_2
Monitor Type	Near Road (SLAMS)	Near Road (SLAMS)
POC	1	1
Interval	1	1
Year	2026	2026
Collection Frequency	hourly	hourly
Method	093	099
FRM/FEM Monitoring Instrument	Teledyne Advanced Pollution Instrumentation, Inc. Model T300	Teledyne Advanced Pollution Instrumentation, Inc. Model T200
Analysis	Gas Filter Correlation	Chemiluminescence
Ref. Method ID	RFCA-1093-093	RFNA-1194-099
Monitor Objective Type	Highest Concentration	Highest Concentration
Dominant Source	Mobile	Mobile
Measurement Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale
Land Use Type	Residential	Residential
Location Setting	Urban	Urban
Date Site Established	20140715	20140701

D. Southwest Tennessee Community College,
Near Road Monitoring Station, Shelby County, TN



Reporting Org. Name	Memphis/Shelby County Health Dept.
PQAO	673
Address	5767 Macon Cove
AQS ID	47-157-0100
County Name	Shelby
CBSA	32820
Latitude	35.161264
Longitude	-89.870646
Parameter Code	88101
Parameter Name	$PM_{2.5}$
Monitor Type	Near Road (SLAMS)
POC	1
Interval	7
Year	2026
Collection Frequency	1 in 3
Method	118
FRM/FEM Monitoring Instrument	Thermo 2025I PM 2.5 Sequential Sampler
Analysis	Gravimetric
Ref. Method ID	RFPS-0498-118
Monitor Objective Type	Highest Concentration
Dominant Source	Mobile
Measurement Scale	Neighborhood and Urban Scale
Land Use Type	Residential
Location Setting	Urban
Date Site Established	20170101

Site Evaluation Field Form

SITE NAME: MACON COVE/SOUTHWEST TENNESSEE COMMUNITY COLLEGE (Near Road) AQS Site ID: 47-157-0100 Location: 5787 Macon Cv. Date: 05/21/26 Evaluator: MJ

Site Coordinates: LATITUDE 35.161264 LONGITUDE: -89.870646
Monitoring Scale: Neighborhood and Urban Scale

Pollutant	Sampler/Probe Inlet Height (IH in m)	Inlet Location	Horizontal Distance (m)	Vertical Distance (m)	Pass/ Fail
CO	4.3 m	roof	1.1 m		Pass
NO_2	4.3 m	roof	1.1 m		Pass
$PM_{2.5}$	4.7 m	roof	2.1 m		Pass

Object	Object Height (OH)	Object Distance (OD)	2(OH-IH)	Obstruction?
Tree (S)	20.8 m	12.3 m	33.0	Yes
Treeline (N)	5.4 m	9.6 m	2.2	No

Dripline should be >20 m from the dripline of tree(s) and must be 10 m from the dripline when the tree(s) act as an obstruction.
For Horizontal and Vertical Distances: Separation Distance = (1 meter for O_3, CO, SO_2, NO_2) and (2 meters for PM, Pb) When probe is located on a rooftop, this separation distance is in reference to walls, parapets, or penthouses located on roof.

Are all probes at least 1 meter apart? Yes

Are all collocated low volume samplers between1 to 4 meters apart? Yes

Are all collocated high volume samplers between 2 to 4 meters apart? N/A

Are all probes located in an area that is paved or has vegetative ground cover? Yes

Are all rooftop samplers located at least 2 meters away from any structure? Yes

Is there unrestricted air flow 270 degrees around the probe or sampler? Yes

Comments: The tree to the south of the site is an obstruction, but it is >10 m away, and it is not between the site and Interstate 40. Treeline (N) will be cut in 2026.

What is the distance of the monitor site to the nearest road? 33 meters (Interstate 40)

What is the distance of the closest traffic counter to the monitor site? 1 kilometer (Interstate 40)

What is the AADT count? 170,351 (Interstate 40-2025)

Site Background and Discussion for Southwest TN Community College Near Road

The SWTCC Near Road site is located in Shelby County Tennessee and currently supports monitoring for carbon monoxide, nitrogen dioxide and particulate matter ($PM_{2.5}$)

This site was established in 2014 and is expected to operate in CY's 2026 and 2027, but there are expected changes later in the year. See Appendix A.

The placement of the Near Road site is along Interstate 40 between Interstate 240/40 and Sycamore View. The exact location is on the south side of Interstate 40 on the northeast corner of Southwest Tennessee Community College's campus parking lot. This site was selected based on the six factors the EPA determined were necessary to capture short-term nitrogen dioxide (NO_2) concentrations near heavily trafficked roads, to assess area-wide (or community-wide) NO_2 concentrations, and to assess NO_2 concentrations for vulnerable and susceptible populations.

Site Pictures for Macon Cove (SWTCC) Near Road

Near Road (North)

Near Road (Northeast)

Near Road (East)

Near Road (Southeast)

Site Pictures for Macon Cove (SWTCC) Near Road

Near Road (South)

Near Road (Southwest)

Near Road (West)

Near Road (Northwest)

E. Edmund Orgill Park, Shelby County, TN

Reporting Org. Name	Memphis/Shelby County Health Dept.
PQAO	673
Address	6855 Mudville Rd.
AQS ID	47-157-1004
County Name	Shelby
CBSA	32820
Latitude	35.378065
Longitude	-89.834368
Parameter Code	44201
Parameter Name	Ozone
Monitor Type	SLAMS
POC	1
Interval	1
Year	2026
Collection Frequency	Hourly
Method	087
FRM/FEM Monitoring Instrument	Teledyne Advanced Pollution Instrumentation, Inc. Model T400
Analysis	Ultraviolet Absorption
Ref. Method ID	EQOA-0992-087
Monitor Objective Type	Population Exposure
Dominant Source	Area
Measurement Scale	Urban
Land Use Type	Agricultural
Location Setting	Rural
Date Site Established	19800201

Site Background and Discussion

The Edmund Orgill Park site is located in the City of Millington in Shelby County, Tennessee and currently supports monitoring for ozone.

This site was established in 1980 and is expected to operate during CY's 2026 and 2027.

Site Evaluation Field Form

Site Name: Edmund Orgill Park

AQS Site ID: 47-157-1004 Location: 6855 Mudville Rd. Date: 05/21/26 Evaluator: MJ

Site Coordinates: Latitude 35.378065 Longitude -89.834368

Monitoring Scale: Agricultural

Pollutant	Sampler/Probe Inlet Height (IH in m)	Inlet Location	Horizontal Distance (m)	Vertical Distance (m)	Pass/ Fail
O_3	3.3 m	Back of building			Pass

Object	Object Height (OH)	Object Distance (OD)	2(OH-IH)	Obstruction?
Treeline (N)	12.4 m	28.2 m	18.2	No
Tree (E)	20.4 m	38.5 m	34.2	No
Tree (S)	23.9 m	86.6 m	41.2	No
Tree (W)	11.7 m	17.2 m	16.8	No

Dripline should be >20 m from the dripline of tree(s and must be 10 m from the dripline when the tree(s act as an obstruction. For Horizontal and Vertical Distances: Separation Distance = (1 meter for O_3, CO, SO_2, NO_2 and (2 meters for PM, Pb When probe is located on a rooftop, this separation distance is in reference to walls, parapets, or penthouses located on roof.

Are all probes at least 1 meter apart? Yes

Are all collocated low volume samplers between1 to 4 meters apart? N/A

Are all collocated high volume samplers between 2 to 4 meters apart? N/A

Are all probes located in an area that is paved or has vegetative ground cover? Yes

Are all rooftop samplers located at least 2 meters away from any structure? Yes

Is there unrestricted air flow 270 degrees around the probe or sampler? Yes

What is the distance of the monitor site to the nearest road? 27 meters (Mudville Rd)

What are the distances of the closest traffic counters to the monitor site? 1.65 kilometers

(Mudville Rd) & 2.4 kilometers (U.S. Hwy 51)

What are the AADT counts? 1,469 (Mudville Rd-2025) & 23,212 (U.S. Hwy 51-2025)

Site Pictures for Edmund Orgill Park

Edmund Orgill Park (North)

Edmund Orgill Park (Northeast)

Edmund Orgill Park (East)

Edmund Orgill Park (Southeast)

Site Pictures for Edmund Orgill Park

Edmund Orgill Park (South)

Edmund Orgill Park (Southwest)

Edmund Orgill Park (West)

Edmund Orgill Park (Northwest)

Appendix B: Proposed Riverview Site, Shelby County, TN

Reporting Org. Name	Memphis/Shelby County Health Dept.	
PQAO		0673
Address		216 Joubert Avenue
AQS ID		47-157-0010
County Name		Shelby
CBSA		32820
Latitude		35.095556
Longitude		-90.070278
Parameter Code	42101	44201
Parameter Name	Carbon Monoxide (CO)	Ozone (O3)
Monitor Type	SLAMS	SLAMS
POC	1	1
Interval	1	1
Year	2026	2026
Collection Frequency	hourly	hourly
Method	093	087
FRM/FEM Monitoring Instrument	Teledyne Advanced Pollution Instrumentation, Inc. Model T300	Teledyne Advanced Pollution Instrumentation, Inc. Model T400
Analysis	Gas Filter Correlation	Ultraviolet Absorption
Ref. Method ID	RFCA-1093-093	EQOA-0992-087
Monitor Objective Type	Population Exposure	Population Exposure
Dominant Source	Area	Area
Measurement Scale	Neighborhood and Urban Scale	Neighborhood and Urban Scale
Land Use Type	Residential	Residential
Location Setting	Urban	Urban
Date Site Established	TBD	TBD

Site Evaluation Field Form

SITE NAME: Riverview

AQS Site ID: 47-157-0010 Location: 216 Joubert Ave. Date: 05/21/26 Evaluator: MJ

Site Coordinates: LATITUDE 35.095556 LONGITUDE -90.070278

Monitoring Scale: Neighborhood and Urban Scale

Pollutant	Sampler/Probe Inlet Height (IH in m)	Inlet Location	Horizontal Distance (m)	Vertical Distance (m)	Pass/ Fail
CO	4.2 m	Roof	1.0 m		Pass
O_3	4.2 m	Roof	1.0 m		Pass

Object	Object Height (OH)	Object Distance (OD)	2(OH-IH)	Obstruction?
Tree E	17.2 m	38.7 m	26.0 m	No
Tree SE	17.2 m	40.6 m	26.0 m	No

Dripline should be >20 m from the dripline of tree(s) and must be 10 m from the dripline when the tree(s) act as an obstruction. For Horizontal and Vertical Distances: Separation Distance = (1 meter for O_3, CO, SO_2, NO_2) and (2 meters for PM, Pb) When probe is located on a rooftop, this separation distance is in reference to walls, parapets, or penthouses located on roof.

Are all probes at least 1 meter apart? Yes

Are all collocated low volume samplers between 1 to 4 meters apart? N/A

Are all collocated high volume samplers between 2 to 4 meters apart? N/A

Are all probes located in an area that is paved or has vegetative ground cover? Yes

Are all rooftop samplers located at least 2 meters away from any structure? Yes

Is there unrestricted air flow 270 degrees around the probe or sampler? Yes

What is the distance of the monitor site to the nearest road? 90 meters (Pretoria Ave)

What are the distances of the closest traffic counters to the monitor site? 324 m (Kansas St) & 563 m

(I-55) What are the AADT counts? 2,152 (Kansas St-2025) & 64,376 (Interstate 55-2025)

Riverview Background and Discussion (as published in modified 2025 SCHD AAMNP)

After receiving the concerns of many citizens in early 2024, Shelby County Mayor Lee Harris contacted the Shelby County Health Department (SCHD) requesting that an additional air monitoring site be constructed and placed in South Memphis. The citizens' concerns included the lack of any air pollution data in the southern portion of Shelby County. The Shelby County Health Department applied for the Federal Inflation Reduction Act (IRA) Grant to fund the project. After receiving the IRA grant award (with most of the funds directed toward the Riverview site), the SCHD proposed that the site contain a carbon monoxide monitor and an ozone monitor.

Several locations were discussed, but the most appropriate site was determined to be on a parcel of land at 216 Joubert Ave. adjacent to Riverview Elementary/Middle School and Vision Preparatory Charter School, and Riverview Park in Southwest Memphis (38109 zip code). This location had previously housed a temporary Special Purpose Monitor in the late 2000s that was used in an air toxics study by The University of Memphis. The SCHD requests the original Riverview site AQS ID be used for the future site (47-157-0010). Originally there was concern that nitrogen from the nearby sources from the vector range of south to northwest might titrate ozone at the site. Upon further review and discussion, the idea that there is no true Shelby County representation for ozone data when winds are moving from a vector range of north to east made a strong argument for the Riverview site location regarding both neighborhood and urban scale measurement.

The site is approximately 1/3-mile east of Interstate-55, a high-traffic volume interstate highway. There are many major and minor industrial point sources along with a large, high-volume railyard and the Port of Memphis within a 3-mile radius. Aside from the schools and the park, the monitoring site is also surrounded by a large residential community. These factors made the Riverview site an optimal location to understand the air quality for the citizens in southwest Memphis.

The Shelby County Health Department is proposing that the Riverview air monitoring site be designated as a population exposure SLAMS monitor intended to characterize pollutant concentrations affecting those in SW Shelby County as stated in 40 CFR Part 58 App D 1.1.1 (b) (c). The data from these monitors will be collected, quality assured, and reported to the AQS database in accordance with 40 CFR Part 58 App A as well as the SCHD QAPP and SOPs.

The minimum monitoring requirements under 40 CFR Part 58 App D had already been previously met for all pollutants prior to this network modification proposal (expansion).

This network modification will be made available for a 30-day public review and comment in accordance with 40 CFR 58.10 with the goal to publish the public notice in the 3rd week of March 2026.

Both the carbon monoxide and ozone monitors will run continuously reporting hourly average concentration data. The carbon monoxide monitor will operate year-round, but the ozone monitor will operate during the months of ozone season (March-October).

The target period for the proposed Riverview air monitoring site to become operational is May-June 2026 depending on site completion, instrument installation, network configuration, and quality assurance that the instruments are operating properly with data that is within the acceptable range (per 40 CFR Part 58 App A, as well as the SCHD QAPP and SOPs). The total cost of the site will be determined upon completion.

May 2026 Update

The Riverview shelter is in place at the site. The SCHD goal should be on time with the instruments in a testing/evaluation phase for quality data as well as proper communication/synchonization with the SCHD data server. The SCHD goal for the Riverview data collection to be online is the start of 2026-Quarter 3 (July 1) pending final EPA approval.

Riverview (North)

Riverview (Northeast)

Riverview (East)

Riverview (Southeast)

Riverview (South)

Riverview (Southwest)

Riverview (West)

Riverview (Northwest)

Shelby County Geography and Climatology

Shelby County Geography

Shelby County, the largest county in area in Tennessee covers an area of 760.55 square miles or 486,752 acres (https://www.census.gov/quickfacts/fact/table/shelbycountytennessee,US/PST045222). The 2025 population estimate (July 1, 2025) from the U.S. Census for Shelby County is 910,226 (https://www.census.gov/quickfacts/fact/table/shelbycountytennessee,US/PST045223). The estimated population density of Shelby County is 1196.8 people per square mile. The elevation ranges from 185 above mean sea level (MSL) along the islands in the Mississippi River in the southern portion of the county to about 416 feet above MSL in the rolling hills of the southeastern area of Shelby County. Bluffs that are located in the western area of the county near the Mississippi River are derived from the wind-driven buildup of silt, sand, and clay known as loess, and are approximately 250 feet above MSL. The central region of the county is located on an ancient alluvial plain, a mostly flat area consisting of several layers of silt, sand, gravel, and clay, approximately 300-320 feet above MSL. The eastern area of the county consists of gentle, rolling hills, approximately 340-400 feet above MSL. The largest city within Shelby County is Memphis with a population of 609,647 and a population density of 2067.3 per square mile. Other cities and towns within Shelby County include Millington (12,953); Bartlett (56,416); Lakeland (14,422); Arlington (15,703); Collierville (51,909); and Germantown (40,001).

All city populations and population density estimates were official U.S. Census estimates from 2025 and were obtained using the QuickFacts Table from https://www.census.gov/quickfacts/fact/table/shelbycountytennessee/PST045223. The 2026 estimates were unavailable at the time of this report.

Shelby County Climatology

Like most of the Southeast U.S. and southern Mid-Atlantic states, Shelby County, TN falls within the humid subtropical climate zone (Cfa on the Köppen Climate Classification). This can be described as hot, humid summers with mild to cool winters. Using the latest 30-year climate data set (1991-2020) obtained by the National Climatic Data Center (**Note:** The new 1991-2020 climate data set showed warming temperatures and more precipitation (more rainfall, but less snowfall) when compared to the 1981-2010 climate data set), the normal conditions are as follows:

Coldest Month: January (avg max temp=50.9 degrees F; avg min temp=33.3 degrees F)

Warmest Month: July (avg max temp=91.9 degrees F; avg min temp=73.6 degrees F)

Yearly Precipitation Normal: 54.94 inches (52.24 inches of rainfall and 2.7 inches of snowfall)

Wettest Months: December and March-May (avg of 5.49, 5.74, 5.87 and 5.27, respectively)

Driest Months: August-September (avg of 3.37 and 3.03 inches, respectively)

Wind direction is most prevalent from the south to southwest (see wind rose data)

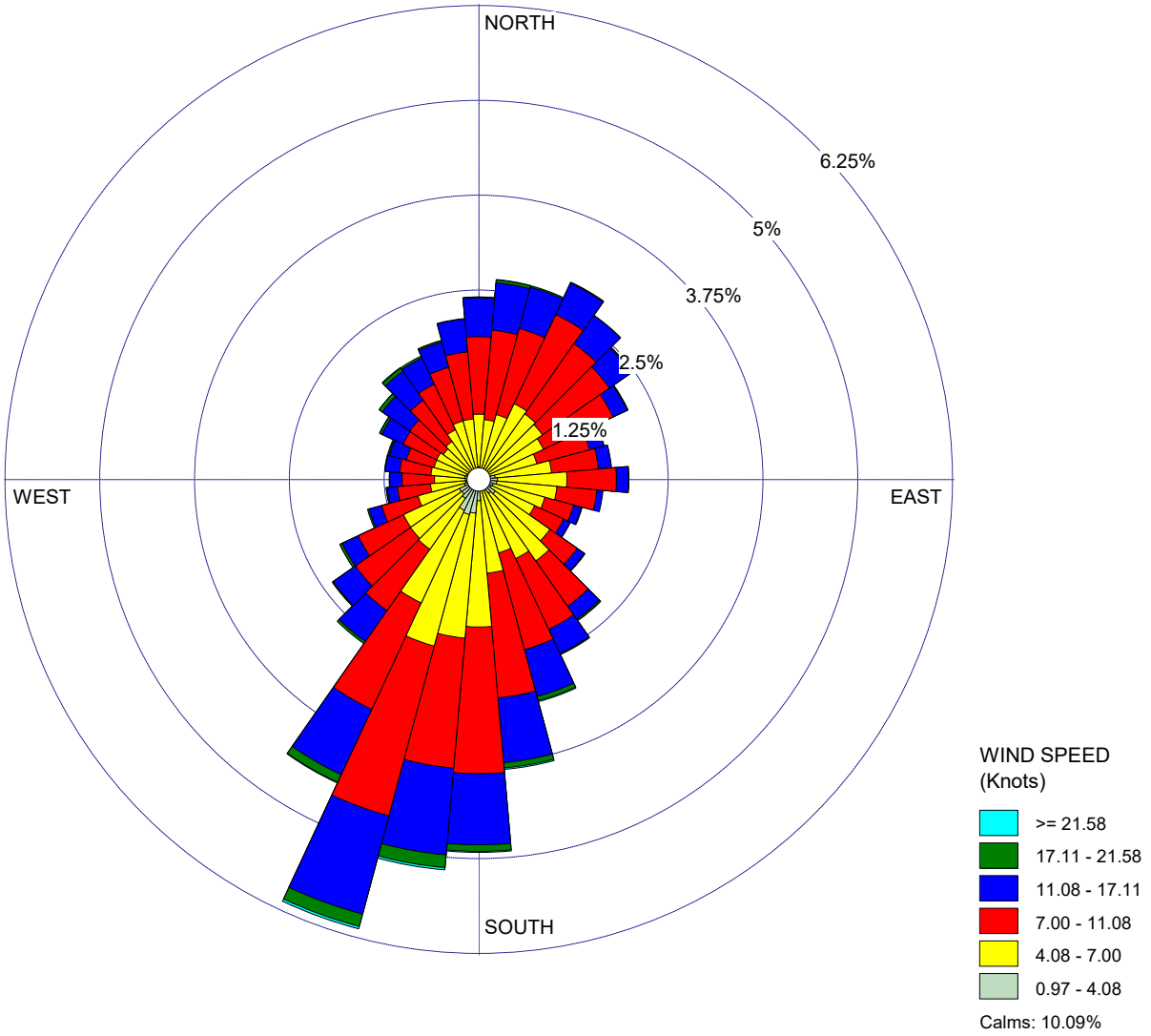
Most frontal activity occurs in the Spring and Autumn. Summer experiences lower humidity at the start of the season with higher humidity levels starting by early to mid-July as the Bermuda High pressure system pulls warm, moist air into the lower Mississippi Valley from the Gulf of Mexico. Localized thunderstorms are common in the afternoon. By September, the humidity begins to lower as the Bermuda high breaks down. Winters are usually mostly mild with periods of very cold air. Severe weather is most common in the Spring, but can occur any time of year.

WIND ROSE PLOT:

Station #13893 - MEMPHIS/INT'L ARPT, TN

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
Most missing data is variable winds-3.79% (1662 obs). Actual missing winds are 0.43% (186 obs). The other percentages are based on total obs (as shown in the box on the right) excluding the combined variable winds and missing observations (1848 obs). Actual percentages are available upon request.	**Start Date: 1/1/2021 - 00:00** **End Date: 12/31/2025 - 23:00**	MODELER:	
	CALM WINDS: **10.09%**	TOTAL COUNT: **41976 hrs.**	
	AVG. WIND SPEED: **6.87 Knots**	DATE: **2/13/2026**	PROJECT NO.: **2021-25-KMEM-WR**

WRPLOT View - Lakes Environmental Software

VI. Local Programs Submittals of Ambient Monitoring Plan

Memphis Air Monitoring Plan

These documents are provided as submitted by the respective monitoring agency for use by the state in updating the overall ambient monitoring plan document.

A. Memphis Air Monitoring Plan (with expected changes)
   1. $PM_{2.5}$ Collocation at Shelby Farms NCore site
   2. $PM_{2.5}$ Collocation at Alabama Ave. site
   3. Continuous $PM_{2.5}$ FEM sampling
   4. PAMS at Shelby Farms NCore site
   5. Monitors/pollutants reporting to the EPA AirNOW Program (Forecasting Program)
   6. Introduction of Riverview site in SW Memphis

B. Shelby County Air Pollution Active Sites 2026

A. Memphis Air Monitoring Plan

Shelby County Health Department Air Pollution Control Program

Network Review

2026

An assessment of the Shelby County Health Department's (SCHD) ambient air monitoring network has been conducted. The SCHD Air Monitoring Branch has evaluated each air monitoring site according to the requirements and provisions as required by the Code of Federal Regulations 40, Parts 50, 53, and 58 and have concluded that the number and locations of the monitors in our network comply with the CFR provisions. In some areas of the network, more monitors are operating than required. Therefore, the SCHD is forwarding the enclosed documents with the pertinent air monitoring site information so that the contents may be incorporated into the State of Tennessee's Monitoring Network plan to EPA.

Summary of the SCHD air monitoring network include the following:

1. $PM_{2.5}$ Collocation at the Shelby Farms NCore station

40 CFR 58.12 (d) (2) states that all FRMs at the NCore sites must minimally operate on a 1-in-3 day sampling frequency. This includes the collocated samplers. The SCHD AMB began the operation of a Teledyne T640x FEM sampler on January 1, 2021 at the Shelby Farms NCore station. A Thermo 2025i FRM sampler has operated on a 1-in 3-day sampling schedule on January 1, 2021 to meet collocation requirements. Although the Teledyne T640x continues to report data for PM2.5 (88101), PM10 (81102), and PM Coarse (86101), the PM2.5 (88101) data had been granted a 2-year NAAQS exclusion (10/26/2023 through 10/25/2025) due to high bias and ratio that were discovered upon using the EPA PM2.5 Continuous Monitor Comparability Assessment. Significant bias began after the SCHD installed the Teledyne firmware update to the T640x on 10/25/2023. After many attempts to correct the issue, the instrument (#960) was replaced by a new T640x (#2109) on 12/17/2024. The co-located FRM instrument was the primary monitor for Shelby Farms during the NAAQS exclusion during that period. The T640x became the primary monitor starting 10/26/2025.

2. $PM_{2.5}$ Collocation at the Alabama Ave. station

The SCHD AMB operates 2 FRM $PM_{2.5}$ Thermo 2025i samplers. The POC 1 sampler operates on a 1-in 3- day schedule and the POC 2 sampler operates on a 1- in 12- day schedule to meet collocation requirements. The POC 1 sampler began operating on January 1, 2017. The POC 2 collocated sampler began operating on January 1, 2021 when the collocated FRM sampler at Shelby Farms was replaced with a T640x. Future plans for 2026 include the addition of a T640x monitor and shutdown of the POC-2 PM2.5 sampler. See paragraph below.

3. Continuous $PM_{2.5}$ FEM Sampling

The SCHD AMB continues to operate 3 FRM samplers in the network. SCHD Air Monitoring Branch will add a Teledyne-API T640x FEM sampler at the Near Road site later in 2026 while keeping the filter-based 2025i as an FRM filter-based co-located PM 2.5 sampler as approved by EPA. The 1:12 co-located sampler and the FEM PM10 will be replaced with a Teledyne T640x sampler at the Alabama Ave. station. The $PM_{2.5}$ data from the new T640x samplers will be NAAQS excluded during the 24-month evaluation period. This will leave the FRM PM2.5 samplers running on a 1:3 schedule as the primary NAAQS samplers with the T640x samplers as the collocated monitors during this time (24-month evaluation period). See paragraph 1 above for details regarding the T640x FEM at the Shelby Farms-NCore site.

4. PAMS at the Shelby Farms NCore site

Based on 40 CFR Part 58, Appendix D, State air monitoring agencies are required to begin making PAMS measurements at their NCore location(s) by June 1, 2019. An extension was granted and was effective on February 7, 2020 delaying the start date for PAMS monitoring to June 1, 2021. The SCHD has been collecting PAMS-related data since June 1, 2021 on a seasonal basis (PAMS season runs from June 1-August 31). The pollutants measured are True NO_2, carbonyl, VOCs, with meteorological parameters such as ambient temperature, barometric pressure, relative humidity, wind direction, and wind speed which were previously measured at the Shelby Farms NCore station prior to 2021. In addition, SCHD AMB began measuring cloud ceiling heights (using a ceilometer), solar radiation, UV radiation and precipitation prior to the start of the 2022 PAMS season. The True NO_2 instrument had major malfunctions during the 2024-2025 PAMS seasons leading to the failure to capture data. The instrument was sent for repair multiple times, but should be operational in the 2026 PAMS Season.

5. Monitors/pollutants reporting to the EPA AirNOW Program (Forecasting Program)

The following Shelby County ambient air monitoring sites (with the participating air pollutants) are included in the EPA AirNOW Program and the Shelby County Health Department AirNOW Forecasting Program:

Edmund Orgill Park-Ozone

Frayser-Ozone

Shelby Farms (NCore)-Ozone, PM 2.5 (T640x)

The planned changes to Alabama Ave. and Macon Cove-SWTCC (Near Road) in the 2026-2027 season will allow these sites to be added to the AirNOW/Forecasting Programs for PM 2.5 after installations are complete and the instruments and data are determined to be operationally acceptable. In addition, the SCHD plans to add the new Riverview site to the AirNOW Program for ozone starting July 1st pending acceptable operation and EPA final approval. The SCHD will notify our EPA Region 4 representative and these sites will be updated on the AirNOWTech website to reflect the changes when the instruments have been installed, quality-checked, and determined to be operating properly.

B. 2026 Shelby County Active Sites

Shelby County Health Department Active Sites	Pollutant	Monitor	AQS ID
416 Alabama Ave.	$PM_{2.5}$ (1 in 3 day) $PM_{2.5}$ (1 in 12 day) PM_{10} continuous	Thermo Environmental 2025 and 2025I Sequential PM 2.5 Thermo TEOM 1405-PM10	47-157-0024
6855 Mudville Rd. (Edmund Orgill Park)	O_3 continuous	Teledyne API T400	47-157-1004
1330 Frayser Blvd.	O_3 continuous	Teledyne API T400	47-157-0021
6388 Haley Rd.	CO (trace) continuous SO2 (trace) continuous NOy (trace) continuous O3 continuous PM2.5 (1 in 3 day) PM2.5, PM10, PM10-2.5 continuous PM2.5 Speciation (1 in 3 day) Carbon (1 in 3 day) Wind Speed Wind Direction Ambient Temperature Relative Humidity Barometric Pressure NO2 continuous Carbonyl (1 in 3) autoGC (continuous) Solar Radiation Ultraviolet Radiation Rainfall	Teledyne T300U Teledyne T100U Teledyne T200U Teledyne T400 Thermo 2025i PM 2.5 Teledyne T640x Met One Super SASS URG 3000 RM Young RM Young RM Young RM Young RM Young Climatronics Teledyne API T500U ATEC 8000 Chromatotec (CAS) CG-866 Epply Laboratory RM Young	47-157-0075
5767 Macon Cv.	CO Continuous NO_2 Continuous $PM_{2.5}$ (1 in 3 day)	Teledyne API T300 Teledyne API T200 Thermo Environmental 2025I Sequential	47-157-0100

Shelby County Health Department Active Sites	Pollutant	Monitor	AQS ID
216 Joubert Ave.	CO continuous O_3 continuous	Teledyne API T300 Teledyne API T400	47-157-0010

VII. Appendix

A. 2026 Memorandum of Agreement for Memphis, TN-MS-AR with Cover Letter

SHELBY COUNTY HEALTH DEPARTMENT

LEE HARRIS
MAYOR

Public Health
Prevent. Promote. Protect.
Shelby County Health Department

BRUCE RANDOLPH, MD, MPH
INTERIM HEALTH DIRECTOR & HEALTH OFFICER

May 15, 2026

Ms. Michelle Walker Owenby, Air Director
Tennessee Department of Environment and Conservation Air Pollution Control Division
Davy Crockett Tower
500 James Robertson Parkway, 7th Floor
Nashville, Tennessee 37243

Mr. Jaricus Whitlock, P.E., Chief, Air Division
Mississippi Department of Environmental Quality
Office of Pollution Control
P.O. Box 2261
Jackson, Mississippi 39225

Demetria Kimbrough, Deputy Director, Office of Air Quality
Division of Environmental Quality
Arkansas Department of Energy and Environment
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

Dear All,

In accordance with the provisions of the Memorandum of Agreement (MOA) signed in May and June of 2008 between the Shelby County Health Department (SCHD), Mississippi Department of Environmental Quality (MDEQ), and the Arkansas Department of Energy and Environment-Division of Environmental Quality (DEQ), this letter serves as a notification that each respective agency in the MOA have been contacted by the SCHD.

Pending final EPA approval, the SCHD plans to begin operation of a sixth air monitoring site in southwest Memphis (Riverview). The Riverview site is planned to contain a carbon monoxide monitor as well as an ozone monitor. Our goal is to have the site operational and online collecting data (for submittal to AQS) starting Quarter 3 (July 1st). We also plan to complete changes later in the year at the Alabama Ave. and Near Road sites within the SCHD air monitoring network (see monitoring charts). After consulting with MDEQ and DEQ, we learned that there will be no other changes at this time. With this MOA, all agencies are meeting EPA monitoring requirements.

If you have any questions, please call me at (901) 222-9193.

Sincerely,

Kasia Smith Alexander
Deputy Director, Shelby County Health Department

MEMORANDUM OF AGREEMENT ON AIR QUALITY MONITORING FOR CRITERIA POLLUTANTS FOR THE MEMPHIS, TN- MS- AR METROPOLITAN STATISTICAL AREA (MSA)

Participating Agencies:

Shelby County Health Department (SCHD)
Air Pollution Control Program

Mississippi Department of Environmental Quality (MDEQ)
Office of Pollution Control, Air Division

Arkansas Department of Energy and Environment
Division of Environmental Quality (DEQ)

PURPOSE / OBJECTIVE / GOALS

The purpose of this Memorandum of Agreement (MOA) is to inform the entities of the Memphis, Tennessee-Mississippi-Arkansas Metropolitan Statistical Area of monitoring network changes. The MOA between SCHD, MDEQ, and DEQ is to collectively meet United States Environmental Protection Agency (EPA) minimum monitoring requirements for particles of an aerodynamic diameter of 10 micrometers and less ($PM_{2.5}$), and ozone; as well as other criteria pollutants air quality monitoring deemed necessary to meet the needs of the MSA as determined reasonable by all parties. This MOA will formalize and reaffirm the collective agreement in order to provide adequate criteria pollutant monitoring for the Memphis, TN-MS-AR MSA as required by 40 CFR 58 Appendix D, Section 2, (e).

$PM_{2.5}$ MSA monitoring network include:

County	Federal Reference Method $PM_{2.5}$	Federal Equivalent Method $PM_{2.5}$	Continuous $PM_{2.5}$	Speciation $PM_{2.5}$	Collocated $PM_{2.5}$
Shelby County, TN **SCHD**	**4** (Currently includes 2 at Alabama Ave, 1 at Shelby Farms-NCore, & 1 at Near Rd*)	**3*** (Currently 1 in field)		**2** (Chemical Speciation and Carbon Speciation-both at Shelby Farms-NCore)	**2** (will expand to 3 after all T640x instruments are installed)
Crittenden County, AR **DEQ**	**1**		**1** (NAAQS excluded-AQI info only)		
DeSoto County, MS **MDEQ**		**1**			

*With EPA permission, the SCHD is planning to install two T640x monitors (Alabama Ave. replaces the PM2.5 2025-POC 2 sampler-1:12 while keeping the PM2.5 FRM 2025i-1:3 sampler. Addition of T640x to Macon Cv-Near Rd allowing for collocation with PM2.5 FRM 2025i 1:3 sampler) later this year.

Criteria Air Pollutant MSA monitoring network include:

County	PM_{10}	$PM_{2.5-10}$	O_3	$NO/NO_2/NO_x/NO_y$	CO	SO_2
Shelby County, TN **SCHD**	**4** (Currently 2 in field-1 at Alabama Ave. & 1 at Shelby Farms-NCore)*	**3*** (Currently 1 in field)	**4**** (3 currently in field)	**3** ($NO/NO_2/NO_x$ at Macon-Near Rd, NO/NO_y (trace) at Shelby Farms-NCore, True NO_2 (trace) at Shelby Farms-PAMS	**3**** (2 currently in field)	**1** (trace at Shelby Farms-NCORE)
Crittenden County, AR **DEQ**			**1**	**1**		
DeSoto County, MS **MDEQ**			**1**			

* With EPA permission, the SCHD is planning to install two T640x monitors (Alabama Ave. replaces the TEOM PM_{10} continuous monitor. Addition of T640x monitor includes PM_{10} & $PM_{2.5-10}$).

** Pending EPA final approval, SCHD will begin operating Riverview site with CO & O3 monitors.

RESPONSIBILITIES / ACTIONS

Each of the parties to this Agreement is responsible for ensuring that its obligations under the MOA are met. As conditions warrant, the affected agencies may conduct telephone conference calls, meetings, or other communications to discuss monitoring activities for the MSA. Each affected agency shall inform the other affected agencies via telephone or email of any monitoring changes occurring within its jurisdiction of the MSA at its earliest convenience, after learning of the need for the change or making the changes. Such unforeseen changes may include evictions from monitoring sites, destruction of monitoring sites due to natural disasters, or any occurrences that result in an extended (greater than one quarter) or permanent change in the monitoring network.

LIMITATIONS

- All commitments made in this MOA are subject to the availability of appropriated funds and each agency's budget priorities. Nothing in this MOA obligates SCHD, MDEQ, or DEQ to expend appropriations or to enter into any contract, assistance agreement, interagency agreement or other financial obligation.

- This MOA is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement or contribution of funds between parties to this agreement will be handled in accordance with applicable laws, regulations, and procedures, and will be subject to separate agreements that will be affected in writing by representatives of the parties.

- This MOA does not create any right or benefit enforceable by law or equity against SCHD, MDEQ, or DEQ, their officers or employees, or any other person. This MOA does not apply to any entity outside SCHD, MDEQ, or DEQ.

- No proprietary information or intellectual property is anticipated to arise out of this MOA.

TERMINATION

This Memorandum of Agreement may be revised upon the mutual consent of SCHD, MDEQ and DEQ. Each party reserves the right to terminate this MOA. A thirty (30) day written notice must be given prior to the date of termination.