2026 Annual Monitoring Network Plan

Chattanooga-Hamilton County Air Pollution Control Bureau

May 2026

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1. Authors

Tyler Cantrell
Air Monitoring Manager

James Long
Air Monitoring Technician

Steve Langston
Air Monitoring Technician

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2. Acronyms

AADT	*Annual Average Daily Traffic*
AI	*Artificial Intelligence*
ANP	*Annual Network Plan*
APC	*Air Pollution Control*
Appendix D	*Volume 40, Code of Federal Regulations, Part 58, Appendix D*
AQI	*Air Quality Index*
AQS	*Air Quality System*
CAA	*Clean Air Act*
CBSA	*Core Base Statistical Area*
CFR	*Code of Federal Regulation*
CHA	*Chattanooga Metropolitan Airport*
CHCAPCB	*Chattanooga-Hamilton County Air Pollution Control Bureau*
COE	*Certificate of Exemption*
CSA	*Combined Statistical Area*
CSN	*Chemical Speciation Network*
ESC	*Environmental Systems Corporation*
FEM	*Federal Equivalent Method*
FRM	*Federal Reference Method*
GA	*Georgia*
GA EPD	*Georgia Environmental Protection Division*
JCT	*Junction*
MOA	*Memorandum of Agreement*
MSA	*Metropolitan Statistical Area*
NAAQS	*National Ambient Air Quality Standard*
NCEI	*The National Center for Environmental Information*
Ncore	*National Core Multipollutant Monitoring Station*
O_3	*Ozone*
OMB	*Office of Management and Budget*
PAMS	*Photochemical Assessment Monitoring Station*
PEP	*Performance Evaluation Program*
$PM_{2.5}$	*Particulate Matter ≤2.5 micrometer diameter*
PM_{10}	*Particulate Matter ≤ 10 micrometer diameter*
POC	*Parameter Occurrence Code*
PQAO	*Primary Quality Assurance Organization*
PSD	*Prevention of Significant Deterioration*
TDEC	*Tennessee Department of Environment and Conservation*
TDOT	*Tennessee Department of Transportation*
TEOM	*Tapered Element Oscillating Microbalance*
TN	*Tennessee*
QA/QC	*Quality Assurance/Quality Control*
QAPP	*Quality Assurance Project Plan*

QMP	*Quality Management Plan*
SDHS	*Soddy Daisy High School*
SLAMS	*State or Local Air Monitoring Station*
SOP	*Standard Operating Procedure*
SPM	*Special Purpose Monitor*
TSA	*Technical Systems Audit*
U.S. EPA	*United States Environmental Protection Agency*
UV	*Ultraviolet*
VMT	*Vehicle Miles Travelled*
VSCC	*Very Sharp Cut Cyclone*
$\mu g/m^3$	*Micrograms per cubic meter*

3. Executive Summary

The 2026 Annual Network Plan (ANP) for the Chattanooga-Hamilton County Air Pollution Control Bureau (herein referred to as the Bureau, CHCAPCB) documents the operation, evaluation, and planned maintenance of the local air monitoring network in compliance with 40 CFR Part 58.10. The plan ensures continued collection of high-quality ambient air data to assess compliance with the National Ambient Air Quality Standards (NAAQS) and to inform public health protection efforts for residents of the Chattanooga, Tennessee-Georgia Metropolitan Statistical Area (MSA 16860).

The Bureau's network currently operates three State and Local Air Monitoring Stations (SLAMS): two ozone monitoring sites (Eastside and Soddy Daisy) and one $PM_{2.5}$ monitoring site (Siskin). These stations collectively meet the minimum federal siting, coverage, and design requirements specified in 40 CFR Part 58, Appendix D, and provide data representative of population exposure, regional background, and urban-scale conditions across Hamilton County. All monitors operate under EPA-approved Federal Reference Methods (FRM), or Federal Equivalent Method (FEM), with quality assurance procedures established through the Bureau's Region 4-approved Quality Assurance Project Plan (QAPP) and Quality Management Plan (QMP).

For $PM_{2.5}$, the Siskin site operates two FRM samplers and one continuous FEM analyzer (Teledyne T640). Based on 2023-2025 collocated comparisons, the T640 exhibited an overall bias of +9.8% relative to the FRM, approaching the ±10% measurement uncertainty requirements established in Appendix A. Consequently, the Siskin FEM has been excluded for regulatory NAAQS comparison due to historically high bias (>10%) and, rather, is operated solely for Air Quality Index (AQI) public reporting purposes. The two FRM samplers (POC 1 and 2) remain fully NAAQS-comparable and satisfy the minimum requirement of $PM_{2.5}$ SLAMS monitors for the Chattanooga MSA based on Appendix D requirements.

For ozone (O_3), both Eastside and Soddy Daisy (SDHS) sites are fully compliant with all CFR data and reporting requirements. Each uses an Acoem Serinus 10 FEM UV photometric analyzer operated on an hourly schedule, with calibration and QA activities performed at required frequencies. CHCAPCB continues to operate all monitoring sites in accordance with 40 CFR Part 58 Appendices A, C, D, and E of. Appendix B is not applicable, as the Bureau does not conduct Prevention of Significant Deterioration (PSD) monitoring.

This plan also includes renewal of the PM_{10} monitoring waiver, documentation of the Teledyne T640 FEM non-comparability determination, and the Memorandum of Agreement (MOA) between the Bureau and the Georgia Environmental Protection Division, establishing shared monitoring responsibilities within the Chattanooga MSA.

The 2026 Annual Network Plan affirms that the Bureau's ambient air monitoring network continues to meet all applicable federal, state, and local requirements, ensuring the collection of defensible, high-value air quality data for Hamilton County and the greater Chattanooga Area.

4. Introduction

The CHCAPCB prepares this 2026 ANP in accordance with the requirements of 40 CFR Part 58.10(a)(1). This plan documents the design, operation and maintenance of the Bureau's ambient air monitoring network to ensure compliance with the NAAQS, established under the Clean Air Act (CAA). It provides a comprehensive review of the current monitoring network, describes planned modifications, and confirms that all monitoring sites continue to meet applicable requirements of 40 CFR Part 58, Appendices A, C, D, and E.

The Annual Network Plan serves as both a compliance certification and a planning document. It demonstrates that the Bureau's network provides representative and defensible data for evaluating air quality conditions in the Chattanooga, Tennessee-Georgia MSA (16860). This MSA includes Hamilton, Marion, and Sequatchie Counties in Tennessee, and Catoosa, Dade, and Walker Counties in Georgia. Within this jurisdiction, the Bureau operates three SLAMS – two ozone sites and one $PM_{2.5}$ site – under authority delegated by the Tennessee Department of Environment and Conservation (TDEC) Division of Air Pollution Control through a Certificate of Exemption (COE) and in cooperation with the Georgia Environmental Protection Division (GAEPD) through a MOA.

This network plan fulfills federal requirements for annual submissions to the U.S. Environmental Protection Agency (EPA) Region 4, provides the basis for continued public data reporting through AirNow and the EPA Air Quality System (AQS), and offers an opportunity for public review and comment before final approval. In addition to confirming ongoing compliance, the 2026 plan identifies network improvements supporting modernization and enhanced data quality assurance.

Key objectives of the 2026 Annual Network Plan include:

- Verifying that the network design continues to meet the minimum siting and coverage criteria of 40 CFR Part 58, Appendix D for ozone and $PM_{2.5}$ monitoring.
- Confirming that all monitors operate under EPA-designated FRMs or FEMs consistent with Appendix C[1].
- Evaluating data quality performance and certification activities under Appendix A[2].
- Summarizing findings of siting evaluations and confirming adherence to Appendix E[3].
- Identifying any monitors not eligible for NAAQS comparison and documenting required waivers or exemptions.

The information contained in this document demonstrates the Bureau's continued commitment to maintaining a high-quality, regulatory-compliant monitoring network that provides accurate, timely, and publicly accessible data to protect air quality and

[1] Appendix C to 40 CFR Part 58
[2] Appendix A to 40 CFR Part 58
[3] Appendix E to 40 CFR Part 58

public health in the Chattanooga-Hamilton County area.

5. Organizational and Administrative Framework

The CHCAPCB is the designated local air quality agency responsible for the operation, maintenance, and quality assurance of ambient air monitoring stations within Hamilton County, Tennessee. The Bureau operates under authority delegated by TDEC through a COE, renewed periodically to define responsibilities for network oversight, quality assurance, and data reporting within the Chattanooga, TN-GA MSA.

5.1. Agency Structure and Responsibilities

The Bureau is a quasi-governmental agency jointly supported by the City of Chattanooga and Hamilton County. The Bureau operates under direction of an oversight board composed of:

- Three members appointed by the City of Chattanooga,
- Three members appointed by Hamilton County,
- Three jointly appointed by both entities, and
- One representative from the Hamilton County Health Department.

The Bureau's mission is to protect and enhance air quality through monitoring, permitting, compliance, and education. The Air Monitoring Department is one of four operational units within the Bureau, alongside Engineering, Operations, and Compliance/Enforcement. The Air Monitoring Department is responsible for:

- Operation of SLAMS for criteria pollutants;
- Routine calibration, maintenance, and verification of FRM and FEM analyzers/samplers;
- Implementation of QAPPs, QMPs, and SOPs approved by EPA Region 4;
- Data validation, certification, and submission of air quality data to the EPA Air Quality System (AQS); and
- Participation in Technical Systems Audits (TSAs), Performance Evaluation Programs (PEP/NPAP), and interagency QA reviews.

5.2. Interagency Cooperation

CHCAPCB's monitoring activities are carried out in cooperation with the TDEC Division of Air Pollution Control through a COE with the Bureau being the Primary Quality Assurance Organization (PQAO) for the SLAMS monitors it operates. TDEC provides technical support as well as quality assurance performance evaluations quarterly. The COE between the Bureau and TDEC is renewed every two years, on even years, with all necessary documentation and information shared between agencies.

The Bureau also works closely with EPA Region 4, which reviews and approves quality documents, evaluates compliance with network design and siting criteria, and provides feedback on data comparability and instrument performance. Region 4's approval signifies the Bureau's network satisfies the technical and regulatory requirements of 40 CFR Part 58.

The Chattanooga MSA is comprised of two states, Tennessee and Georgia, requiring interstate monitoring cooperation. The Bureau has signed and finalized a Memorandum of Agreement relative to the monitoring needs of the Chattanooga, TN-GA MSA with the Georgia Environmental Protection Division. The purpose of this MOA, as stated, is:

> *"to establish the Chattanooga, TN-GA Metropolitan Statistical Area (MSA) Criteria Pollutant Air Quality Monitoring Agreement between CHCAPCB and GA EPD (collectively referred to as the "affected agencies") to collectively meet United States Environmental Protection Agency (EPA) minimum monitoring requirements for particles of an aerodynamic diameter of 10 micrometers and less (PM 10), particles of an aerodynamic diameter of 2.5 micrometers and less (PM 2.5), and ozone; as well as other criteria pollutant air quality monitoring deemed necessary to meet the needs of the MSA as determined reasonable by all parties. This MOA will establish the terms and conditions of this collective agreement to provide adequate criteria pollutant monitoring for the Chattanooga, TN-GA MSA as required by 40 CFR 58 Appendix D, Section 2(e)."*

The full MOA can be found in Appendix B.

Through this administrative and regulatory framework – anchored by the COE with TDEC, MOA with GA EPD, and oversight by EPA Region 4 – the Bureau sustains a fully compliant, technically robust, and regionally coordinated ambient monitoring program for the Chattanooga-Hamilton County area.

6. Area Description

Understanding the physical and demographic setting of Hamilton County is essential for evaluating the representativeness and design of the Bureau's network. The geographical, meteorological, and population characteristics of the region strongly influence local and regional air quality patterns and determine how monitors are sited to capture pollutant variability across the Chattanooga MSA.

6.1. Topography and Climate

Chattanooga and Hamilton County, Tennessee is located near the border of Tennessee, Georgia, and Alabama, positioned between the ridge-and-valley Appalachians to the east and the Cumberland Plateau to the west, creating a diverse topography in the area of hills, ridges, and valleys. The Tennessee river flows through downtown Chattanooga, serving as a divider of the city with surrounding elevations being approximately 676 feet (206 meters) while nearby peaks, such as Lookout Mountain, rise to over 2,400 feet (732 meters).

Local geology is primarily composed of Mississippian-age limestone, sandstone, and shale that has undergone extensive diagenesis, metamorphism, and erosion over time. These units have been structurally deformed over geologic time, resulting in pronounced ridges and deeply incised valleys (i.e., multiscale anticlines and synclines). The Tennessee

River is a direct result of this geologic evolution, exploiting these structural weaknesses and carving a broad fluvial corridor that defines much of Chattanooga's geography and geomorphology.

In addition to underlying structural controls, Chattanooga's hydrologic regime is significantly influenced by the local sedimentary substrate and varying topography. The drainage network of the area, comprised of the Tennessee River and its associated tributaries, follows a dendritic pattern, reflecting the underlying stratigraphy and differential weathering of strata (i.e., erosion-resistance). This combination of multiscale structural geology, erosion, and sediment transport results in relatively heterogeneous soil profiles and microclimatic conditions, affecting vegetation and land use patterns in the area.

The climate in Chattanooga and Hamilton County is classified as humid subtropical (Cfa) with summers being hot and humid while winters are generally mild. The National Center for Environmental Information (NCEI) calculates "Climate Normals" with a 30-year Climate Normal being produced every 10 years. This product helps to understand typical climate conditions for an area and Table 1 gives the 30-year Climate Normals for Chattanooga.

Table 1: Chattanooga 30-year Climate Normal Values[4]

Condition	Value
Annual Average Temperature	61.9°F
Annual Max Temperature	72.2°F
Annual Minimum Temperature	51.5°F
Average Annual Precipitation	55 inches
Average Annual Snow	3.6 inches
Winter[5] Average Temperature	43.9°F
Spring[5] Average Temperature	61.6°F
Summer[5] Average Temperature	79.4°F
Fall[5] Average Temperature	62.6°F
Median First Frost	October 31st
Median Last Frost	April 4th
Median First Freeze	November 9th
Median Last Freeze	March 24th

When assessing air pollution, emissions, and transport, wind speed and direction play a pivotal role in helping to determine these values. By utilizing a wind rose, provided by Iowa State's Iowa Environmental Mesonet, typical wind speed and directions can be used as supplemental data to help determine the aforementioned conditions. Figure 1 provides a visual of wind speed and direction for a 54-year period from January 1970 through October 2024. Chattanooga's average wind speed during 2024 was 5.1 miles per hour with April having the highest average wind speed of 6.5 mph (Figure 2).

[4] 30-year Climate Normals for Chattanooga are based on data collected from Chattanooga Metropolitan Airport (CHA) and represents data from 1991-2020.
[5] Winter is based on December, January, and February; spring is based on March, April, and May; summer is based on June, July, and August; fall is based on September, October, and November.

Figure 1: 55-Year Windrose Plot for Chattanooga, TN

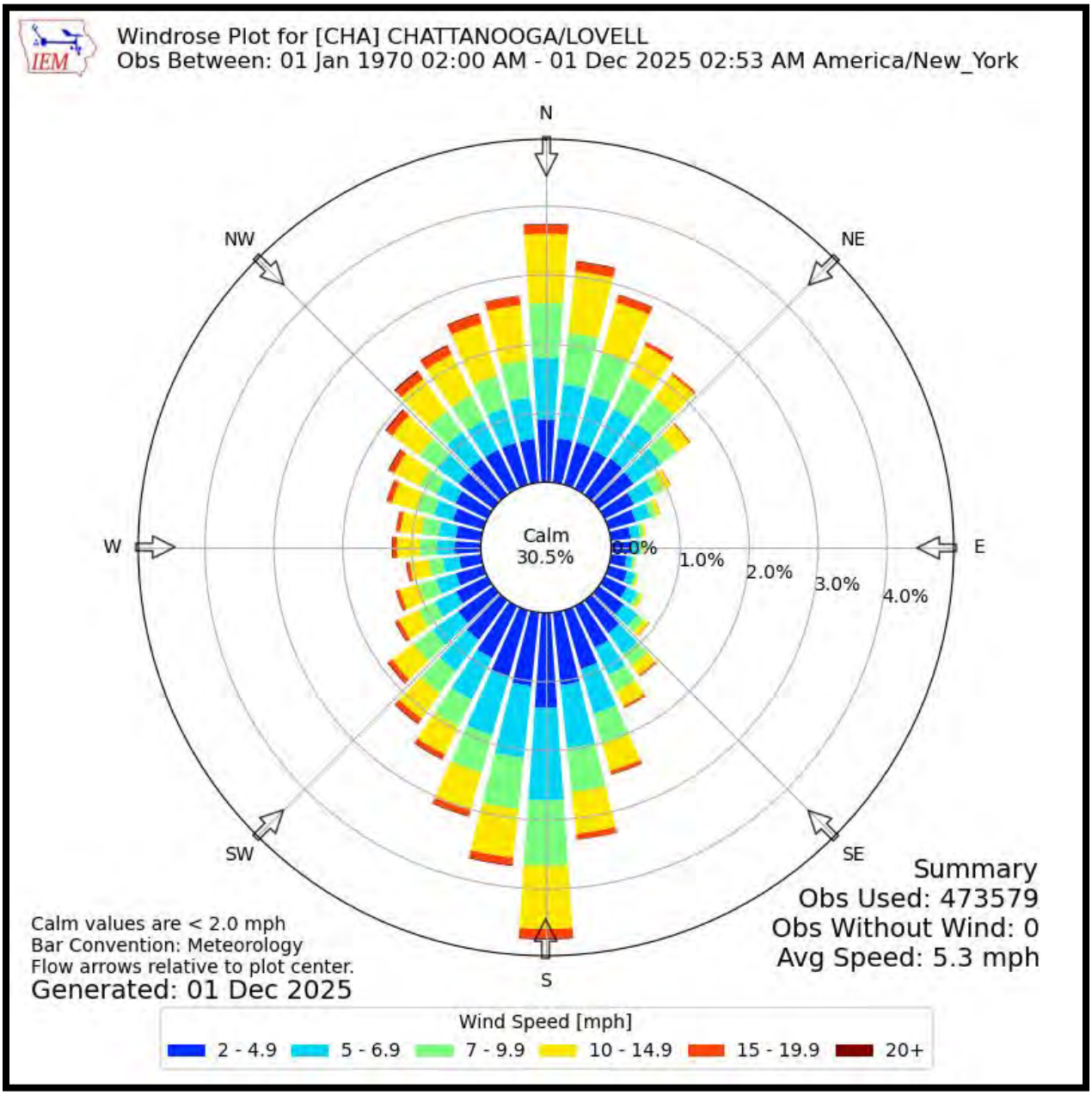
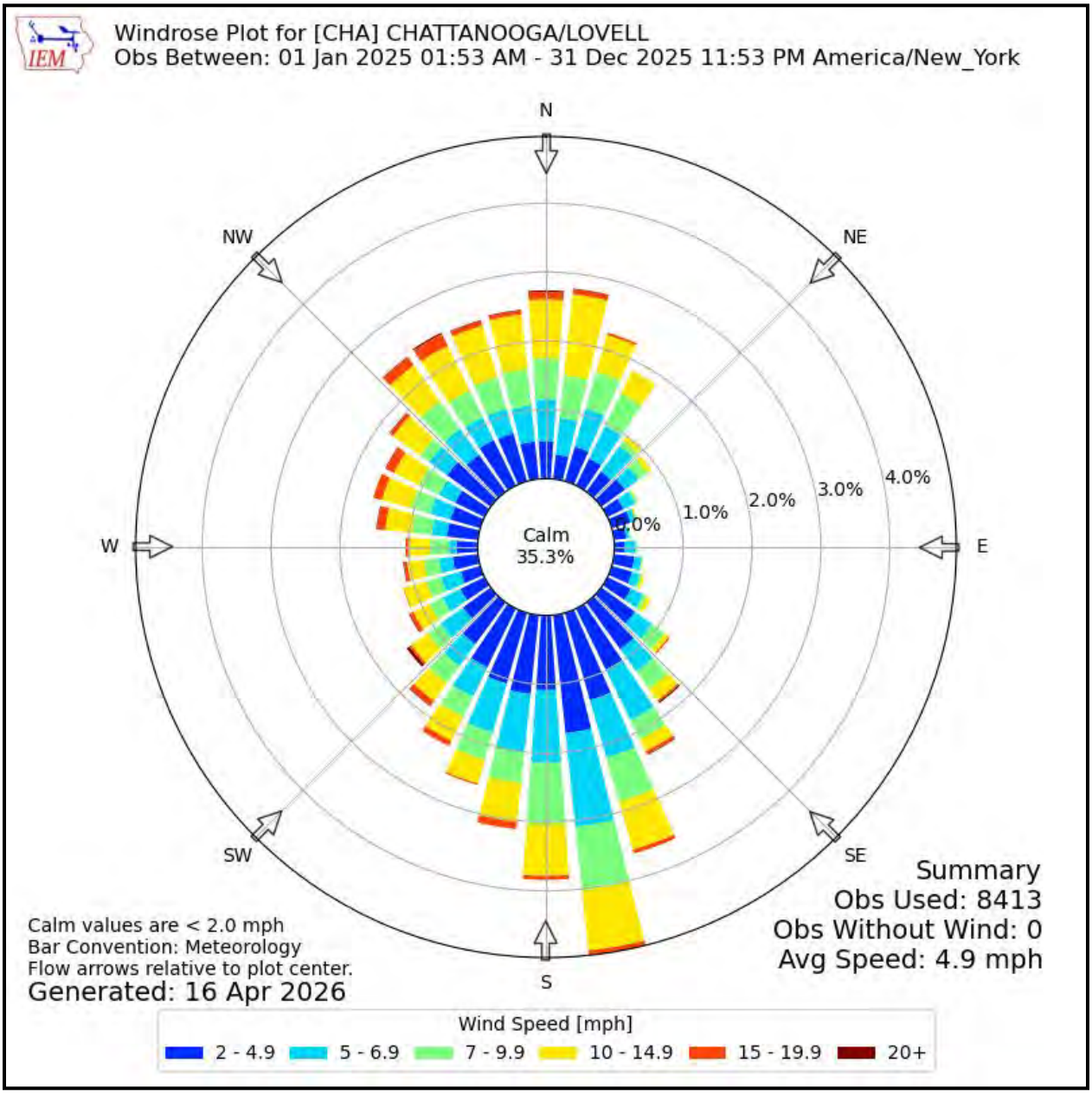


Figure 2: 2025 Windrose Plot for Chattanooga, TN



Due to Chattanooga's unique positioning in a low-elevation valley surrounded by mountains and hills, a "bowl-like" environment is formed. This topography allows for cool air to sink into this valley, typically during overnight hours, while warmer air remains aloft over higher terrain, resulting in a temperature inversion, generally preventing the mixing of air which can disperse pollutants. Due to lack of mixing, this warm air acts as a "cap", keeping pollutants trapped near the surface, particularly during morning hours and an example of what this looks like visually can be seen in Figure 3.

Figure 3: Inversion in the Chattanooga area captured from Snooper's Rock[6]

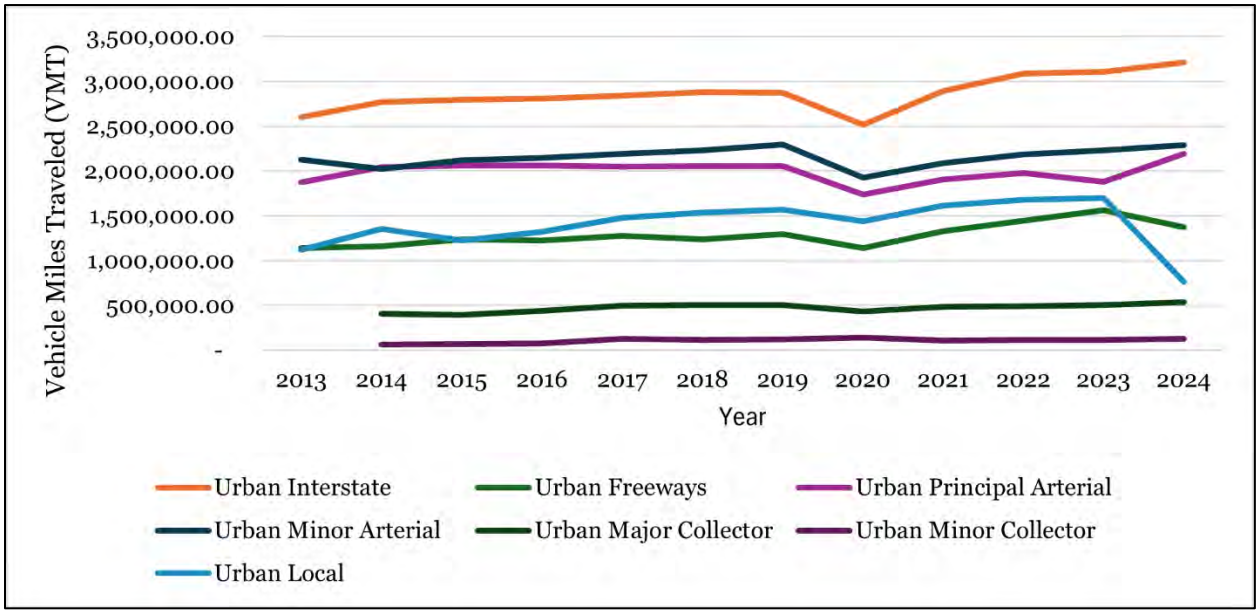
[6] Courtesy of the Chattanooga Times Free Press.

6.2. Traffic Patterns

Chattanooga has seen significant growth in recent years, in line with other growth patterns of major cities in Tennessee and the region. Economic growth in Hamilton and surrounding counties has contributed to this as well as major highways intersecting in Chattanooga, I-24 and I-75, serving as critical corridors for local and regional traffic as well as a strategic location as a freight hub. Due to this position, areas surrounding these two major interstates have shown to be the highest traffic areas.

In 1988, Hamilton Place, the largest mall in Tennessee at the time, was constructed in the city of East Brainerd and could be reached via I-75. This event triggered a surge in commercial and residential development near the mall. Within a year, the number of vehicle miles traveled (VMT) per year increased from approximately 6 million VMT to over 10 million VMT. Figure 4– Figure 6 gives graphical representations of urban, rural, and overall VMT in Hamilton County since 2013 and is measured through TDOT's Highway Performance Monitoring System[7].

Figure 4: Hamilton County urban roadways VMT per year by type



[7] https://www.tn.gov/tdot/long-range-planning-home/longrange-road-inventory/longrange-road-inventory-highway-performance-monitoring-system.html.

Figure 5: Hamilton County rural roadways VMT per year by type

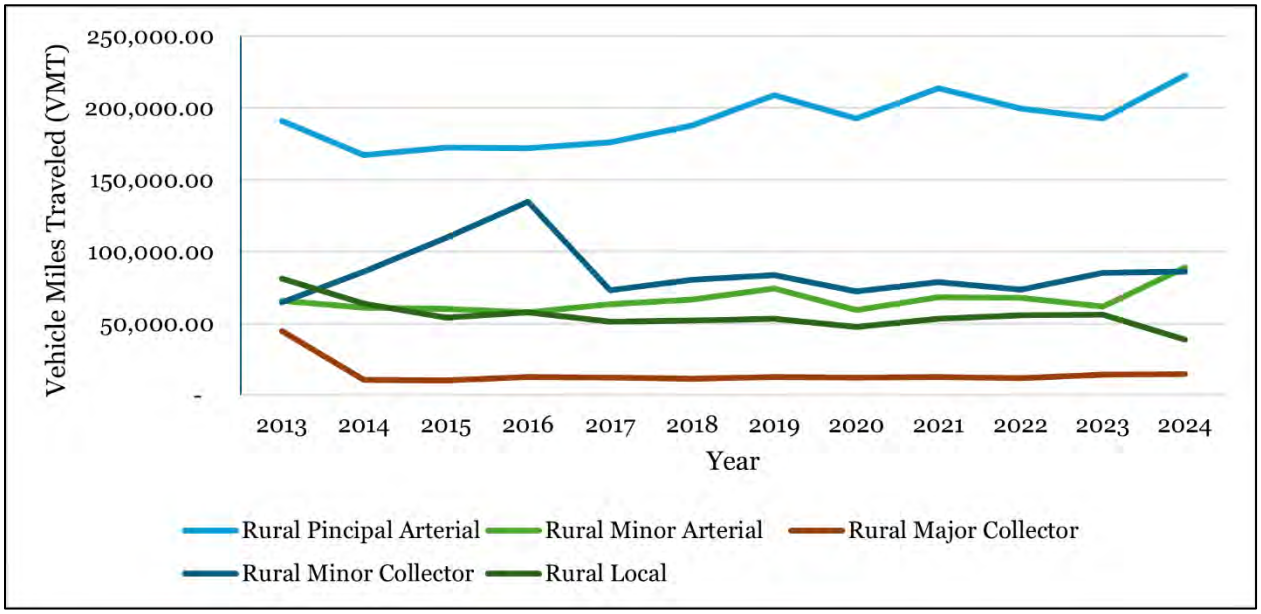
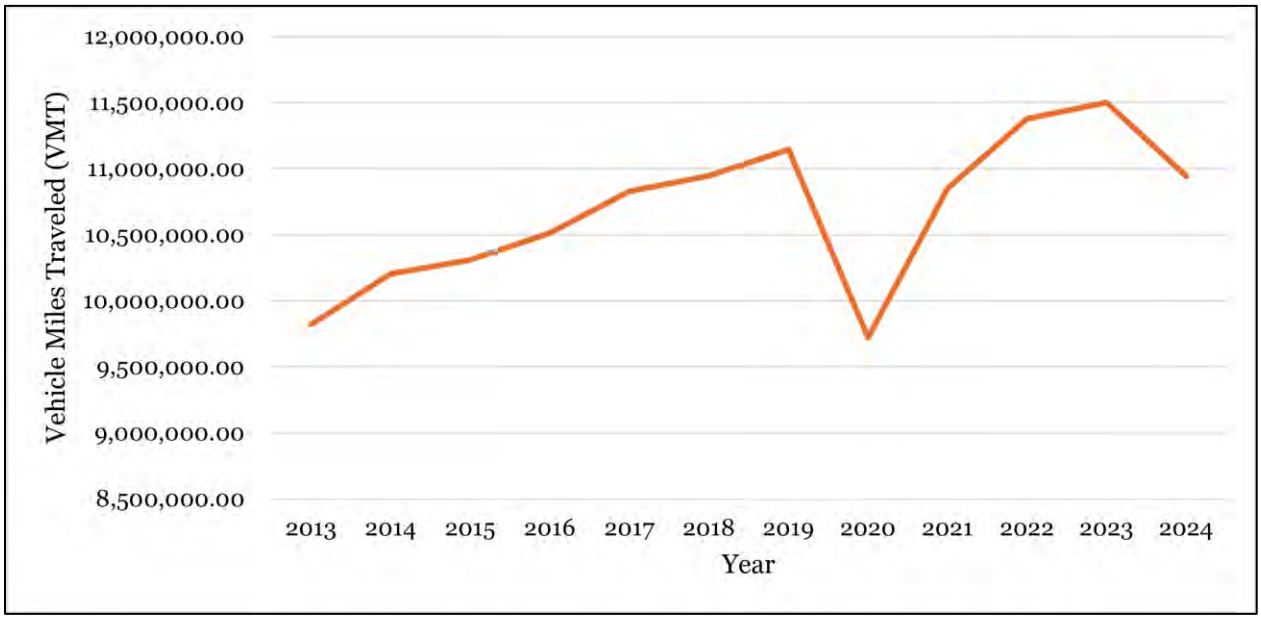


Figure 6: Hamilton County total VMT per year



The I-75 and I-24 interchange is a vital transportation route connecting Tennessee and Georgia. Due to increased traffic volumes, safety concerns arose and operational deficiencies such as poor ramp geometry and insufficient merging distances were identified. To address these issues, interchange modifications were deemed necessary and were scheduled to be completed in two phases. Phase II of the project began in November 2023 and includes road improvements such as expanding a portion of I-24, reconfiguring entrance and exit ramps, and widening I-75 to five lanes. The project is expected to be completed in late 2026.

The Tennessee Department of Transportation (TDOT) tracks the annual average daily traffic (AADT) throughout the State of Tennessee which provides traffic volumes based on a 24-hour, two-directional count at various locations. By comparing past years to the current AADT values, the aforementioned project's need can be seen quantitatively in Table 2 as this area provides the highest traffic counts in Hamilton County. While the Hamilton Place area is the busiest traffic locality in Hamilton County, other high volume traffic areas (downtown Chattanooga and Highway 153) are given in Table 3 and Table 4.

Table 2: Historical AADT comparison for the Hamilton Place area

Location ID[8]	Physical Location	1988 AADT Count	2006 AADT Count	2024 AADT Count	2025 AADT Count
33000163	I-75 east of I-24 JCT	77,971	133,690	145,168	136,449
33000160	I-75 south of I-75 & I-24 JCT	57,000	109,092	121,270	116,974
33000212	I-24 East Ridge	74,097	122,523	105,156	107,288

[8] This ID is used by TDOT to identify specific points on roadways and more information can be found at https://www.tn.gov/tdot.html.

Table 3: Historical AADT comparison for downtown Chattanooga

Location ID	Physical Location	1988 AADT Count	2006 AADT Count	2024 AADT Count	2025 AADT Count
33000154	I-24 east of Market St. Interchange	81,000	116,156	111,563	100,855
33000143	US-27 Olgiate Bridge at TN River	48,016	65,335	75,526	79,133
33000110	Market St. near Nickajack Lake	13,910	20,959	15,058	13,275

Table 4: Historical AADT comparison for Highway 153

Location ID	Physical Location	1988 AADT Count	2006 AADT Count	2024 AADT Count	2025 AADT Count
33000209	State Hwy 153 near Chickamauga Dam	40,848	52,285	65,082	66,146
33000048	State Hwy 153 near Hixson	24,354	43,501	44,009	45,787
33000272	US-27 north of Chattanooga	15,887	35,596	37,683	41,708

The monitor locations within the CHCAPCB network were chosen based on several factors, including the traffic conditions described above and the high-volume areas in Hamilton County. As several major state and federal highway systems transect Hamilton County, monitors were placed in such a way to capture this traffic as well as serve the most citizens of Chattanooga and Hamilton County. Figure 7 - Figure 9 below shows the distance of the three monitors within the CHCAPCB's distance to the nearest major roadways.

Figure 7: Distance to major roadways from Eastside (ozone) monitor

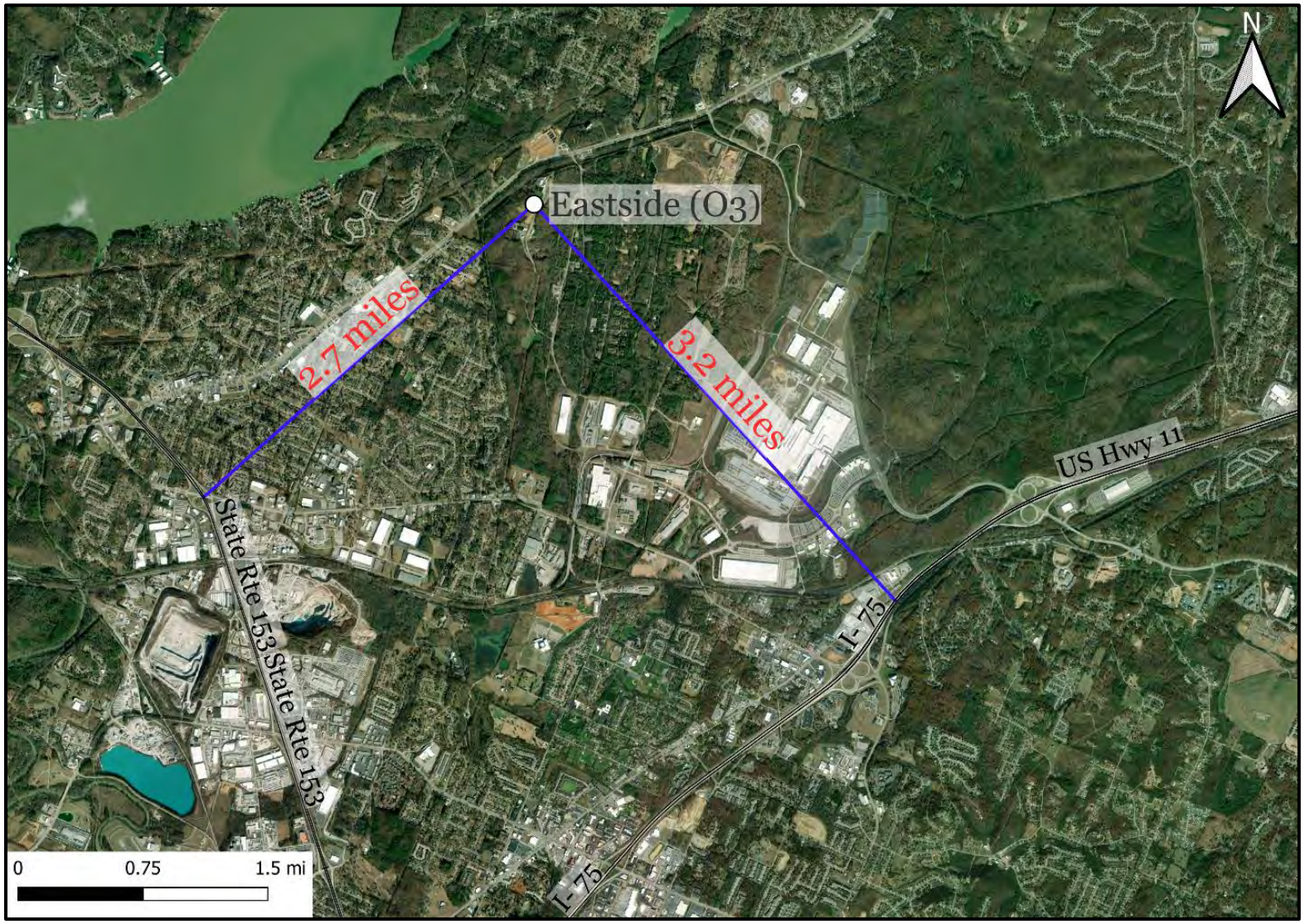


Figure 8: Distance to major roadways from Soddy Daisy HS (ozone) monitor

Figure 9: Distance to major roadways from Siskin (PM2.5) monitor

While Figure 7 - Figure 9 illustrates the network's spatial relationship to major regional traffic corridors, Appendix E[3] also requires an evaluation of each monitor's distance to its immediate nearest roadway to ensure localized emissions do not interfere with the monitor's spatial scale of representativeness.

To verify that all sites meet the minimum separation distances from local micro-scale traffic impacts, the distance to the nearest roadway and its associated AADT were assessed for each monitoring location and is given in Table 5. All monitors maintain adequate setback distances from their respective adjacent roadways based on the current traffic volumes, confirming their suitability for neighborhood, urban, and regional scale monitoring, respectively.

Table 5: Nearest roadways and nearest AADT counts to monitoring sites

Monitoring Site	Immediate Nearest Roadway	Distance to Nearest Roadway	Nearest Location ID[8]	Nearest 2025 AADT Count
Eastside	TN Hwy 58	140 meters	33000271	29,161
SDHS	Hyatte Road	44 meters	33000306 (Lovell Rd.)	1,974
Siskin	Siskin Drive	18 meters	33000107 (East 3rd St.)[9]	15,859

6.3. Population

The U.S. Census Bureau estimates the population of Hamilton County at 390,833 as of July 1, 2025, an increase of 24,626 (6.3%) since the last official U.S. census in 2020, which was found to be 366,207. The estimated population of Chattanooga is estimated at 191,496 as of July 1, 2024, an increase of 10,397 (5.4%) from the 2020 census of 181,099. The Tennessee Department of Health also utilizes population and population growth data collected by the Boyd Center for Business and Economic Research at the University of Tennessee-Knoxville for future projections of population by county in Tennessee[10]. This data projects a population of 392,339 for 2027 and 398,716 for 2029, a total growth of 2.0% from 2025 population estimates. Longer term projections through 2050, provided by the Boyd Center, of population and median age are given in Figure 10 and race and ethnicity makeup are given in Figure 11, demonstrating steady growth and slight changes in race/ethnicity makeup of the Chattanooga, TN-GA MSA[11] during this time.

[9] East 3rd Street is the closest AADT traffic count and sees a significantly higher volume of traffic than Siskin Drive.
[10] https://www.tn.gov/health/health-program-areas/statistics/health-data/population.html
[11] This data includes Hamilton, Sequatchie, and Marion counties and excludes Georgia counties as this research by the Boyd center focuses exclusively on Tennessee.

Figure 10: Total population and median age projections through 2050 for the Chattanooga, TN-GA MSA

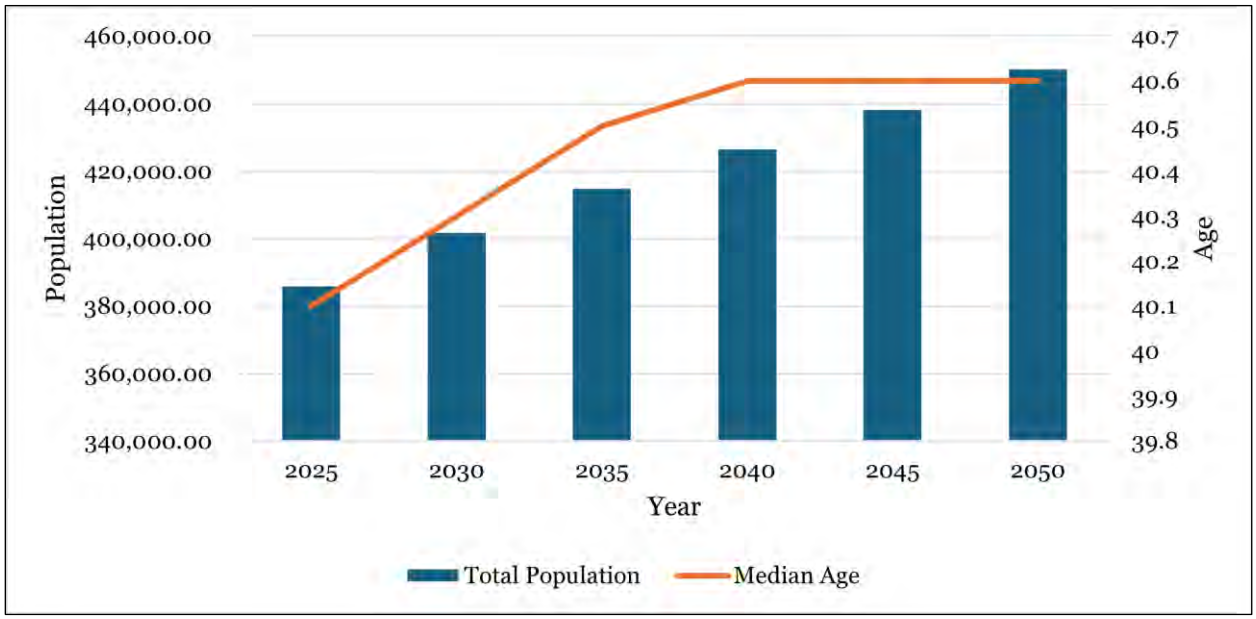
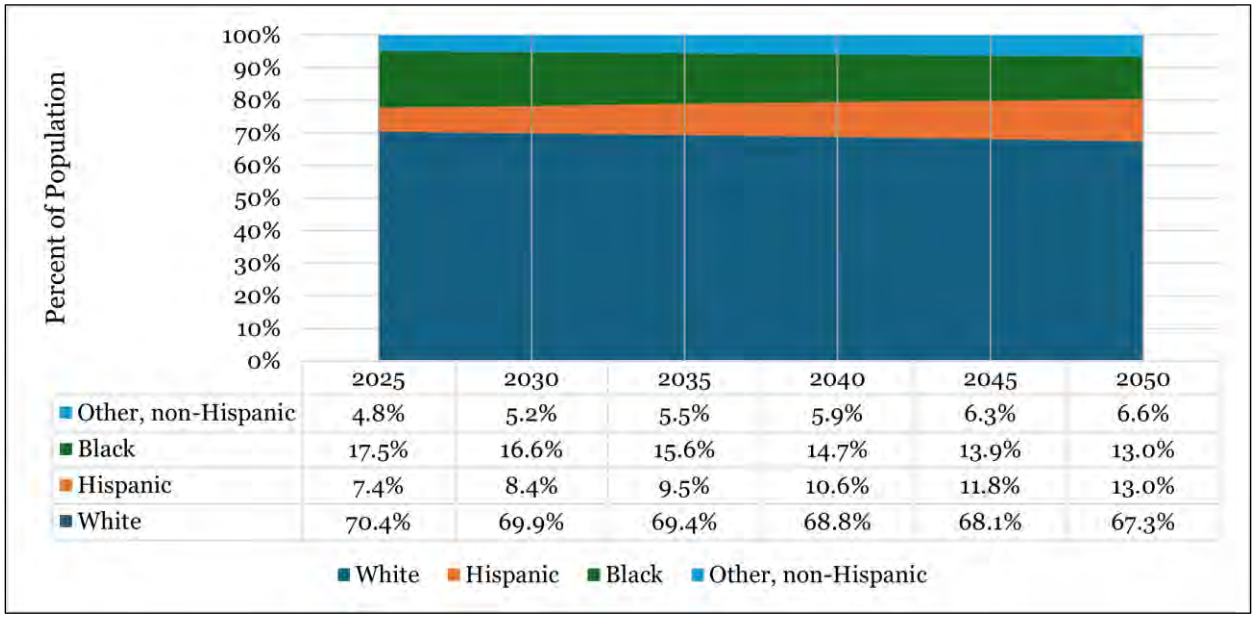


Figure 11: Race and ethnicity projections through 2050 for the Chattanooga, TN-GA MSA



	2025	2030	2035	2040	2045	2050
Other, non-Hispanic	4.8%	5.2%	5.5%	5.9%	6.3%	6.6%
Black	17.5%	16.6%	15.6%	14.7%	13.9%	13.0%
Hispanic	7.4%	8.4%	9.5%	10.6%	11.8%	13.0%
White	70.4%	69.9%	69.4%	68.8%	68.1%	67.3%

Population density, measured by the U.S. Census Bureau as population per square mile, was 1,272.2 in the 2020 census, a 3.98% increase from 1,222.5 in the 2010 census. A visual of population density, given by census tract, is provided in Figure 12. The Census Bureau also provides additional population statistics based on age and sex for Hamilton County and Chattanooga, given in Table 6.

Figure 12: Population density map of Hamilton County and Chattanooga

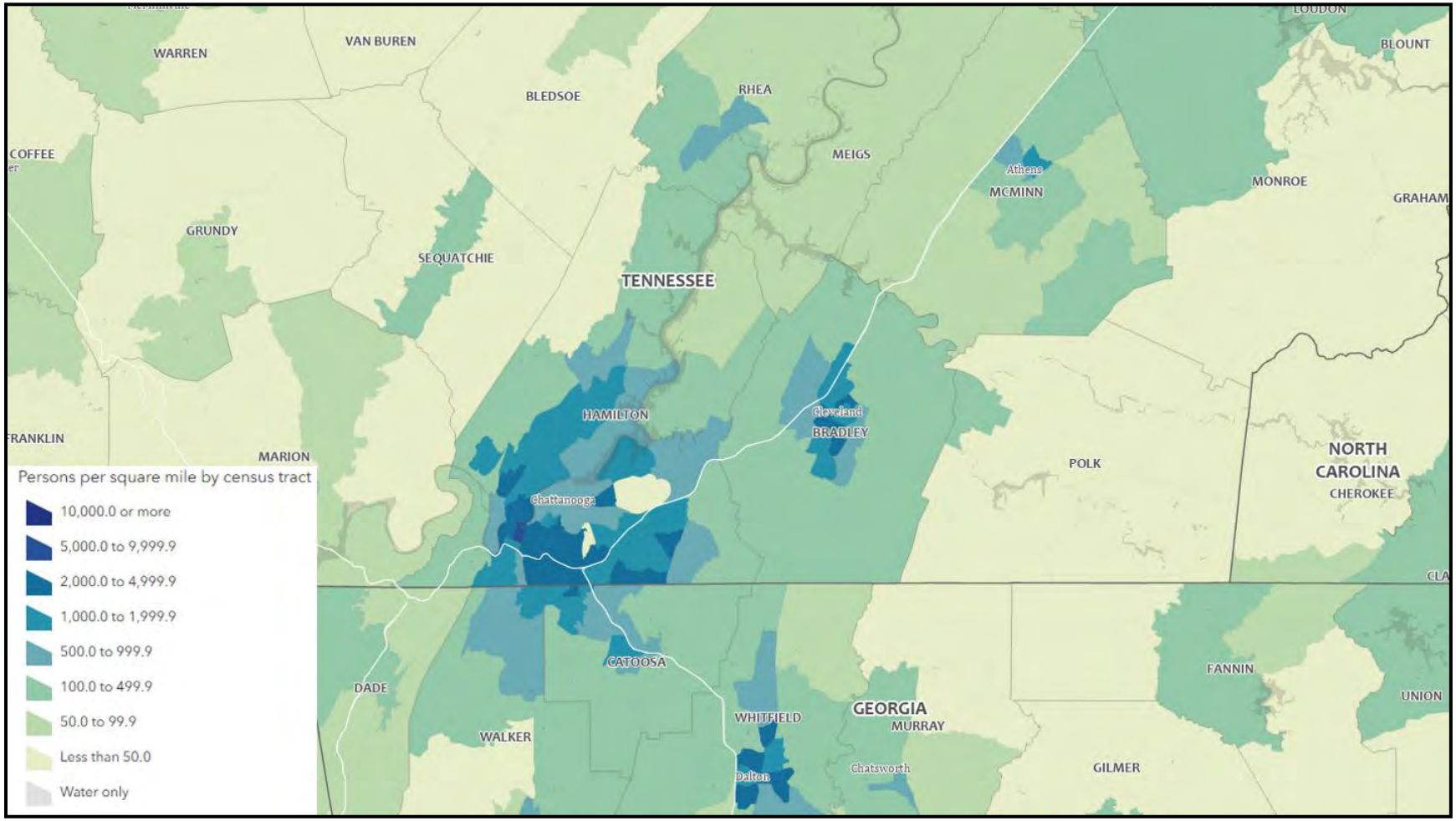


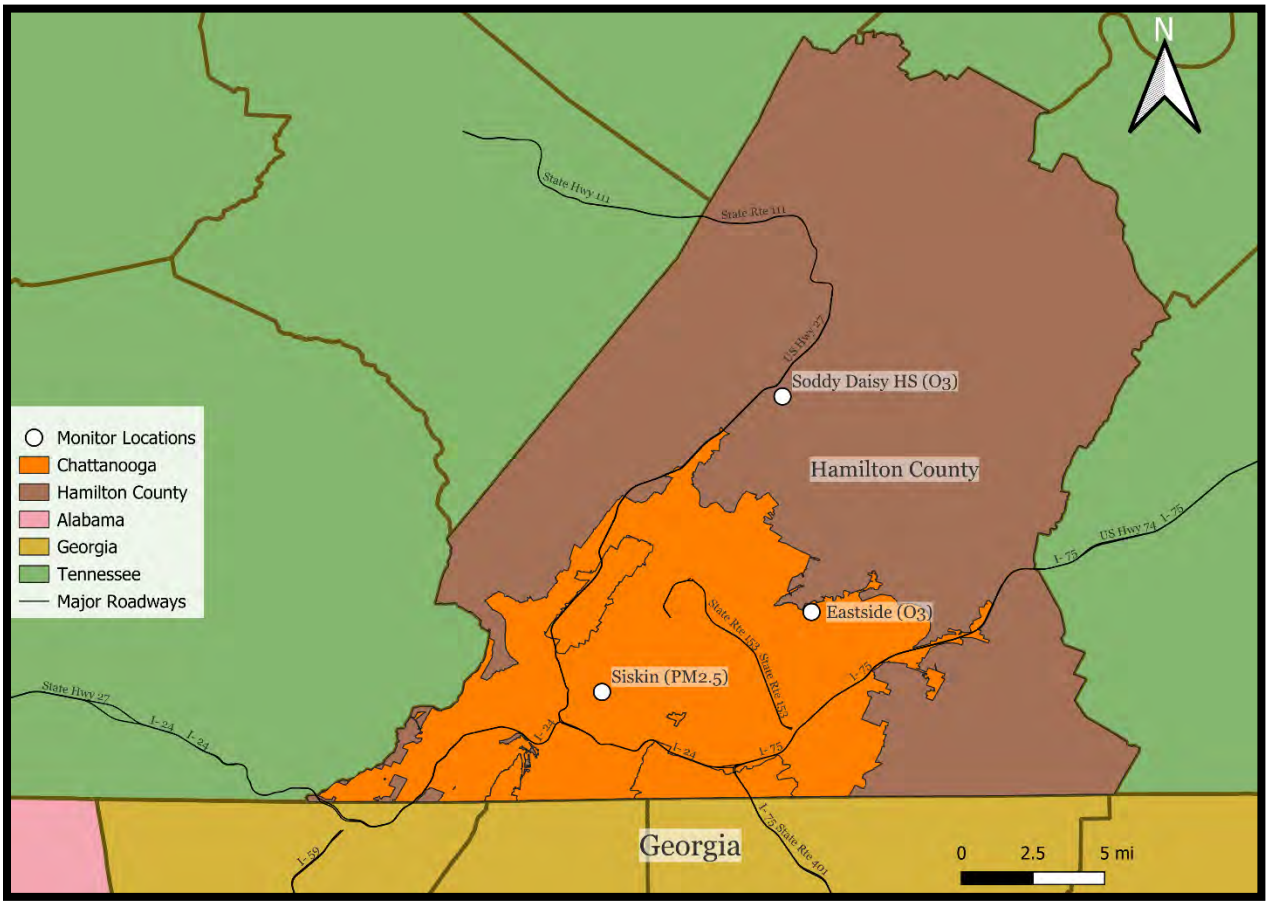
Table 6: Age, sex, and race statistics for Chattanooga and Hamilton County

Age and Sex		
	Hamilton County	Chattanooga
Persons under 5 years	5.8%	6.3%
Persons under 18 years	21.0%	21.0%
Persons 65 years and over	19.0%	17.3%
Female persons	51.5%	51.6%
Race and Hispanic Origin		
White alone	76.4%	57.5%
Black alone	17.9%	27.8%
American Indian and Alaska Native alone	0.7%	0.4%
Asian alone	2.5%	2.3%
Native Hawaiian and other Pacific Islander alone	0.2%	0.0%
Two or more races	2.3%	8.2%
Hispanic or Latino	8.8%	10.0%
White alone, not Hispanic or Latino	69.1%	55.5%

7. Network Overview

The Bureau operates a network of three SLAMS that collectively measure concentrations of ozone and fine particulate matter in Hamilton County, Tennessee. These sites are strategically located to contribute to the characterization of air quality across the Chattanooga, TN-GA MSA, representing both population exposure and regional background conditions. The network provides continuous and filter-based measurements that are used for NAAQS compliance, AQI reporting, and long-term trend analysis. A geographic overview of the locations of Bureau monitoring sites throughout Hamilton County is given in Figure 13.

Figure 13: Monitor locations of CHCAPCB's monitoring network



7.1. Network Composition and Purpose

The Bureau's network consists of:

- Two ozone monitoring sites – Eastside (AQS ID 47-065-4003) and Soddy Daisy (AQS ID 47-065-1011) – which collectively characterize regional and population-scale ozone levels, respectively, within Hamilton County.
- One $PM_{2.5}$ monitoring site – Siskin (AQS47-065-4002) – provides both FRM data for regulatory comparison and continuous monitoring data for AQI and public

reporting purposes, using FEM-approved equipment.

The Eastside and Soddy Daisy ozone sites together meet the minimum ozone network requirements outlined in 40 CFR Part 58, Appendix D, Section 4.1, ensuring both population exposure and regional transport are represented.

The Siskin $PM_{2.5}$ site meets the minimum site requirement of two FRM samplers for the Chattanooga, TN-GA MSA (MSA ID: C1686) between 500,000 and 1,000,000 population (2025 US Census MSA population = 594,530) and the most recent design value greater than, or equal to, 85% of any $PM_{2.5}$ NAAQS[12]. The continuous FEM instrument at the same time enhances spatial and temporal resolution for AQI and public health notifications.

Collectively, the three sites provide comprehensive coverage across Hamilton County. The combination of neighborhood-, urban-, and regional-scale monitoring, in partnership with GAEPD's $PM_{2.5}$ monitor, ensures the network's ability to evaluate trends, verify NAAQS attainment status, and support local and regional air quality management decisions.

7.2. Monitoring Objectives and Scales of Representativeness

Each monitoring site is operated according to the siting and spatial scale objectives outlined in 40 CFR Part 58, Appendix D, Section 1.1:

- Eastside serves as a neighborhood scale, population-oriented ozone monitor representing exposure in urban/suburban areas northeast of downtown Chattanooga, near major traffic corridors such as I-75 and TN-58.
- Soddy Daisy operates as a regional scale ozone site, representative of upwind and background concentrations affecting northern portions of the county and the broader Tennessee River Valley.
- Siskin functions as an urban scale $PM_{2.5}$ site located near the city center, providing exposure data for densely populated areas and supporting regulatory comparison to the annual and 24-hour $PM_{2.5}$ NAAQS.

Together, these sites capture spatial and temporal variability in pollutant levels across the urbanized core, suburban fringe, and regional transport zones, ensuring adequate spatial coverage and representativeness of the Chattanooga MSA.

7.3. Methodology and Instrumentation

All CHCAPCB monitors utilize EPA-designated FRM or FEM analyzers, consistent with Appendix C to 40 CFR Part 58. A full list of notable equipment at each monitoring site can be found in Table 9.

[12] 40 CFR Part 58, Appendix D, Table D-5.

Table 7: Monitoring site equipment

Eastside – 8301 North Hickory Valley Rd. AQS ID: 47-065-4003		
Equipment	Function	Comments
Acoem Serinus 10	Ozone analyzer	Installed for 2025 ozone season
Acoem Seirnus Cal 300	Ozone calibrator	Newly installed for 2026 ozone season
Agilaire 8872	Primary data logger	
ESC 8864	Secondary data logger	
Soddy Daisy HS – 618 Sequoyah Access Rd. AQS ID: 47-065-1011		
Equipment	Function	Comments
Acoem Serinus 10	Ozone analyzer	Installed for 2025 ozone season
Acoem Seirnus Cal 300	Ozone calibrator	Newly installed for 2026 ozone season
Agilaire 8872	Primary data logger	
ESC 8864	Secondary data logger	
Siskin – 911 Siskin Drive AQS ID: 47-065-4002		
Equipment	Function	Comments
Thermo Fisher Scientific Partisol 2025i	FRM $PM_{2.5}$ sequential air sampler	
Thermo Fisher Scientific Partisol 2025i	Collocated FRM $PM_{2.5}$ sequential air sampler	
Teledyne T640	$PM_{2.5}$ continuous monitor	Reports under code 88502 for AirNow and AQI purposes; non-regulatory
ESC 8832	Primary data logger	To be replaced by an ESC 8872 data logger

All equipment is maintained and calibrated according to the Bureau's EPA-approved QAPP and QMP. The network operates under the Bureau's established PQAO procedures to ensure traceability, precision, and bias-tracking within the limits defined in Appendix A[2].

7.4. Data Management and Reporting

Ambient data from all monitors are validated and certified in accordance with the procedures specified in Appendix A[2] as well as the EPA's Graded Approach[13]. Data is transmitted electronically to the EPA's AQS and displayed in real time on AirNow.gov. The Bureau maintains a minimum data completeness rate of 75% for each calendar quarter and conducts internal and external audits to verify the accuracy and reliability of all reported values.

7.5. Compliance with 40 CFR Part 58

All Bureau monitoring sites are operated in accordance with 40 CFR Part 58 and a description of applicability and compliance is given in Table 8.

[13] EPA's Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II, Appendix C

Table 8: Compliance with 40 CFR Part 58 Appendices

40 CFR Part 58 Appendix	Bureau Applicability
A – Quality Assurance	All monitoring activities are conducted under the Bureau's QAPP, which has been approved by EPA Region 4. Quality control checks, audits, and calibrations are performed at the frequences specified in Appendix A and the EPA QA Handbook, Volume II. Performance evaluations, technical systems audits, and collocated precision checks confirm that data quality indicators (precision, bias, and completeness) meet the acceptance criteria in Appendix A. The most recent audits and data certifications demonstrate that the network's QA program remains fully compliant.
B – PSD Quality Assurance	Appendix B requirements apply only to PSD monitoring networks. CHCAPCB does not operate any PSD or permit-related temporary monitoring sites; therefore, Appendix B is not applicable to the Bureau's network.
C – Ambient Air Quality Monitoring Methodology	All instruments used within the Bureau's network employ EPA-designated FRM or FEM instruments.$PM_{2.5}$ sampling at the Siskin site is conducted with both, an FRM sampler and an FEM-designated continuous analyzer. Ozone measurements at the Eastside and Soddy Daisy sites are approved FEM analyzers. All method designations are current and listed in the EPA's AQS, ensuring compliance with Appendix C requirements.
D – Network Design Criteria	The Bureau's monitoring network meets or exceeds the minimum design requirements for SLAMS sites as outlined in Appendix D. Each site fulfills its designated monitoring objectives and spatial scales – ozone monitoring for population exposure and regional transport, and $PM_{2.5}$ monitoring for population exposure and comparison to the NAAQS. The PM_{10} waiver remains in effect and is references in this plan (see Section 9.1). No additional sites are required based on current design criteria and spatial coverage.
E – Probe and Monitoring Path Siting Criteria	All sites have been evaluated and verified to meet Appendix E siting criteria. Instrument probe heights, distances from roadways and obstructions, and inlet configurations meet or exceed the required clearances. For the 2026 Network Plan, quantitative measurements were made to evaluate adjacent tree canopies at the Soddy Daisy site. These measurements verified that all horizontal distances to nearby vegetation exceed twice the protruding height of the canopy, officially classifying them as non-obstructions and confirming 360-degree unrestricted airflow in accordance with Appendix E. Updated panoramic photos, site diagrams, and siting criteria are maintained for each site and included as part of this network plan (see Section 9 and Appendices C, D, and E of this plan). These records confirm full compliance with Appendix E siting specifications.

8. Site Descriptions and Justifications

This section provides detailed descriptions and justifications for each active monitoring site in the Bureau's network. Each site description includes location information, monitoring objectives, instrumentation, siting characteristics, and compliance with applicable sections of 40 CFR Part 58.

8.1. Eastside

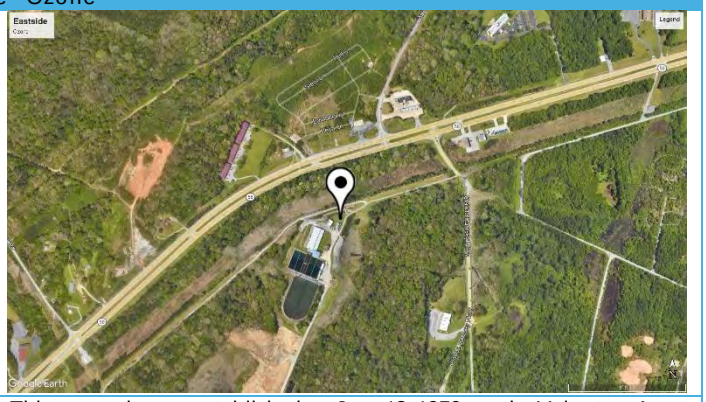
The Eastside site (AQS ID 47-065-4003) is located in the eastern portion of Chattanooga, within a mixed residential and commercial area near TN-58 and Bonny Oaks Drive. This site measures ozone using a FEM analyzer and represents neighborhood scale, population-oriented exposure. Its location was selected to characterize ozone levels affecting the majority of Chattanooga's urban population.

The Eastside site fulfills its monitoring objectives of assessing population exposure in an urbanized core, as required by Appendix D[14], Section 4.1. The location's siting parameters meet all Appendix E[3] criteria for probe height, clearance from trees and buildings, and distance from obstructions. All QA/QC activities are performed according to Appendix A[2] and the Bureau's QAPP. This monitor operates continuously and reports hourly data to EPA's AQS and AirNow. Further technical information for the Eastside monitoring site can be found in Table 9 and photos from the site can be found in Appendix C.

[14] Appendix D to 40 CFR Part 58

Table 9: Eastside site description and details

Eastside - Ozone



Agency	Chattanooga - Hamilton County Air Pollution Control Bureau
PQAO	0170
Address	8301 North Hickory Valley Rd Chattanooga, TN 37416
AQS ID	470654003
County	Hamilton County
MSA	Chattanooga, TN-GA
Latitude	35.102638
Longitude	-85.162194
Parameter Code	44201
Parameter	Ozone
Monitor Type	SLAMS
POC	1
Shelter Year Installation	2021
Collection Frequency	Hourly
Method	187
FRM/FEM	FEM: Acoem Serinus 10
Analysis	UV Photometric
Reference Method ID	EQOA-0809-187
Objective	Typical Concentrations
Dom. Source	Area
Scale	Neigborhood
Land Use	Industrial
Land Cover	Grass
Location	Urban and Center City
Elevation	940 feet (286.5 meters)
Meteorology Center Near	Chattanooga Metropolitan Airport
Intake Height	13.8 feet (4.2 meters)
Date Established	6/13/1979; moved from -0028 location to -4003 for the 2004 Ozone season start date.

This ozone site was established on June 13, 1979, on the Volunteer Army Ammunition Plant (VAAP) as AQS site 470650028. According to notes in AQS, the Ozone monitor was moved to the laboratory building on Patrol Rd 100-200 ft away sometime in 1979. The ozone monitor was moved in 1982 to a trailer across the street and NW of the lab.

In February 2004, it was moved to the Eastside Water Utility plant. Because the monitoring site was moved more than 2 miles, the AQS identifier changed to 470654003.

The site is on private property with a secured area that requires authorized access. On 1/25/2021, the Bureau installed a new 8x14 ft shelter on the original shelter's foundation.

Direction	Primary land use(s)
North	Interstate: US-58 Residential beyond US-58
South	Undeveloped, forested area Industrial: Eastside Water Utility
East	Undeveloped, forested area
West	Undeveloped, forested area Industrial: Eastside Water Utility Interstate: US-58

8.2. Soddy Daisy

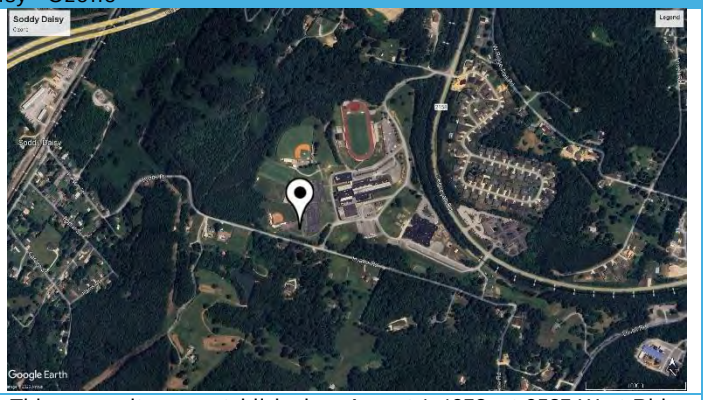
The Soddy Daisy site (AQS ID 47-065-1011) is located in northern Hamilton County, near the municipal limits of Soddy-Daisy, Tennessee, at the site of the high school. This site provides regional background and transport characterization for ozone within the Chattanooga MSA and is situated in an area minimally influenced by local emission sources. It represents the regional scale conditions of the Tennessee River Valley north of the urban core, serving as an upwind indicator of transported ozone entering the Chattanooga area during prevailing summer wind regimes (see Section 6.1).

Siting and equipment configurations comply fully with Appendices D[14] and EError! Bookmark not defined. and all QA/QC procedures are implemented according to Appendix A[2]. During a recent site evaluation (May 11, 2026), the southern tree line was specifically audited using a laser rangefinder and digital compass to ensure compliance with the obstacle spacing requirements of Appendix E[3]. Measurements taken from the probe inlet height confirmed that the closest drip line is 27.5 meters away, with a maximum canopy protrusion of 11 meters above the probe. Because the measured distance safely exceeds the required distance-to-height ration ($D \geq 2H$, or 22 meters), the vegetation is not classified as an obstruction. This confirms the Soddy Daisy ozone probe inlet maintains a fully unobstructed 360-degree arc for representative regional background sampling.

The site is equipped with an Acoem Serinus 10 FEM ozone analyzer operated continuously for hourly data collection. The Soddy Daisy site provides critical data for evaluating regional transport, supporting the Bureau's ozone control efforts, as well as interstate coordination and understanding with neighboring states. Table 10 below gives a more detailed description of the Soddy Daisy site and photos from the site can be found in Appendix D.

Table 10: Soddy Daisy site description and details

Soddy Daisy - Ozone



Agency	Chattanooga - Hamilton County Air Pollution Control Bureau
PQAO	0170
Address	618 Sequoyah Access Road Chattanooga, TN 37379
AQS ID	470651011
County	Hamilton County
MSA	Chattanooga, TN-GA
Latitude	35.233476
Longitude	-85.181581
Parameter Code	44201
Parameter	Ozone
Monitor Type	SLAMS
POC	1
Shelter Year Installation	2021
Collection Frequency	Hourly
Method	187
FRM/FEM	FEM: Acoem Serinus 10
Analysis	UV Photometric
Reference Method ID	EQOA-0809-187
Objective	Typical Concentrations
Dom. Source	Area
Scale	Regional
Land Use	Public/Institutional
Land Cover	Grass
Location	Rural
Elevation	948 feet (288.95 meters)
Meteorology Center Near	Chattanooga Metropolitan Airport
Intake Height	13.8 feet (4.2 meters)
Date Established	8/1/1978; moved to Soddy Daisy HS 2/1/2002

This ozone site was established on August 1, 1978, at 9527 West Ridge Trail Road, behind the Head Start Building. The original method at this site was chemiluminescence, which was replaced by UV photometry on June 1, 1979. This site was moved February 1, 2002, within a one-mile radius to a new shelter on a slope behind Soddy Daisy High School.

On May 20, 2009, the shelter and monitors were moved approximately 100 feet east of the property to accommodate a girl's softball field.

This site also housed the special purpose PM2.5 monitor (initially established in 1999), originally located at the Sheriff's annex roof at 6233 Dayton Blvd (AQS 470650032), from January 2002 until June 2008 when the monitor was changed from a WINS impactor to a VSCC model (FRM).

In February 2024, an AI pollen/particle sensor was installed using the existing power outlet on the north side of the roof and connected to the existing network access.

Direction	Primary land use(s)
North	Sport fields, undeveloped
South	Rural residential
East	Soddy Daisy High School, Daisy Elementary
West	Sports field Rural residential

8.3. Siskin

The Siskin site (AQS ID 47-065-4002) is located in downtown Chattanooga near the Siskin Rehabilitation Hospital complex and represents an urban population exposure site for $PM_{2.5}$. The site houses two FRM gravimetric samplers and one FEM continuous analyzer. The FRMs are used for NAAQS comparison, while the continuous FEM provides real-time AQI reporting and supplemental trend data.

This site satisfies the minimum monitoring site requirement for $PM_{2.5}$ under Appendix D[14] as well as the collocated requirements outlined in Appendix A[2]. The FRM samplers operate on a 1-in-3 day schedule (POC-1) and a 1-in-6 schedule (POC-2) while the FEM monitor collects minute data and reports hourly data to AirNow and AQS.

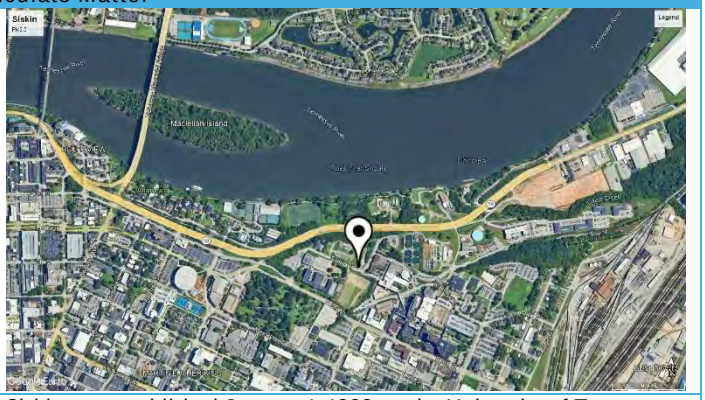
The FEM monitor was granted a two-year exemption from NAAQS comparison on September 30, 2025, due to exceeding the applicable bias performance criteria[Error! Bookmark not defined.]. Recent comparability assessments show that bias has slightly improved and is very close to the 10% threshold, depending on the time of year the comparability assessment[15] is used. While the monitor is trending closer to the acceptable threshold, the monitor remains under the active two-year exemption. The Bureau will continue to evaluate the additive and multiplicative bias over the remaining exemption period to ensure the monitor demonstrates sustained stability and comparability before proposing reinstatement for NAAQS comparison.

The Siskin site is fully compliant with all CFR requirements, and its siting parameters meet all probe specification requirements. It represents typical urban exposure for Chattanooga and Hamilton County and serves as the primary $PM_{2.5}$ regulatory monitoring location for the Bureau. Further technical specifications of the Siskin site can be found in Table 11 and site photos can be found in Appendix E.

[15] https://www.epa.gov/outdoor-air-quality-data/pm25-continuous-monitor-comparability-assessments

Table 11: Siskin site description and details

Siskin – Particulate Matter



Agency	Chattanooga - Hamilton County Air Pollution Control Bureau		
PQAO	0170		
Address	911 Siskin Drive Chattanooga, TN 37403		
AQS ID	470654002		
County	Hamilton County		
CBSA	Chattanooga, TN-GA		
Latitude	35.050918		
Longitude	-85.293019		
Parameter	88101	88101	88502
Monitor Type	SLAMS	SLAMS	SLAMS
POC	1	2	3
Collection Frequency	1:3	1:6	Continuous
Method	145	145	636
FRM/FEM	FRM: 2025i Sequential	FRM: 2025i Sequential	FEM (NAAQS Exempt): Teledyne T640
Analysis	Gravimetric	Gravimetric	Broadband spectroscopy
Reference Method ID	FRPS-1006-145	FRPS-1006-145	EQPM-0516-236
Date Established	1/1/1999	1/1/1999	2/15/2017
Intake Height	8.5 ft (2.6 m)	8.5 ft (2.6 m)	9.2 ft (2.8m)
Objective	Population		
Dom. Source	Area		
Scale	Urban		
Land Use	Commercial		
Land Cover	Grass		
Location	Urban		
Elevation	705 feet (214.9 meters)		
Meteorology Center Near	Chattanooga Metropolitan Airport		

Siskin was established January 1, 1999, at the University of Tennessee - Chattanooga campus with collocated FRM monitors on the Davenport building's roof. Monitors moved to the Student Center roof in 2000, then to a temporary site behind the Administration building in 2003 with TEOM installation. The monitors were finally moved to a new shelter at the current site on March 15, 2004, at 911 Siskin Drive.

The TEOM continuous PM2.5 monitor had to be replaced after a predryer failure in 2013. In 2015, speciation monitoring stopped. In 2017, FRM 2025 WINS Impactors were replaced with VSCCs, and a continuous SPM was added, reporting PM2.5 to AQS in February 2017. The shelter was replaced with a deck in June 2018, and the SPM began reporting to AirNow. The data from POC-1 and POC-3 are averaged for each day the FRM operates, and POC-2 data can be substituted for missing POC-1 data.

POC-2 FRM changed from 3-day to 12-day monitoring on 5/9/19. Siskin Rehabilitation Hospital had been using the property on which the deck sits as an employee parking lot. Siskin built a parking garage, so the site is no longer used for parking as of April 2020. POC-2 switched to a 6-day monitoring schedule in June 2022 in order to limit potential data gaps.

Direction	Primary Land Use(s)
North	Industrial Highway: TN-58
South	Sports field Medical
East	Medical: Erlanger Baroness Hospital
West	Industrial Chattanooga School for the Arts & Sciences

9. Network Changes and Requests

One purpose of this plan is to assess the evolving needs of the Bureau's air monitoring network as well as to provide updates and requests on exemptions within the monitoring network. This section outlines changes and proposed changes by monitoring site as well as relevant data and regulatory requests.

Prior to the 2026 ozone monitoring season, the Bureau phased out the Thermo Scientific 49-IPS ozone calibrator at both ozone sites and replaced it with Acoem Serinus Cal 300 calibrators. This allows the Bureau a higher degree of operational compatibility with the site's primary Acoem Serinus 10 ozone analyzer.

Additionally, to ensure continuous data capture and network resilience, the Bureau upgraded the site's backup data logging system. The previous secondary data logger, an ESC 8816, was retired and replaced with an ESC 8864 data logger. This transition provides a more robust, serviceable backup system and further aligns the Eastside site with modern data management and monitoring standards.

9.1. PM_{10} Waiver Request

On August 28, 2014, CHCAPCB petitioned the U.S. Environmental Protection Agency (EPA) to remove the collocated, high-volume PM_{10} monitoring site located at 3300 Broad Street. This request was granted in the EPA's approval letter, dated January 13, 2015, for the Tennessee Department of Environment and Conservation's (TDEC) 2014 Annual Network Plan. EPA Region 4 considers the discontinuation of this monitoring site and PM_{10} monitoring a waiver of 40 CFR Appendix-D-to-Part-58 PM_{10} requirements. Additionally, the EPA requests that this waiver request be renewed every five years and/or if the PM_{10} monitoring requirements outlined in 40 CFR Part 58 are revised.

Figure 14 depicts the 24-hour average values of the collocated PM_{10} monitors at the former Broad Street site for 10 years, from 2004 through 2014, leading up to the PM_{10} waiver being granted by the EPA. These values were consistently on average, approximately 65% lower than the PM_{10} 24-hour NAAQS standard over this 10-year period. Figure 15 shows the average yearly PM_{10} values over the same period as Figure 14, with POC-1 and POC-2 having a net reduction of 52.3% and 51.1%, respectively, over this time.

Figure 14: 24-hour PM_{10} values for Broad Street monitor, 2004-2014

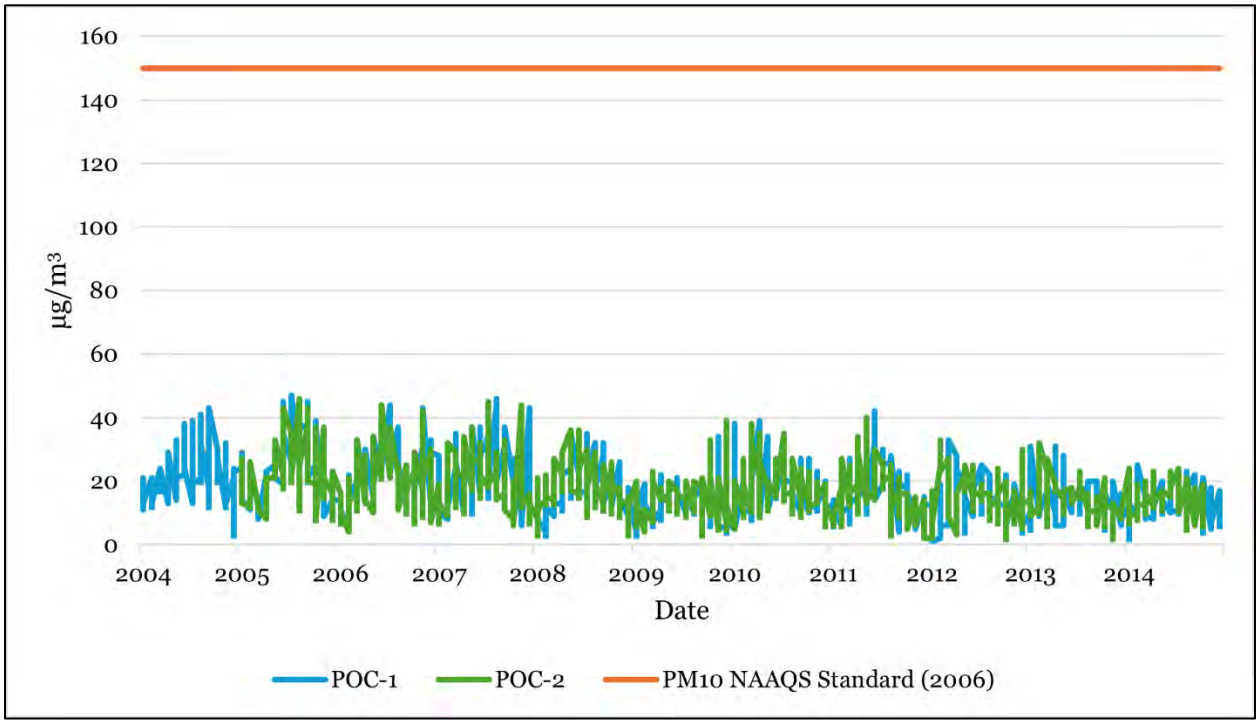
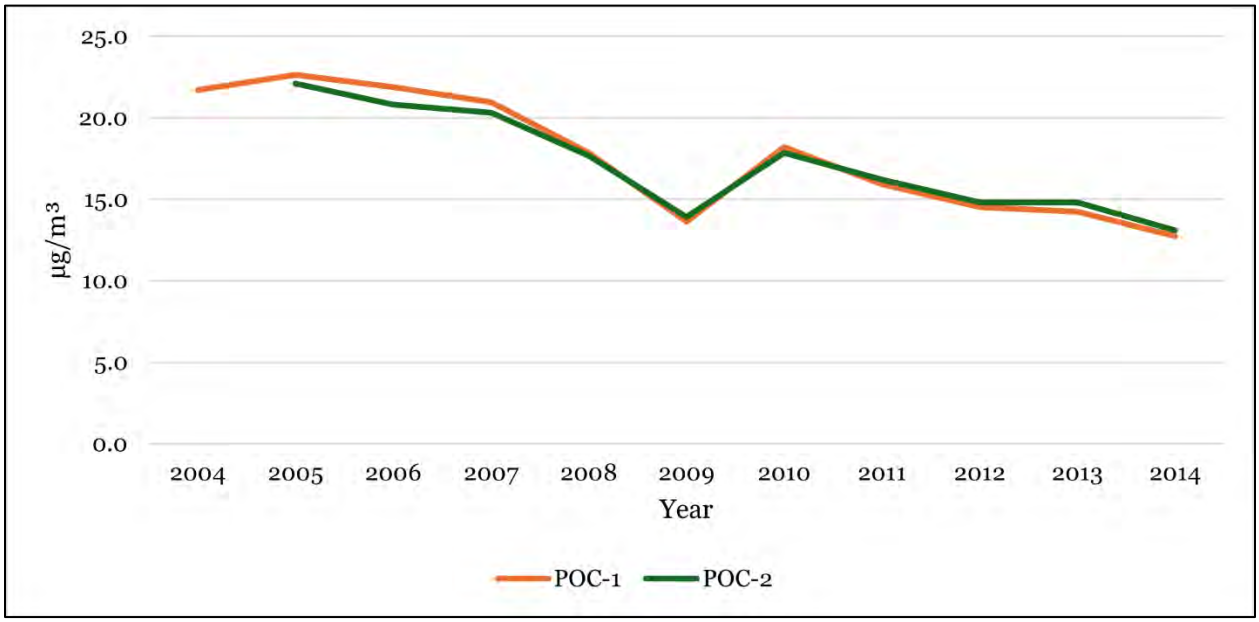


Figure 15: Yearly PM10 average values, 2004-2014



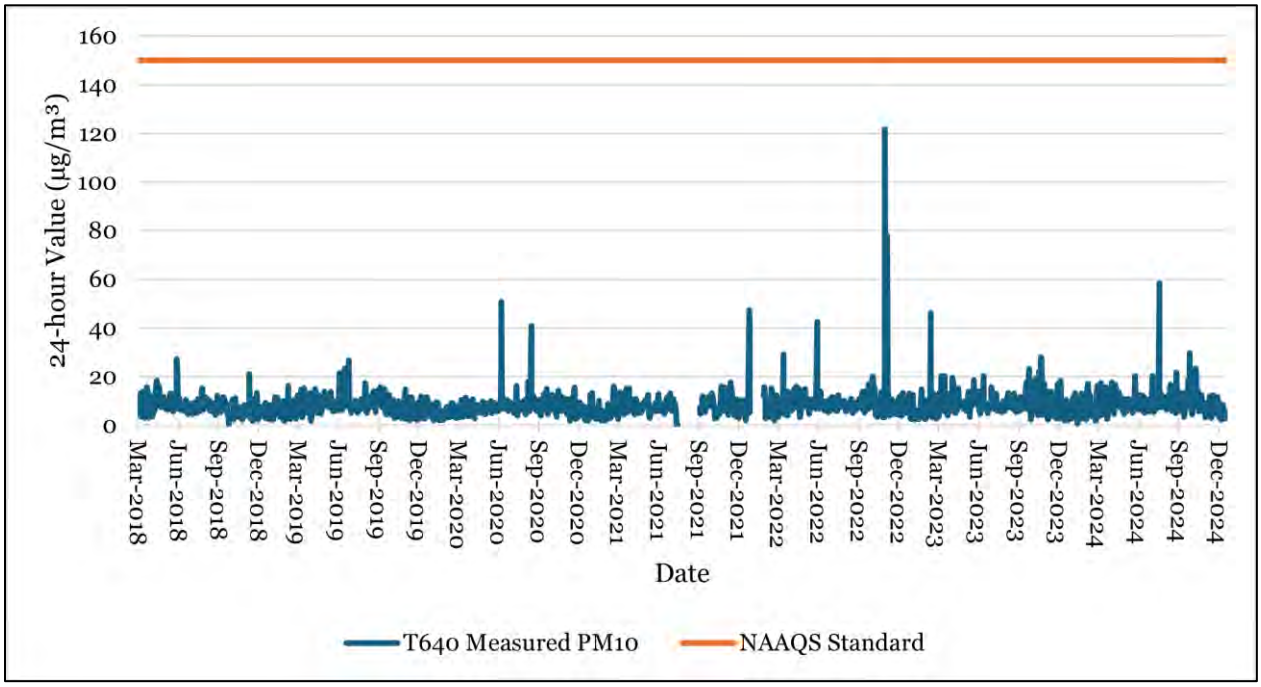
Since 2016, the Bureau has operated a Teledyne T640 light scattering continuous PM monitor, capable of measuring $PM_{2.5}$ and PM_{10}. The T640 is approved as a Federal Equivalent Method (FEM)[16] for continuous $PM_{2.5}$ monitoring, however, is not approved

[16] The Bureau does not currently operate it's T640 under an FEM designation for regulatory purposes due to documented high bias relative to FRM measurements.

as an FEM for measurement of PM_{10} and therefore is not regulatorily significant and not reported to the EPA's AQS system. Although this data is non-regulatory, PM_{10} measurements using this instrument are relevant for operational and/or research insight.

Figure 16 is a graphical representation of the average 24-hour PM_{10} values collected by the T640 from March 2018 through December 2024. While this data is not suitable for NAAQS determinations, it does provide insight into the general PM_{10} levels of the area. The maximum averaged monthly value was found to be 14.8 $\mu g/m^3$ while the maximum 24-hour averaged value was 122 $\mu g/m^3$ on 11/21/2022. While this value is high relative to other 24-hour values throughout this time period, the next three highest values were 78, 61, and 58 $\mu g/m^3$ on 11/26/2022, 11/22/2022, and 8/8/2024, respectively. Removing the top 10% of highest measured values during this time results in a maximum value of 12.7 $\mu g/m^3$, 91.5% lower than the PM_{10} NAAQS standard of 150 $\mu g/m^3$.

Figure 16: T640 non-FEM/FRM PM_{10} measurements, 2018-2024



The Bureau requests that its waiver of 40 CFR Appendix-D-to-Part-58 PM_{10} requirements be renewed in accordance with 40 CFR 58.10 on the basis of the current and historical available PM_{10} values being significantly lower than the current PM_{10} NAAQS standard. Additionally, resources that would be allocated to monitoring these low PM_{10} values would be more efficiently implemented for monitoring of other criteria pollutants under the Clean Air Act.

9.2. Teledyne T640 Regulatory Exemption

The continuous $PM_{2.5}$ monitor operated at the Siskin site (AQS ID 47-065-4002, POC-3) is a Teledyne T640 FEM (EQPM-0515-236) operating at 5.0 LPM with network data alignment enabled. This instrument is evaluated for comparability to the collocated FRM samplers in accordance with the data assessment procedures described in 50 CFR Parts 58, Appendix A, Section 3.2.7 and the 2024 Appendix A revision.

Based on the collocated FRM-FEM comparison dataset (N=237) from October 2023 through September 2025, the regression slope is 1.15, intercept -0.33 $\mu g/m^3$, and R^2 = 0.96, indicating a strong linear relationship between the two measurement methods. The overall mean bias (FEM-FRM) is +9.8%, with seasonal biases ranging from +7.1% in spring to +13.6% in fall. The annual bias decreased from 22.3% in 2023 to 6.2% in 2025, showing notable improvement.

While there has been notable improvement, particularly in overall bias, a significant positive bias is still present outside of winter months and when taking all data into account (see Additive vs. Multiplicative bias and R vs. FRM CCV plots provided in Appendix A). Additionally, the Bureau provided an amendment to its 2025 Annual

Network Plan, requesting exclusion for the FEM instrument when compared to the NAAQS. This exclusion was granted on September 30, 2025, requiring any data collected after September 29, 2025 to be reported under parameter code 88502 (Acceptable $PM_{2.5}$ AQI & Speciation Mass).

Because the current bias exceeds the Appendix A^2 comparability criterion, the Siskin Teledyne T640 is not eligible for direct comparison to the $PM_{2.5}$ NAAQS at this time. The monitor continues to be operated for public reporting and AQI purposes but is not suitable at this time as a NAAQS-comparable instrument. The Bureau will continue quarterly data reviews of collected data and the full bias statistics are provided in Appendix A.

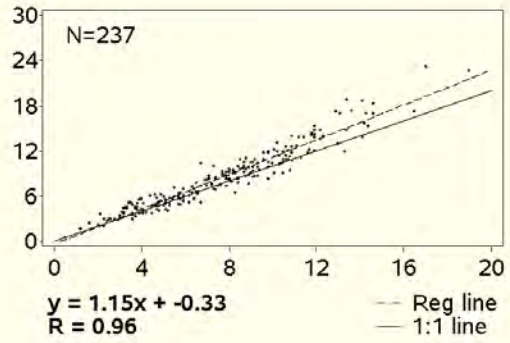
Appendix A: FRM/FEM Comparability Assessment

$PM_{2.5}$ Continuous Monitor Comparability Assessment

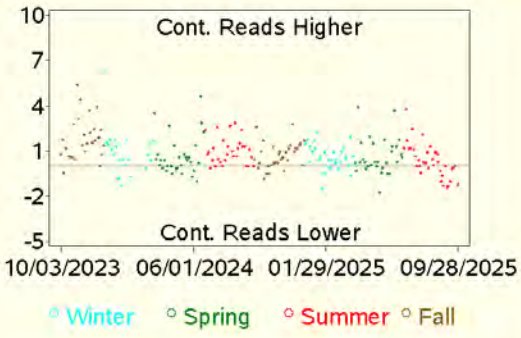
Site 47-065-4002: Chattanooga, TN

FRM: R & P Model 2025 PM-2.5 Sequential Air Sampler w/VSCC - Gravimetric (118,145), PM2.5 - Local Conditions (88101), POC=1,2
Cont: Teledyne T640 at 5.0 LPM w/Network Data Alignment enabled - Broadband spectroscopy (636), PM2.5 - Local Conditions (88101), POC=3

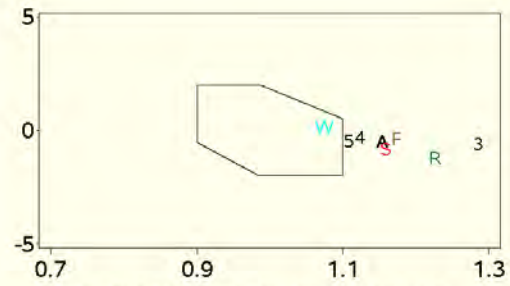
Cont. (y) vs. FRM (x) ($\mu g/m^3$)



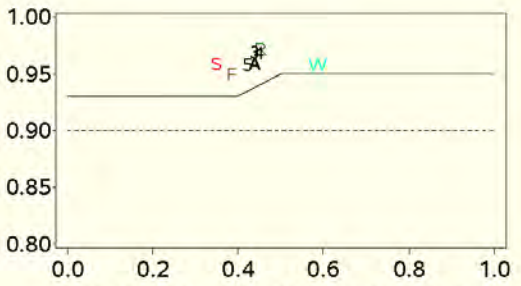
Cont. minus FRM ($\mu g/m^3$)



Additive (y) vs. Multiplicative (x) Bias



R (y) vs. FRM CCV (x)



Mean Concentration ($\mu g/m^3$)

Dataset	N	FRM	Cont	Ratio (Cont/FRM)
AllData	**237**	**7.6**	**8.4**	**1.11**
Winter	51	6.2	7.0	1.12
Spring	61	7.5	8.2	1.09
Summer	64	8.3	9.0	1.08
Fall	61	8.0	9.2	1.15
2023	30	8.4	10.3	1.24
2024	114	7.5	8.2	1.11
2025	93	7.5	8.0	1.07

Appendix A Statistics

Dataset	N (all observations)	Bias	N (only >= 2 ug/m^3)	Bias
AllData	**237**	**9.8**	**234**	**9.7**
Winter	51	11.4	49	11.2
Spring	61	7.1	60	7.0
Summer	64	7.4	64	7.4
Fall	61	13.6	61	13.6
2023	30	22.3	30	22.3
2024	114	9.4	113	9.4
2025	93	6.2	91	5.9

Includes all data
Data Source: EPA AQS Data Mart

Based on 2024 Appendix A revision
Generated: May 12, 2026

Appendix B: Memorandum of Agreement with GAEPDAPB

MEMORANDUM OF AGREEMENT

ON AIR QUALITY MONITORING FOR CRITERIA POLLUTANTS FOR

THE CHATTANOOGA-WALKER COUNTY

METROPOLITAN STATISTICAL AREA MSA
December 28, 2017

Participating Agencies:

Georgia
Georgia Department of Natural Resources (GA DNR)
Environmental Protection Division GA EPD APB

Tennessee
Chattanooga-Hamilton County Air Pollution Control Bureau (CHCAPCB)

I. PURPOSE/OBJECTIVES/GOALS

The purpose of the Memorandum of Agreement (MOA) is to establish the Chattanooga-Hamilton County-Walker County Metropolitan Statistical Area (MSA) Criteria Pollutant Air Quality Monitoring Agreement between CHCAPCB and GAEPDAPB (collectively referred to as the "affected agencies") to collectively meet United States Environmental Protection Agency (EPA) minimum monitoring requirements for particles of an aerodynamic diameter of 10 micrometers and less (PM10), particles of an aerodynamic diameter of 2.5 micrometers and less (PM2.5), and ozone; as well as other criteria pollutant air quality monitoring deemed necessary to meet the needs of the MSA as determined reasonable by all parties. This MOA will establish the terms and conditions of this collective agreement to provide adequate criteria pollutant monitoring for the Chattanooga –Hamilton County-Walker Co, GA MSA as required by 40 CFR 58 Appendix D, Section 2, (e) (March 28, 2016)[1].

II. BACKGROUND

The Chattanooga-Hamilton Co-Walker Co, GA MSA consists of the following counties: Dade, Walker, Catoosa, Hamilton, Marion, and Sequatchie. GA EPD APB has jurisdiction over Dade, Walker, and Catoosa Counties in Georgia and CHCAPCB has jurisdiction over Hamilton County, Tennessee. The State of Tennessee has jurisdiction over Marion and Sequatchie Counties in Tennessee, but does not have any permanent air monitoring sites in those counties. The CHCAPCB and GA EPD APB are required by the Clean Air Act to measure for certain criteria pollutants in the ambient air in the Chattanooga-Hamilton County-Walker Co, GA Metropolitan Statistical Area (MSA). The United States Environmental Protection Agency (EPA) has established minimum monitoring requirements based on the size of the MSA and the quality of the air in the

year. The CHCAPCB will submit the network review that is submitted to the State of Tennessee for inclusion in the State's monitoring plan.

- Each party reserves the right to revoke or terminate this MOA at any time and for any reason by giving thirty (30) days written notice prior to the date of termination.

III. LIMITATIONS

A. All commitments made in this MOA are subject to the availability of appropriated funds and each party's budget priorities. Nothing in this MOA, in and of itself, obligates CHCAPCB or GA EPD APB to expend appropriations or to enter into any contract, assistance agreement, interagency agreement or other financial obligation.

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

C. Except as provided in Section III, this MOA does not create any right or benefit, substantive or procedural, enforceable by law or equity against CHCAPCB or GA EPD APB, their officers or employees, or any other person. This MOA does not direct or apply to any person outside CHAPCD or GAEPD APB.

V. PROPRIETARY INFORMATION AND INTELLECTUAL PROPERTY

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

MSA for particles of an aerodynamic diameter of 10 micrometers and less (PM10), particles of an aerodynamic diameter of 2.5 micrometers and less (PM2.5), and ozone.

40 CFR 58 Appendix D, Section 2, (e)[1] states (in part):

"...The EPA recognizes that there may be situations where the EPA Regional Administrator and the affected State or local agencies may need to augment or to divide the overall MSA/CSA monitoring responsibilities and requirements among these various agencies to achieve an effective network design. Full monitoring requirements apply separately to each affected State or local agency in the absence of an agreement between the affected agencies and the EPA Regional Administrator."[1]

Currently each air pollution control agency (affected agency) conducts monitoring in its respective jurisdiction and coordinates its monitoring with the other air pollution control agencies within the MSA.

I. ROLES AND RESPONSIBILITIES

The parties agree to the following terms and conditions:

- CHCAPCB and GA EPD APB (the "affected agencies") commit to conducting appropriate monitoring in their respective jurisdictions of the MSA; as needed, to collectively meet EPA minimum monitoring requirements for the entire MSA for PM10, PM2.5, and ozone, as well as other criteria air pollutant monitoring deemed necessary to meet the needs of the MSA as determined reasonable by all affected agencies. The minimum air quality monitoring requirement (for PM10, PM2.5, and ozone described in 40 CFR 58) for the MSA shall apply to the MSA in its entirety and shall not apply to any sole affected agency within the MSA unless agreed upon by all affected agencies.

- The affected agencies commit to coordinating monitoring "...responsibilities and requirements...to achieve an effective network design..."[1] regarding criteria air pollutant monitoring conducted in the MSA and commit to communicate unexpected or unplanned changes in monitoring activities within their jurisdictions to the other affected agencies of this MOA. 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 e-mail of any monitoring changes occurring in 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 similar occurrences that result in a loss of more than 25% data in a quarter or a permanent change in the monitoring network. At least once a year in the second quarter of the year or before June 15th, each agency shall make available to the other agencies who are a party to this agreement, a copy of its proposed monitoring plan for the MSA for the next

VI. POINTS OF CONTACT

The following individuals are designated points of contact for the MOA:

GA EPD APB DeAnna G. Oser
GAEPD APB Ambient Monitoring Program
4244 International Parkway, Suite 120
Atlanta, GA 30354

DeAnna.Oser@dnr.ga.gov
Voice: (404) 363-7004
FAX: (404) 363-7100

CHCAPCB Robert Colby
CHCAPCB
6125 Preservation Dr
Chattanooga, Tn 37416

bcolby@chattanooga.gov
Voice: (423) 643-5999
FAX: (423) 643-5972

VII. MODIFICATION/DURATION/TERMINATION

This MOA will be effective when signed by all parties. This MOA may be amended at any time by the mutual written consent of the parties. The parties will review this MOA at least once every 10 years to determine whether it should be revised, renewed, or cancelled. This MOA may be revoked or terminated by an affected agency at any time and for any reason by giving thirty (30) days written notice prior to the date of termination.

VIII. REFERENCE

1 – United States Environmental Protection Agency, Title 40 Code of Federal Regulations, Part 58, Appendix D, "Network Design Criteria for Ambient Air Quality Monitoring", Section 2 (e), "General Monitoring Requirements".

IX. APPROVALS

Georgia Department of Natural Resources, Environmental Protection Division
Air Protection Branch (GA EPD APB)

BY: _____

TITLE: DIRECTOR

DATE: 1/24/18

Chattanooga-Hamilton County Air Pollution Bureau (CHCAPCB)

BY: _____

TITLE: Director

DATE: January 3, 2018

Appendix C: Eastside Site Photographs

Figure 17: Current ozone monitor shelter at Eastside

Figure 18: Ozone inlet on Eastside shelter

Figure 19: North view from ozone shelter at Eastside

Figure 20: East view from ozone shelter at Eastside

Figure 21: South view from ozone shelter at Eastside

Figure 22: West view from ozone shelter at Eastside

Appendix D: Soddy Daisy Site Photographs

Figure 23: Current ozone monitor shelter at Soddy Daisy

Figure 24: Ozone inlet on SDHS shelter

Figure 25: North view from ozone shelter at Soddy Daisy

Figure 26: East view from ozone shelter at Soddy Daisy

Figure 27: South view from ozone shelter at Soddy Daisy

Figure 28: West view from ozone shelter at Soddy Daisy

Appendix E: Siskin Site Photographs

Figure 29: View of $PM_{2.5}$ monitoring platform at the Siskin site

Figure 30: Sampler/monitor inlets at the Siskin site

Figure 31: North view from $PM_{2.5}$ monitor platform at Siskin

Figure 32: East view from $PM_{2.5}$ monitor platform at Siskin

Figure 33: South view from $PM_{2.5}$ monitor platform at Siskin

Figure 34: West view from $PM_{2.5}$ monitor platform at Siskin