



LEE HARRIS
MAYOR

SHELBY COUNTY HEALTH DEPARTMENT



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

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

June 30, 2026

Southern Environmental Law Center
Attn: Chloe Allen, Associate Attorney
1033 Demonbreun Street, Suite 205
Nashville, Tennessee 37203

RE: Modification of the 2025 Ambient Air Monitoring Network Plan – SCHD Response to Public Comments

1. Introduction

The Shelby County Health Department (SCHD), Air Pollution Control Program, appreciates the comments submitted regarding the proposed modification of the 2025 Ambient Air Monitoring Network Plan. SCHD is proceeding with the establishment of a new regulatory monitoring station at 216 Joubert Avenue (Riverview) to provide seasonal ozone (O₃) monitoring and year-round carbon monoxide (CO) monitoring. The site has completed siting evaluation, shelter installation, and infrastructure preparation and is currently in the testing phase of data collection during the 2026 ozone season.

The Riverview site was selected to address a documented data gap in southern Shelby County and to improve characterization of pollutant transport under prevailing wind patterns (with comparative studies using non-prevailing wind directions). The project is funded through the U.S. EPA's Inflation Reduction Act (IRA) air monitoring grant program and has been coordinated with the Tennessee Department of Environment and Conservation (TDEC) and EPA Region 4.

2. Comment Summary: Request for a Regulatory PM_{2.5} Monitor at Riverview

Public comments recommended that SCHD add a regulatory PM_{2.5} monitor at the Riverview site.

SCHD Response:

SCHD acknowledges the interest in additional PM_{2.5} monitoring but must operate within federal regulatory requirements and the scope of the current EPA grant.

2.1 Federal Monitoring Requirements and 2024 NAAQS Revision

Under 40 CFR Part 58, Appendix D, Shelby County already meets and exceeds minimum PM_{2.5} monitoring requirements through its existing regulatory monitors:

- Shelby Farms-NCORE SLAMS site (Collocated FRM and FEM monitors)
- Alabama Avenue SLAMS site
- Macon Cove-Near Rd (SWTCC) SLAMS site

Mission

To promote, protect and improve the health of ALL in Shelby County.

814 Jefferson Avenue ♦ Memphis, TN 38105 ♦ 901 222-9000 ♦ www.shelbytnhealth.com

In February 2024, EPA revised the annual PM_{2.5} NAAQS to 9.0 µg/m³. Shelby County's highest certified design value, 8.9 µg/m³ at the Alabama Avenue SLAMS site, remains below the revised standard. Shelby County's network meets these requirements and continues to provide the necessary coverage for NAAQS compliance per 40 CFR Part 58 Appendix D.

2.2 Grant Scope and Implementation Constraints

The Riverview project was competitively awarded under the EPA IRA grant specifically for O₃ and CO monitoring. Adding PM_{2.5} instrumentation would require:

- Revising the federal grant scope
- Obtaining new EPA Region 4 approvals
- Modifying shelter and electrical infrastructure
- Updating SCHD Quality Assurance Project Plans (QAPPs)
- Conducting new siting evaluations under 40 CFR Part 58, Appendix E
- Expanding QA/QC and audit resources

These changes would delay site activation and affect SCHD's ability to collect data during the 2026 ozone season.

2.3 Future PM_{2.5} Evaluation

SCHD expects to evaluate the need for additional PM_{2.5} monitoring in Southwest Memphis during the Shelby County Health Department Ambient Air Monitoring Network Plan (SCHD AAMNP). Because a full year of data from the Riverview site will not be available for consideration during development of the 2027 SCHD AAMNP, any such evaluation would likely occur during the subsequent planning cycle, consistent with 40 CFR 58.10.

3. Comment Summary: Use of PurpleAir Sensor Data

Public comments included corrected PurpleAir sensor data indicating elevated PM_{2.5} levels in Southwest Memphis.

SCHD Response:

SCHD appreciates community monitoring efforts and recognizes the value of PurpleAir sensors for public education and screening. However:

- PurpleAir devices are not Federal Reference Method (FRM) or Federal Equivalent Method (FEM) instruments.
- They do not meet the calibration, precision, bias, and audit requirements of 40 CFR Part 58, Appendix A.
- They cannot be used for:
 - NAAQS comparisons
 - Design value calculations
 - Regulatory decisions
 - Network modification determinations

Mission

To promote, protect and improve the health and environment of all Shelby County residents.

814 Jefferson Avenue ♦ Memphis, TN 38105 ♦ 901 222-9000 ♦ www.shelbytnhealth.com

It is important to note that the annual PM_{2.5} NAAQS (9 µg/m³) represents long-term human exposure and must not be compared to periods of less than 1 year with official NAAQS comparisons needing a consecutive 3-year period for each monitor. Short-term human exposure may be compared to the daily PM_{2.5} NAAQS (35 µg/m³) with NAAQS comparison occurring over a consecutive 3-year period. Consult the Code of Federal Regulations for further details (40 CFR Part 50 Appendix N).

SCHD remains open to collaboration with community groups to compare PurpleAir readings with regulatory monitors and to support public outreach.

4. Scientific and Technical Basis for Riverview Site Design

4.1 CO as a Plume Indicator

CO is a well-established indicator of combustion-related emissions and is useful for:

- Characterizing mobile-source impacts
- Identifying stagnation and inversion conditions
- Assessing plume transport
- Supporting diurnal and seasonal pattern analysis

Continuous CO data at Riverview will help SCHD evaluate pollutant behavior under calm or light/variable wind conditions.

4.2 Meteorological Siting Rationale

SCHD's siting analysis incorporated a five-year wind rose (2021–2025) showing:

- Prevailing winds from the south to southwest
- Frequent occurrences of north-northwest to east-southeast winds

This pattern supports Riverview as an optimal location to capture:

- Downwind transport from industrial sources
- Emissions from the I-55 corridor
- Regional background contributions
- Stagnation-driven accumulation events

5. Regulatory Compliance and Interagency Coordination

The Riverview network modification complies with:

- 40 CFR Part 58 (Appendices A, C, D, and E)
- Tennessee State Implementation Plan
- EPA siting and QA/QC requirements
- SCHD's EPA-approved QAPPs

SCHD coordinated with:

- Tennessee Department of Environment and Conservation (TDEC)
- EPA Region 4

Mission

To promote, protect and improve the health and environment of all Shelby County residents.

814 Jefferson Avenue ♦ Memphis, TN 38105 ♦ 901 222-9000 ♦ www.shelbytnhealth.com

6. Commitment to Future Evaluation and Collaboration

SCHD intends to:

- Use Riverview data to assist evaluation of PM_{2.5} needs in Southwest Memphis
- Reassess PM_{2.5} siting during the 2028 Shelby County Health Department AANMP
- Collaborate with community organizations on data interpretation
- Support public education and outreach

All monitoring decisions will remain grounded in scientific rigor and regulatory requirements.

7. Conclusion

SCHD appreciates the comments submitted and affirms that the Riverview site represents a significant expansion of monitoring capacity in southern Shelby County. While a regulatory PM_{2.5} monitor is not included in the current Riverview project due to federal requirements and grant constraints, the Department remains committed to evaluating future PM_{2.5} needs and to maintaining transparent communication as new data become available.

Sincerely,



Michael Goldstein

Meteorologist Manager
Air Pollution Control Program
Shelby County Health Department

cc:

Patrick Anderson, SELC
KeShaun Pearson, MCAP
LaTricea Adams, YG&G
Yolonda Spinks, Sierra Club
Kasia Smith-Alexander, SCHD
Wasim Khokhar, SCHD
Raven Chandler, SCG

Mission

To promote, protect and improve the health and environment of all Shelby County residents.

814 Jefferson Avenue ♦ Memphis, TN 38105 ♦ 901 222-9000 ♦ www.shelbytnhealth.com