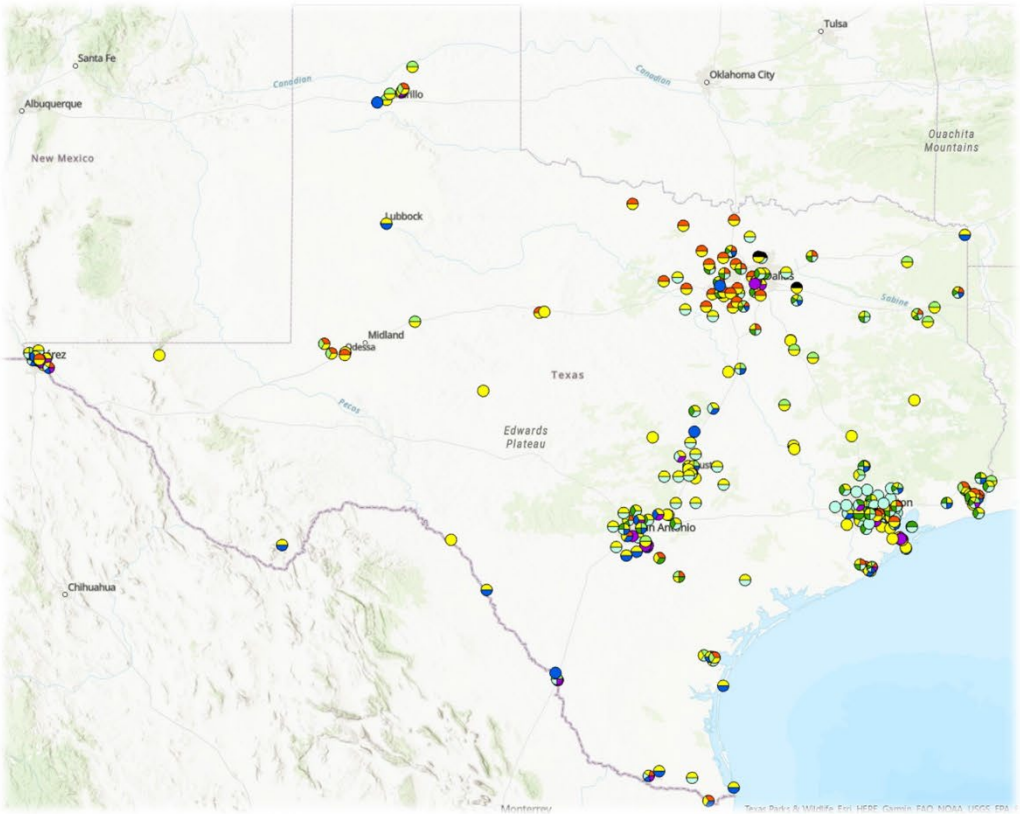
Texas Commission on Environmental Quality
Annual Monitoring Network Plan



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Texas Commission on Environmental Quality 2023 Annual Monitoring Network Plan

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List of Acronyms and Abbreviations

– number
% – percent
> – greater than
≥ – greater than or equal to
< – less than
µg/m^3 – micrograms per cubic meter
AADT – annual average traffic count
AMNP – annual monitoring network plan
autoGC – automated gas chromatograph
CBSA – core based statistical area
CFR – Code of Federal Regulations
CO – carbon monoxide
DFW – Dallas-Fort Worth
DRR – Data Requirements Rule
EI – emissions inventory
EPA – United States Environmental Protection Agency
FEM – federal equivalent method
FRM – federal reference method
LBJ – Lyndon B. Johnson
LLC – limited liability company
MSA – metropolitan statistical area
NA – not applicable
NAAQS – National Ambient Air Quality Standards
NCore – National Core Multipollutant Monitoring Stations
NEI – National Emissions Inventory
NO_2 – nitrogen dioxide
NO – nitrogen oxide
NO_x – oxides of nitrogen
NO_y – total reactive nitrogen compounds
O_3 – ozone
PAMS – Photochemical Assessment Monitoring Stations
Pb – lead
PM_{10} – particulate matter of 10 micrometers or less in diameter
$PM_{2.5}$ – particulate matter of 2.5 micrometers or less in diameter
$PM_{10-2.5}$ – coarse particulate matter
ppb – parts per billion
PWEI – population weighted emissions index
QC – quality control
RA-40 – Regional Administrator 40
SE – southeast

SETRPC – Southeast Texas Regional Planning Commission
SLAMS – State or Local Air Monitoring Stations
SO_2 – sulfur dioxide
SPM – special purpose monitor
TAD – technical assistance document
TCEQ – Texas Commission on Environmental Quality
TEOM – tapered element oscillating microbalance
tpy – tons per year
TSP – total suspended particulate
U.S. – United States
UTEP – University of Texas at El Paso
VOC – volatile organic compound

Introduction

Title 40 Code of Federal Regulations (CFR) Section 58.10 requires states to submit an annual monitoring network plan (AMNP) to the United States (U.S.) Environmental Protection Agency (EPA) by July 1 of each year. This monitoring plan is required to provide the implementation and maintenance framework for an air quality surveillance system, known commonly as the ambient air quality monitoring network.

The Texas Commission on Environmental Quality (TCEQ) reviews its ambient air quality monitoring network annually and creates the AMNP to demonstrate how Texas is meeting or will meet federal air monitoring requirements specified in 40 CFR Part 58 and its appendices. The AMNP presents the current TCEQ federal monitoring network established for use in evaluations to determine compliance with the National Ambient Air Quality Standards (NAAQS) as well as other monitors that support federal initiatives that provide additional information on air quality and the weather. The monitoring plan includes proposed changes from the previous year and future proposed changes to the monitoring network. Because the AMNP is focused on federally required monitoring, it does not include a review of state-initiated monitoring conducted in addition to federal requirements. This plan is limited to the portion of the TCEQ air monitoring network designed to comply with federal monitoring requirements and supported by federal funding.

The TCEQ posts the AMNP to solicit public comment for at least 30 days prior to submission to the EPA. The TCEQ submits the AMNP to the EPA for final review and approval with comments received during the 30-day inspection period, responses to the comments, and any appropriate changes based on the received comments. This plan includes the recommended federal monitoring network changes from July 1, 2022, through December 31, 2024, summarized in AMNP Appendix A. This plan also includes federal monitoring network changes recommended prior to July 1, 2022, that have been completed since that date or are still pending completion. Historical air monitoring network plans, associated public comments, and TCEQ responses are available on the TCEQ webpage TCEQ Air Monitoring Network Plans - Texas Commission on Environmental Quality - www.tceq.texas.gov.

The TCEQ continues to evaluate additional ambient air monitoring requested during previous AMNP public inspection and comment periods. Details regarding additional monitoring under consideration are included in this plan to solicit further public comment. Any future implementation of additional monitoring considerations may be included as part of the TCEQ federal ambient air monitoring network or as state-initiative monitoring. The proposals and implementation of proposals for monitoring under consideration are subject to change.

The TCEQ federal monitoring network includes more than double the number of monitors required by federal rule. The number, type, and location of monitors within the TCEQ federal monitoring network is sufficient to characterize area air quality for all areas required within Texas. The TCEQ also operates a robust network of state-initiative monitors that support a variety of purposes, including potential health effects evaluation; however, these monitors are outside the scope of this document and are not included. The latest information regarding the entire Texas air monitoring network of federal and state-initiative monitors, monitoring data, and air quality forecast conditions for Texas' metropolitan areas is featured on the TCEQ webpage

Air Quality and Monitoring - Texas Commission on Environmental Quality - www.tceq.texas.gov.

Title 40 CFR Part 58, Appendix D provides the minimum design requirements for federal air monitoring networks including State or Local Air Monitoring Stations (SLAMS), Photochemical Assessment Monitoring Stations (PAMS), and National Core Multi-Pollutant Monitoring Stations (NCore). AMNP Appendix B lists the existing monitors established to meet federal monitoring requirements and objectives.

The TCEQ uses statistical-based definitions for core based statistical areas (CBSAs) or metropolitan statistical areas (MSAs), as delineated by the U.S. Office of Management and Budget. The U.S. OMB defined CBSAs and MSAs overlap in Texas, and the terms are used in this plan according to their usage in federal regulations. AMNP Appendix C lists the Texas CBSAs with the most recent 2021 U.S. Census Bureau population estimates. Each CBSA (or MSA) and associated population are evaluated by air pollutant based on requirements in 40 CFR Part 58 and certified air monitoring data, as applicable. The TCEQ uses these data to evaluate the networks and determine the required monitor counts as documented in the AMNP and its appendices. Based on annual assessments performed to date, all monitoring sites supporting federal requirements and monitoring objectives are meeting the requirements defined in 40 CFR Part 58 and its Appendices A, C, D, E and G, with the following exception regarding siting criteria:

- The TCEQ Austin Audubon Society air monitoring site is currently not meeting siting criteria as required under 40 CFR Part 58, Appendix E due to recent tree growth. The site is located in an Audubon reserve. The property owner has agreed to trim the trees once the endangered Golden Cheeked Warbler nesting season is over in September 2023.

Regulatory Network Review

General Monitoring Requirements

Title 40 CFR Part 58, Appendix D, Section 1 describes the monitoring objectives and general criteria for the required SLAMS ambient air monitoring stations. Ambient air monitoring networks must be designed to meet the three basic monitoring objectives, though each objective is to be considered independently.

- Provide air pollution data to the public in a timely manner.
- Support compliance with ambient air quality standards and emissions strategy development.
- Support air pollution research studies (for example NCore network data).

Ambient air monitoring federal reference methods (FRM) and federal equivalent methods (FEM) are designated by the EPA and must be operated in accordance with 40 CFR Part 53. FRM and FEM methods are acceptable for use in air quality surveillance systems under 40 CFR Part 58 and are used for comparing an area's air pollution levels against the NAAQS. These methods must be used in strict accordance with associated operation and/or instruction manuals and with applicable quality assurance procedures. The EPA reviews and approves FRM and FEM designated instrumentation. The list of EPA designated reference and equivalent methods is available at Air Monitoring Methods - Criteria Pollutants | US EPA.

National Core Multipollutant Monitoring Stations (NCore) Requirements

NCore multipollutant sites, approved by the EPA Administrator, were selected to measure multiple pollutants utilizing continuous methods as available. NCore sites are intended to be long-term sites useful for a variety of applications including air quality trends analyses, model evaluation, and tracking metropolitan area statistics. NCore guidance suggests monitoring instruments capable of measuring trace levels (high sensitivity), where needed. The TCEQ NCore monitoring network includes the following measurements in compliance with NCore monitoring guidance and federal requirements listed in 40 CFR Part 58, Appendix D, Section 3, as discussed further in this section:

- nitrogen oxide (NO), high sensitivity;
- total reactive nitrogen compounds (NO_y), high sensitivity;
- sulfur dioxide (SO_2), high sensitivity;
- ozone (O_3);
- carbon monoxide (CO), high sensitivity;
- filter-based particulate matter of 2.5 micrometers or less in diameter ($PM_{2.5}$);
- continuous $PM_{2.5}$;
- speciated $PM_{2.5}$;
- coarse particulate matter ($PM_{10-2.5}$); and
- meteorology (ambient temperature, wind speed, wind direction, and relative humidity).

Monitoring Requirements

Texas is required to operate two to three urban NCore sites, due to multiple air sheds and MSAs, and meets the requirements listed in 40 CFR Part 58, Appendix D, Section 3(b) with three urban NCore sites and associated measurements listed below in AMNP Table 1. Additional air monitoring information for these sites is detailed in AMNP Appendix B.

Table 1: National Core Multipollutant Monitoring Stations and Parameters

Core Based Statistical Area	Site Name	NO_y* and NO*	SO_2*	O_3	CO*	$PM_{2.5}$ mass filter-based	$PM_{2.5}$ mass continuous	$PM_{2.5}$ speciation	$PM_{10-2.5}$	Meteorology
Dallas-Fort Worth-Arlington	Dallas Hinton	√	√	√	√	√	√	√	√	√
Houston-The Woodlands-Sugar Land	Houston Deer Park #2	√	√	√	√	√	√	√	√	√
El Paso	El Paso Chamizal	√	√	√	√	√	√	√	√	√

*instrument capable of measuring trace levels (high sensitivity)
- number sign
CO – carbon monoxide
NO_y – total reactive nitrogen compounds
NO – nitrogen oxide
SO_2 – sulfur dioxide
O_3 – ozone
$PM_{2.5}$ – particulate matter of 2.5 micrometers or less in diameter
$PM_{10-2.5}$ – coarse particulate matter
Meteorology – includes wind speed, wind direction, ambient temperature, and relative humidity

Photochemical Assessment Monitoring Stations (PAMS) Requirements

The PAMS network is an O_3 precursor monitoring network operated by state and local agencies that measures O_3, its precursors, and meteorological variables at NCore sites in metropolitan areas with CBSA population of 1,000,000 or more persons. The main objective of the required PAMS sites is to develop a database of O_3 precursors and meteorological measurements to support O_3 model development and track trends of important O_3 precursor concentrations. The TCEQ PAMS network also includes enhanced O_3 monitoring in currently designated O_3 nonattainment areas and areas with previous O_3 nonattainment designations that have not been formally redesignated to attainment.

The minimum PAMS measurements include the following:

- speciated volatile organic compounds (VOCs);
- carbonyl compounds, three eight-hour samples on a 1-in-3 day schedule during June, July, and August;
- O_3;
- true (direct-read) nitrogen dioxide (NO_2);
- NO and $NO_{y;}$
- ambient temperature;
- wind direction and wind speed;
- atmospheric pressure;
- relative humidity;
- precipitation;
- mixing-height;
- solar radiation; and
- ultraviolet radiation.

Monitoring Requirements

State monitoring agencies are required to measure and report PAMS measurements at each required NCore site located in CBSAs with populations greater than 1,000,000, based on the latest available census figures. Two of the three NCore sites in Texas are located in CBSAs with populations meeting this requirement. The El Paso CBSA, according to the most recent census figures, does not meet this requirement. The Texas 2021 U.S. Census Bureau population estimates are listed in AMNP Appendix C. The TCEQ meets PAMS monitoring requirements listed in 40 CFR Part 58, Appendix D, Section 5(b) with the measurements at the two NCore/PAMS sites listed below in AMNP Table 2.

Table 2: Photochemical Assessment Monitoring Stations and Parameters

Core Based Statistical Area	Site Name	VOCs	Carbonyl compounds	O_3	True NO_2	NO_y and NO	Ambient Temperature	Wind Direction and Speed	Atmospheric Pressure	Relative Humidity	Precipitation	Mixing-Height	Solar Radiation	Ultraviolet Radiation
Dallas-Fort Worth-Arlington	Dallas Hinton	√	√	√	√	√	√	√	√	√	√	√	√	√
Houston-The Woodlands-Sugar Land	Houston Deer Park #2	√	√	√	√	√	√	√	√	√	√	√	√	√

- number sign
VOCs – volatile organic compounds speciated
O_3 – ozone
NO_2 – nitrogen dioxide
NO_y – total reactive nitrogen compounds
NO – nitrogen oxide

The TCEQ developed an Enhanced Monitoring Plan detailing enhanced O_3 and O_3 precursor monitoring activities in addition to the PAMS requirements. The Enhanced Monitoring Plan was provided as an appendix to the 2019 AMNP and approved by the EPA. The Enhanced Monitoring Plan includes details on additional O_3, NO_x and/or NO_y, speciated VOC, and meteorology monitoring at locations other than those required. Air monitoring information for these additional Enhanced Monitoring Plan monitors, identified as PAMS in the Network column, is listed in AMNP Appendix B.

Nitrogen Dioxide (NO_2)

The TCEQ NO_2 network includes measurements for NO, NO_2, true NO_2, and NO_y parameters sited in compliance with federal monitoring requirements, as discussed further in this section. The TCEQ NO_2 network is designed to meet area-wide, Regional Administrator 40 (RA-40), near-road, PAMS, and NCore monitoring requirements, as specified in 40 CFR Part 58. The TCEQ is required to operate a total of 20 monitors that measure NO, NO_2, true NO_2, and NO_y and exceeds the requirements with 58 monitors that measure those parameters. AMNP Appendix D summarizes the monitoring requirements detailed in the AMNP for NO, NO_2, true NO_2, and NO_y in each Texas CBSA. The TCEQ utilizes a variety of instruments to measure these parameters; including an oxides of nitrogen (NO_x) instrument that reports NO_2, NO, and NO_x data; an instrument that measures NO_2 directly, and an NO_y instrument that reports NO_y and NO data. TCEQ air monitoring instrumentation for these measurements varies by site. The instrumentation measurement method is based on the specific federal monitoring objective. AMNP Appendix B lists the air monitoring sites and instrumentation measurement method where NO_x, NO, NO_2, true NO_2, and NO_y are measured.

Monitoring Requirements

Area-Wide Monitoring Requirements

Title 40 CFR Part 58, Appendix D, Section 4.3.3 requires one area-wide ambient air quality monitoring site in each CBSA with a population of 1,000,000 or more persons. The requirements stipulate that these sites be located in the areas with the highest

expected NO_2 concentration that are also representative of a neighborhood or larger (urban) spatial scale. Title 40 CFR Part 58, Appendix D, Section 4.3.5 (3) and (4), define neighborhood scale monitoring as representative of ambient air concentrations in an area between 0.5 and 4.0 kilometers with relatively uniform land use. Urban scale monitoring is representative of ambient air concentrations over large portions of an urban area with dimensions between 4 and 50 kilometers.

Based on 2021 U.S. Census Bureau population estimates for Texas as noted in AMNP Appendix D, area-wide neighborhood or urban scale NO_2 monitoring is required in four Texas CBSAs. The NO_2 data derived at the following sites meet these area-wide requirements.

- Dallas-Fort Worth-Arlington (DFW) CBSA: Dallas Hinton
- Houston-The Woodlands-Sugar Land (Houston) CBSA: Clinton
- San Antonio-New Braunfels (San Antonio) CBSA: San Antonio Northwest
- Austin-Round Rock-Georgetown (Austin) CBSA: Austin North Hills Drive

Regional Administrator Monitoring Requirements

Title 40 CFR Part 58, Appendix D, Section 4.3.4 states that the EPA Regional Administrators collaborate with the states to designate a minimum of 40 NO_2 monitoring stations nationwide that are positioned to protect susceptible and vulnerable populations (referred to as RA-40 monitoring requirements). The TCEQ collaborated with the EPA Regional Administrator to identify the four Texas RA-40 NO_2 monitoring sites (monitoring with NO_x instruments) listed below to meet the portion of this requirement attributed to Texas.

- DFW CBSA: Arlington Municipal Airport
- Houston CBSA: Clinton
- El Paso CBSA: Ascarate Park Southeast (SE)
- Beaumont-Port Arthur (Beaumont) CBSA: Nederland 17th Street

Near-Road Monitoring Requirements

Title 40 CFR Part 58, Appendix D, Section 4.3.2 requires one microscale near-road NO_2 monitor located near a major road with high annual average daily traffic (AADT) counts in each CBSA with a population of 1,000,000 or more persons. An additional near-road monitor is required in each CBSA with a population of 2,500,000 or more persons. The TCEQ near-road monitoring network meets these requirements with the six current sites (monitoring with NO_x instruments) and one pending new site listed below.

- DFW CBSA: Dallas LBJ Freeway and Fort Worth California Parkway North
- Houston CBSA: Houston Southwest Freeway and Houston North Loop
- San Antonio CBSA: San Antonio Interstate 35 and the pending new site (detailed information listed in the AMNP NO_2 Previously Recommended Changes section below)
- Austin CBSA: Austin North Interstate 35

Previously Recommended Changes

The TCEQ 2020 AMNP recommended deploying a second near-road monitoring station in the San Antonio CBSA to meet the near-road monitoring requirement in CBSAs with

2,500,000 or more persons. TCEQ's recommended location for the second near-road station is at the San Antonio road segment ranked with an AADT of 10 on IH-10 and Sherwood Drive. The EPA approved the recommended location for a second San Antonio near-road air monitoring station at the new site, San Antonio Sherwood Drive, in a letter dated August 16, 2021. The TCEQ has experienced unexpected challenges obtaining power to the recommended site and recently performed additional site reconnaissance to evaluate alternative near-road site options on the same road segment. Once the alternative near-road site location evaluation is complete, the TCEQ will submit a revised recommendation to the EPA for approval. The TCEQ expects to deploy the site and NO_x monitor before December 31, 2024.

Regulatory NO_2 Monitoring Network Changes

The TCEQ evaluated the current NO_2 monitoring network with the changes described above and determined the existing NO_2 network, with the addition of a second pending San Antonio near-road NO_2 monitoring site, meets all federal monitoring requirements; therefore, no changes are recommended.

Sulfur Dioxide (SO_2)

The TCEQ SO_2 network includes monitors sited to meet federal ambient SO_2 and high-sensitivity SO_2 monitoring requirements. The TCEQ SO_2 network is designed to meet the population weighted emissions index (PWEI) by CBSA, 2015 *Data Requirements Rule (DRR) for the 1-Hour Sulfur Dioxide Primary NAAQS*, and NCore monitoring requirements, as discussed above and further in this section. The TCEQ is required to operate a total of 18 SO_2 monitors and exceeds the requirements with 31 monitors. A summary of the CBSA PWEI calculations, associated monitoring requirement evaluations, and current number of SO_2 monitors in each CBSA is shown in AMNP Appendix E. AMNP Appendix B lists the air monitoring sites where SO_2 is measured.

Monitoring Requirements

Population Weighted Emissions Index Requirements

Title 40 CFR Part 58, Appendix D, Section 4.4.2 requires states to establish an SO_2 monitoring network based on the PWEI calculations for Texas CBSAs. These indices are calculated by multiplying the CBSA population by the emissions inventory (EI) data for counties within that CBSA, using an aggregate of the most recent EI data. The National Emissions Inventory (NEI) combines emissions inventory estimates for point, nonpoint (area), on-road, non-road, and wildfire and prescribed burn event sources and is released by the EPA every three years. The TCEQ updates point-source emissions data annually from sources that meet the criteria in 30 Texas Administrative Code §101.10. Data from the most recent NEI with the most recent point-source EI aggregate calculated values are divided by one million to obtain the CBSA PWEI. The PWEI monitoring requirements include the following:

- one monitor in CBSAs with a PWEI equal to or greater than 5,000, but less than 100,000;
- two monitors in CBSAs with a PWEI equal to or greater than 100,000, but less than 1,000,000; and
- three monitors in CBSAs with a PWEI equal to or greater than 1,000,000.

The TCEQ used the most recent quality assured data available – the 2021 U.S. Census Bureau population estimates and 2017 NEI data with 2020 TCEQ point-source EI data to calculate the PWEIs and determine the minimum monitoring requirements for each CBSA. AMNP Appendix E details this assessment by CBSAs (with county level EI data) and lists the total number of required and existing SO_2 monitors per CBSA. The TCEQ meets the PWEI requirements with six monitors required in five CBSAs, as shown in AMNP Appendix E.

Data Requirements Rule (DRR) Requirements

Title 40 CFR Part 51, Subpart BB (the DRR) required air agencies to characterize air quality around specified sources that emitted 2,000 tons per year (tpy) or more of SO_2 in the latest emissions inventory year (2014, at that time, for Texas). The TCEQ identified 24 sources for air quality characterization, including 13 sources identified for evaluation by monitoring. To meet the DRR requirement for characterization of air quality around those sources, 11 SO_2 source-oriented monitors, located near these 13 sources, were installed and operational by January 1, 2017. Details for the TCEQ's DRR SO_2 source evaluation, modeling, and monitoring recommendations are in the TCEQ 2017 AMNP.

Two of the 11 SO_2 source-oriented monitors have been decommissioned based on design values less than 50% of the 2010 one-hour SO_2 NAAQS, as provided by 40 CFR Section 51.1203(c)(3). The TCEQ Rockdale John D. Harper SO_2 monitor (and entire site), was decommissioned in 2020, due to the sale/lease of the property. This monitor was eligible for decommission based on a design value less than 50% of the 2010 one-hour SO_2 NAAQS from data collected during the first three-year period of operation. Additionally, the facility near this site that required DRR SO_2 air quality characterization was shut down in 2017. The San Antonio Gardner Road SO_2 monitor (and entire site), was decommissioned in March 2023. This monitor was eligible for decommission based on a design value less than 50% of the 2010 one-hour SO_2 NAAQS. Additionally, the San Antonio Gardner Road SO_2 source requiring DRR SO_2 air quality characterization was shut down in late 2018. The remaining TCEQ SO_2 monitors fulfilling DRR monitoring requirements are listed in AMNP Table 3.

Table 3: Data Requirements Rule Required SO_2 Monitoring Sites

Core Based Statistical Area	County Name	Air Monitoring Site Name
Amarillo	Potter	Amarillo Xcel El Rancho
Beaumont-Port Arthur	Orange	Orange 1st Street
Beaumont-Port Arthur	Jefferson	Port Arthur West 7th Street Gate 2
Big Spring*	Howard	Big Spring Midway
Borger*	Hutchinson	Borger FM 1559
College Station-Bryan	Robertson	Franklin Oak Grove
Corsicana*	Navarro	Richland Southeast 1220 Road
Longview	Harrison	Hallsville Red Oak Road
Mount Pleasant*	Titus	Cookville FM 4855

* Micropolitan statistical area
FM – farm to market
SO_2 – sulfur dioxide

Title 40 CFR Section 51.1205(b) requires the TCEQ to submit an annual report for areas where modeling of actual SO_2 emissions served as the basis for designating such area as attainment. The report must document the annual SO_2 emissions of each applicable source, provide an assessment of the cause of any emissions increase from the previous year, and make a recommendation regarding further modeling needs. The DRR-required assessment and recommendation are provided in AMNP Appendix F. Where allowable SO_2 emissions served as the basis for designating the area as attainment, air agencies are not subject to ongoing data requirements, see 40 CFR Section 51.1205(c).

Previously Recommended Changes

The TCEQ 2022 AMNP recommended decommissioning the San Antonio Gardner Road SO_2 monitor. This monitor was eligible for decommission based on the 2019-2021 design value of 4 ppb, which is 5% of the 2010 one-hour SO_2 NAAQS. The EPA approved the monitor decommission in a letter dated March 3, 2023. The San Antonio Gardner Road SO_2 monitor was decommissioned on March 13, 2023.

The TCEQ recommended changing the Freeport South Avenue I SO_2 monitor network designation from state-initiative to federal special purpose monitor (SPM). The EPA approved the change in designation for the Freeport South Avenue I SO_2 monitor in a letter dated March 3, 2023, and the change was effective retroactively on January 1, 2023.

Regulatory SO_2 Monitoring Network Changes

The TCEQ evaluated the current SO_2 monitoring network and determined the existing SO_2 network meets all federal monitoring requirements; therefore, no changes are recommended.

Lead (Pb)

The TCEQ lead (Pb) network includes total suspended particulate (TSP) monitors sited in compliance with federal source-oriented SLAMS requirements, as discussed further in this section. The TCEQ Pb network is required to operate three TSP Pb monitors and meets this requirement. AMNP Appendix G lists the Pb network monitoring requirements and the total number of TSP Pb monitors. AMNP Appendix B lists the air monitoring sites where Pb is measured.

Monitoring Requirements

The TCEQ Pb network meets 40 CFR Part 58, Appendix D, Section 4.5 monitoring requirements for Pb. This section requires state agencies to conduct ambient air Pb monitoring near Pb sources that have been shown or are expected to contribute to a maximum ambient air Pb concentration in excess of the standard. Title 40 CFR Part 58, Appendix D, Section 4.5(a) requires a minimum of one source-oriented ambient air Pb monitoring site to measure maximum concentrations near each non-airport facility emitting 0.50 tpy or more of Pb annually, based on either the most recent NEI data or annual EI data submitted to meet state reporting requirements.

The TCEQ evaluated the 2019, 2020, and 2021 Pb point-source EI data. All Texas 2021 point-source emissions remain below the 0.50 tpy threshold that would trigger Pb monitoring requirements. AMNP Table 4 below includes information regarding

historical data for sources that previously exceeded 0.50 tpy annual Pb point-source emissions, thus requiring source-oriented monitoring or a waiver in the last five years.

Table 4: 2019-2021 Lead Point-Source Emissions Inventory Data

Facility Name	County	2019 Pb Emissions (tpy)	2020 Pb Emissions (tpy)	2021 Pb Emissions (tpy)	TCEQ Comments
Lower Colorado River Authority	Fayette	0.1800	0.1128	0.1320	Pb waiver renewal approved April 29, 2021, see Pb Waivers section below for detail
Conecsus, LLC	Kaufman	0.1804	0.1779	0.2130	Pb is monitored at the Terrell Temtex site*

*site temporarily decommissioned on May 31, 2022, due to the property owner revocation of the lease agreement and is pending relocation.
LLC – limited liability company
Pb – lead
TCEQ – Texas Commission on Environmental Quality
tpy – tons per year

Pb Waivers

Under 40 CFR Part 58, Appendix D, Section 4.5(a)(ii), the EPA Regional Administrator may waive the requirement in 40 CFR Part 58, Appendix D, 4.5(a) for monitoring near specific Pb sources with sufficient demonstration that the Pb source will not contribute to a maximum concentration in ambient air greater than 50% of the NAAQS based on historical monitoring data, modeling, or other approved means. All approved waivers must be renewed every five years as part of the network assessment required under 40 CFR Part 58.10(d).

The TCEQ submitted a Pb modeling analysis for the Lower Colorado River Authority Fayette Power Plant in the 2020 TCEQ *Texas Five-Year Ambient Monitoring Network Assessment.* The Pb modeling analysis demonstration, necessary to request a waiver from the source-oriented Pb monitoring requirement, indicated the predicted maximum ground level concentration for a rolling three-month average continues to remain below 50% of the NAAQS. The EPA Region 6 approved the TCEQ Pb waiver renewal request in a letter dated April 29, 2021. Based on the Lower Colorado River Authority Fayette Power Plant 2019, 2020, and 2021 Pb point-source emission data shown above in AMNP Table 4, the Pb waiver is no longer required.

Collocation Requirements

Title 40 CFR Part 58, Appendix A, Section 3.4.4 requires a primary quality assurance organization to select 15% of the Pb monitoring sites within the network for collocated quality control (QC) monitoring, with the first of these monitors measuring the highest Pb concentrations in the network. Based on the current network of primary Pb monitors, the TCEQ is required to maintain one collocated QC Pb monitor. The TCEQ operates collocated QC Pb monitors at Frisco Eubanks and Terrell Temtex. Terrell Temtex measured the highest 2021 network Pb concentrations.

Previously Recommended Changes

The TCEQ 2022 AMNP recommended no changes to the Pb monitoring network.

Regulatory Pb Monitoring Network Changes

The TCEQ evaluated the current Pb monitoring network and determined the existing Pb network meets all federal monitoring requirements; therefore, no changes are recommended.

Ozone (O_3)

The TCEQ O_3 network is designed to meet SLAMS, PAMS, and NCore monitoring requirements, as discussed further in this section. The TCEQ O_3 monitoring network is required to operate a total of 27 O_3 monitors in 14 MSAs and exceeds this requirement with 72 O_3 monitors in 15 MSAs and 2 micropolitan statistical areas. AMNP Appendix H lists the O_3 requirements and number of monitors in each MSA. AMNP Appendix B lists the air monitoring sites where O_3 is measured.

Monitoring Requirements

SLAMS Requirements

Title 40 CFR Part 58, Appendix D, Section 4.1 requires O_3 monitoring in each MSA with a population of 350,000 or more persons. Monitoring is also required in MSAs with lower populations if the design value for that MSA is equal to or greater than 85% of the NAAQS. Specific SLAMS O_3 minimum monitoring requirements are included below in AMNP Table 5, an excerpt of 40 CFR Part 58, Appendix D, Table D-2. The TCEQ evaluated 2021 U.S. Census Bureau population estimates and 2019-2021 eight-hour O_3 design values for each Texas MSA. AMNP Appendix H details this assessment by MSA and lists the total number of required and existing SLAMS and NCore/ PAMS O_3 monitors per MSA. The TCEQ must operate a minimum of 24 SLAMS and three NCore/PAMS O_3 monitors in Texas MSAs to meet network requirements and exceeds this requirement by operating 72 total O_3 monitors.

Table 5: Ozone SLAMS Minimum Monitoring Requirements

MSA Population	Monitors required for MSAs with most recent 3-year design value concentrations ≥85% of any O_3 NAAQS[1]	Monitors required for MSAs with most recent 3-year design value concentrations <85% of any O_3 NAAQS[2, 3]
>10,000,000	4	2
4,000,000 to 10,000,000	3	1
350,000 to <4,000,000	2	1
50,000 to <350,000	1	0

[1]The ozone (O_3) National Ambient Air Quality Standards (NAAQS) levels are defined in 40 CFR Part 50.
[2]These minimum monitoring requirements apply in the absence of a design value.
[3]MSA must contain an urbanized area of 50,000 or more population and are designated by the United States Office of Management and Budget.
≥ - greater than or equal to
< - less than
> - greater than
% - percent
MSA – metropolitan statistical area
SLAMS – State or Local Air Monitoring Stations

Previously Recommended Changes

The TCEQ 2022 AMNP recommended no changes to the O_3 monitoring network.

Regulatory O_3 Monitoring Network Changes

The TCEQ evaluated the current O_3 monitoring network and determined the existing O_3 network meets all federal monitoring requirements; therefore, no changes are recommended.

Carbon Monoxide (CO)

The TCEQ CO network includes ambient CO and high sensitivity CO monitoring to meet federal monitoring requirements, as discussed here and in the NCore section above. The TCEQ CO network is designed to meet NCore and near-road monitoring requirements. The agency is required to operate seven total CO monitors and exceeds the requirements with 12 monitors: eight CO monitors measuring full-scale concentrations and four high sensitivity CO monitors measuring trace-level concentrations. AMNP Appendix I lists the required and current CO monitors in each CBSA. AMNP Appendix B lists the air monitoring sites where CO is measured.

Monitoring Requirements

Near-Road Requirements

Title 40 CFR Part 58, Appendix D, Section 4.2 requires collocating one CO monitor with one required near-road NO_2 monitor in CBSAs with populations of 1,000,000 or more persons. The TCEQ meets this requirement with CO monitors at the near-road sites below.

- DFW CBSA: Fort Worth California Parkway North
- Houston CBSA: Houston North Loop
- San Antonio CBSA: San Antonio Interstate 35
- Austin CBSA: Austin North Interstate 35

Previously Recommended Changes

The TCEQ 2019 AMNP recommended replacing the San Antonio Interstate 35 CO monitor with a high sensitivity CO monitor. Due to equipment resource constraints, the existing San Antonio Interstate 35 CO monitor will be replaced with a high sensitivity CO monitor by December 2024.

Regulatory CO Monitoring Network Changes

The TCEQ evaluated the current CO monitoring network and determined the existing CO network meets all federal monitoring requirements; therefore, no changes are recommended.

Particulate Matter of 10 Micrometers or Less (PM_{10})

The TCEQ particulate matter of 10 micrometers or less in diameter (PM_{10}) network is designed to meet SLAMS monitoring requirements based on MSA populations and 24-hour concentration data, as discussed further in this section. The TCEQ is required to operate between 18 and 45 PM_{10} monitors and meets this requirement with 24 monitors, plus the recommended additions outlined below. AMNP Appendix J lists the

required and current PM_{10} monitors in each MSA. AMNP Appendix B lists the air monitoring sites where PM_{10} is measured.

Monitoring Requirements

The TCEQ PM_{10} network is designed to meet the SLAMS requirements under 40 CFR Part 58, Appendix D, Section 4.6, which provides the minimum number of PM_{10} monitors required in MSAs based on population and available measured concentrations. Specific PM_{10} monitoring requirements are listed in AMNP Table 6 below, an excerpt of 40 CFR Part 58, Appendix D, Table D-4. Modifications from these PM_{10} monitoring requirements must be approved by the EPA Regional Administrator. Compliance with the PM_{10} standard is based on the number of measured exceedances of the 24-hour 150 micrograms per cubic meter ($\mu g/m^3$) standard averaged over three years. The TCEQ evaluated 2021 U.S. Census Bureau population estimates and 2019-2021 PM_{10} maximum 24-hour concentration data for each Texas MSA. AMNP Appendix J, Table 1, details this evaluation by MSA and lists the range of required and existing SLAMS PM_{10} monitors per MSA.

Table 6: Particulate Matter of 10 Micrometers or Less SLAMS Minimum Monitoring Requirements

MSA Population	PM_{10} monitors required for MSAs with high concentration[1]	PM_{10} monitors required for MSAs with medium concentration[2]	PM_{10} monitors required for MSAs with low concentration[3]
>1,000,000	6-10	4-8	2-4
500,000 to 1,000,000	4-8	2-4	1-2
250,000 to 500,000	3-4	1-2	0-1
100,000 to 250,000	1-2	0-1	0

> – greater than
[1]High Concentration areas are those for which ambient PM_{10} data show ambient concentrations exceeding the PM_{10} National Ambient Air Quality Standards (NAAQS) by 20 percent or more.
[2]Medium Concentration areas are those for which ambient PM_{10} data show ambient concentrations exceeding 80 percent of the PM_{10} NAAQS.
[3]Low Concentration areas are those for which ambient PM_{10} data show ambient concentrations less than 80 percent of the PM_{10} NAAQS.
PM_{10} – particulate matter of 10 micrometers or less in diameter
MSA – metropolitan statistical area
SLAMS – State or Local Air Monitoring Stations

Collocation Requirements

Title 40 CFR Part 58, Appendix A, Section 3.3.4 requires a primary quality assurance organization to select 15% of the PM_{10} manual filter-based monitors within the network for collocated QC sampling. Collocated QC sampling for PM_{10} is only required for manual monitors. At least 50% of the selected manual filter-based monitors should have an annual mean particulate matter concentration among the highest in the network. AMNP Appendix J, Table 2 lists the PM_{10} manual filter-based monitors' maximum 24-hour concentration measurements during the three-year period from 2019-2021 and includes the 2019, 2020, and 2021 annual mean concentrations. The TCEQ evaluates the PM_{10} manual filter-based concentration data annually to ensure the PM_{10} collocated QC monitors continue to meet 40 CFR Part 58, Appendix A, Section 3.3.4.2. The PM_{10} manual filter-based measurement concentrations at Clinton and Socorro Hueco had 2019 to 2021 annual mean concentrations among the highest in the network. Based on the current network of 20 PM_{10} manual monitors, the TCEQ is required to operate three manual PM_{10} collocated QC monitors and exceeds this requirement with the four monitors listed below.

- Houston CBSA: Clinton - PM_{10} FRM manual filter-based with collocated QC PM_{10} FRM manual filter-based
- DFW CBSA: Convention Center - PM_{10} FRM manual filter-based with collocated QC PM_{10} FRM manual filter-based
- El Paso CBSA: Ojo De Agua - PM_{10} FRM manual filter-based with collocated QC PM_{10} FRM manual filter-based
- El Paso CBSA: Socorro Hueco - PM_{10} FRM manual filter-based with collocated QC PM_{10} FRM manual filter-based

Previously Recommended Changes

In the 2022 AMNP, the TCEQ recommended replacing the PM_{10} continuous non-NAAQS comparable monitors necessary to report $PM_{10-2.5}$ data at NCore sites (Dallas Hinton, El Paso Chamizal, and Houston Deer Park #2, detailed in AMNP Table 1) with PM_{10} FEM continuous monitors. The TCEQ replaced the Houston Deer Park #2 $PM_{10-2.5}$ monitor on February 23, 2023. The Dallas Hinton and El Paso Chamizal $PM_{10-2.5}$ monitors providing PM_{10} FEM continuous data are pending deployment by December 31, 2023.

In the 2022 AMNP, the TCEQ recommended replacing and upgrading PM_{10} FRM manual filter-based monitors and PM_{10} non-NAAQS comparable monitors to PM_{10} FEM continuous monitors with near real-time data reporting. The TCEQ also recommended adding continuous PM_{10} FEM to the pending new site in the Houston Fifth Ward to improve spatial coverage. The EPA approved of these changes in a letter dated March 3, 2023. The status of previously approved PM_{10} recommendations are listed below in AMNP Table 7.

Table 7: Previously Approved Particulate Matter of 10 Micrometers or Less Monitor Summary of Changes

Core Based Statistical Area	Site Name	Existing Monitor	New Monitor	Status
Austin-Round Rock-Georgetown	Austin Webberville Road	PM_{10} FRM manual filter-based	PM_{10} FEM continuous	Pending
Dallas-Fort Worth-Arlington	Dallas Bexar Street	PM_{10} FRM manual filter-based	PM_{10} FEM continuous	Pending
Dallas-Fort Worth-Arlington	Dallas Hinton	PM_{10} continuous (non-NAAQS comparable)	PM_{10} FEM continuous	Pending
El Paso	El Paso Chamizal	PM_{10} continuous (non-NAAQS comparable)	PM_{10} FEM continuous	Pending
El Paso	Ivanhoe	PM_{10} FRM manual filter-based	PM_{10} FEM continuous	Pending
El Paso	Ojo De Agua	PM_{10} FRM manual filter-based	PM_{10} FEM continuous	Pending
El Paso	Socorro Hueco	PM_{10} FRM manual filter-based	PM_{10} FEM continuous	Pending

Core Based Statistical Area	Site Name	Existing Monitor	New Monitor	Status
Houston-The Woodlands-Sugar Land	Houston Deer Park #2	PM_{10} continuous (non-NAAQS comparable)	PM_{10} FEM continuous	Completed February 23, 2023
Houston-The Woodlands-Sugar Land	Texas City Fire Station	PM_{10} FRM manual filter-based	PM_{10} FEM continuous	Pending
Houston-The Woodlands-Sugar Land	New Site: Houston Fifth Ward area, pending site deployment	None	PM_{10} FEM continuous	Pending
McAllen-Edinburg-Mission	Mission	PM_{10} FRM manual filter-based	PM_{10} FEM continuous	Pending
San Antonio-New Braunfels	San Antonio Bulverde Parkway	PM_{10} FRM manual filter-based	PM_{10} FEM continuous	Pending

- number sign
FEM - federal equivalent method
FRM – federal reference method designated for manual filter-based instruments
NAAQS – National Ambient Air Quality Standards
PM_{10} – particulate matter of 10 micrometers or less in diameter

Regulatory PM_{10} Monitoring Network Changes

As recommended and approved in the 2022 AMNP, the TCEQ will replace and upgrade PM_{10} FRM manual filter-based monitors with continuous PM_{10} FEM monitors in 2023 and 2024, as listed above in AMNP Table 7. The TCEQ recommends replacing and upgrading the Convention Center PM_{10} FRM manual filter-based monitor with a continuous PM_{10} FEM monitor providing near real-time data reporting.

As there is no federal requirement for continuous PM_{10} FEM method QC collocation, the TCEQ recommends relocating or discontinuing the PM_{10} FRM manual filter-based collocated QC monitors when the primary monitor is replaced with a continuous PM_{10} FEM monitor. The TCEQ will maintain 15% collocation of PM_{10} manual monitors to meet the collocation requirements described above. The monitors and recommended changes are listed below.

- Convention Center – discontinue PM_{10} manual collocated QC monitor by December 31, 2024 (primary PM_{10} FEM continuous to remain).
- Ojo De Agua – relocate PM_{10} manual collocated QC monitor to El Paso Mimosa by December 31, 2024 (primary PM_{10} FEM continuous to remain at Ojo De Agua).
- Socorro Hueco – discontinue PM_{10} manual collocated QC monitor by December 31, 2024 (primary PM_{10} FEM continuous to remain).

Particulate Matter of 2.5 Micrometers or Less ($PM_{2.5}$)

The TCEQ $PM_{2.5}$ monitoring network includes a combination of non-continuous FRM, continuous FEM, and non-NAAQS comparable monitors designed to meet SLAMS area, regional background, regional transport, NCore, and near-road network requirements, as discussed further in this section. The TCEQ is required to operate 28 FRM, FEM, $PM_{10-2.5}$, or speciated $PM_{2.5}$ monitors and exceeds the requirements with 73 monitors. An analysis of $PM_{2.5}$ monitoring requirements using the most recent 2021 U.S. Census

Bureau population estimates and 2019-2021 $PM_{2.5}$ design values is provided in AMNP Appendix K. AMNP Appendix B lists the air monitoring sites where $PM_{2.5}$ is measured.

Monitoring Requirements

General and Continuous Requirements

Title 40 CFR Part 58, Appendix D, Section 4.7 requires SLAMS $PM_{2.5}$ monitoring in MSAs with populations of 500,000 or more persons and in MSAs with lower populations if measured $PM_{2.5}$ design values for an MSA equal or exceed 85% of the NAAQS. Specific $PM_{2.5}$ monitoring requirements are listed in AMNP Table 8 below, an excerpt of 40 CFR Part 58, Appendix D, Table D-5. Under 40 CFR Part 58, Appendix D, Section 4.7.2, the TCEQ must operate continuous $PM_{2.5}$ monitors equal to at least one-half the required number of SLAMS-required sites in each MSA. The TCEQ exceeds this requirement by operating more continuous $PM_{2.5}$ monitors than required in all Texas MSAs, shown in AMNP Appendix K, Table 2. Additionally, 40 CFR Part 58, Appendix D, Section 4.7.3 requires each state to install and operate at least one $PM_{2.5}$ site to monitor for regional background and at least one $PM_{2.5}$ site to monitor regional transport. AMNP Appendix B lists monitors meeting the regional background and transport requirements. The TCEQ evaluated 2021 U.S. Census Bureau population estimates and 2019-2021 $PM_{2.5}$ annual and 24-hour design value data for each Texas MSA in AMNP Appendix K, Table 2. AMNP Appendix K, Table 2 details this evaluation by MSA and lists the total number of required and existing $PM_{2.5}$ monitors per MSA.

Table 8: Particulate Matter of 2.5 Micrometers or Less SLAMS Minimum Monitoring Requirements

MSA population	$PM_{2.5}$ monitors required for MSAs with most recent 3-year design value ≥85% of any $PM_{2.5}$ NAAQS	$PM_{2.5}$ monitors required for MSAs with most recent 3-year design value <85% of any $PM_{2.5}$ NAAQS
>1,000,000	3	2
500,000 to 1,000,000	2	1
50,000 to <500,000	1	0

< – less than
> – greater than
≥ – greater than or equal to
% - percent
MSA – metropolitan statistical area
NAAQS – National Ambient Air Quality Standards
$PM_{2.5}$ – particulate matter of 2.5 micrometers or less in diameter
SLAMS – State or Local Air Monitoring Stations

Near-Road $PM_{2.5}$ Requirements

Title 40 CFR Part 58, Appendix D, Section 4.7.1(b)(2) requires collocating one FRM or FEM $PM_{2.5}$ monitor with one required near-road NO_2 monitor in CBSAs with populations of 1,000,000 or more persons. The TCEQ meets this requirement with $PM_{2.5}$ monitors at the near-road sites listed below and listed in AMNP Appendix K, Table 2.

- DFW CBSA: Fort Worth California Parkway North
- Houston CBSA: Houston North Loop
- San Antonio CBSA: San Antonio Interstate 35
- Austin CBSA: Austin North Interstate 35

Collocation Requirements

Title 40 CFR Part 58, Appendix A, Section 3.2.3 requires a primary quality assurance organization to select 15% of the $PM_{2.5}$ primary monitors of each method designation (FRM or FEM) for collocated QC sampling. Based on the current network of five $PM_{2.5}$ FRM monitors, the TCEQ is required to operate one collocated $PM_{2.5}$ FRM (FRM/FRM collocation) monitor and exceeds this requirement with the two monitors listed below.

- Houston CBSA: Clinton $PM_{2.5}$ FRM with collocated QC $PM_{2.5}$ FRM, method 145
- DFW CBSA: Dallas Hinton $PM_{2.5}$ FRM with collocated QC $PM_{2.5}$ FRM, method 145

For each primary monitor designated as an FEM, 50% of the monitors designated for collocation shall be collocated with an FRM (FRM/FEM) and 50% shall be collocated with a monitor having the same method designation as the FEM primary monitor (FEM/FEM). Fifty percent of the collocated QC monitors must be deployed at sites with annual average or daily concentrations estimated to be within plus or minus 20% of either the annual or 24-hour standard.

Based on the current $PM_{2.5}$ network of 44 FEM monitors designated with method code 209, the TCEQ is required to operate seven collocated QC monitors pursuant to 40 CFR Part 58, Appendix A, Section 3.2.3.2(b). The TCEQ meets the $PM_{2.5}$ method code 209 requirement with three same-method collocated (FEM/FEM collocation) monitors and four different-method collocated (FEM/FRM collocation) monitors at the seven sites listed below in AMNP Table 9. In 2023, the TCEQ deployed a new $PM_{2.5}$ FEM monitor designated by method code 238 to replace aging equipment at one NCore site, Houston Deer Park #2. On June 15, 2023, the EPA approved a firmware modification (known as the Network Data Alignment) applicable to $PM_{2.5}$ FEM data reported under method code 238. Agencies are required to use a new method code, 638, once the firmware modification is installed. The TCEQ plans to install the Houston Deer Park #2 firmware modification in July of 2023. All subsequent monitor deployments will include the firmware modification. The $PM_{2.5}$ FEM method code 638 monitors will meet the FEM/FRM and FEM/FEM collocation requirements for this method at the sites listed in AMNP Table 9.

The TCEQ provides information regarding the $PM_{2.5}$ collocation designations in AMNP Appendix B.

Table 9: Particulate Matter of 2.5 Micrometers or Less FEM Quality Control Collocation Monitor Types and Sites

$PM_{2.5}$ FEM Primary Monitor Method Code	Collocated QC Monitor Type and Method Code	Site Name
209	$PM_{2.5}$ FRM manual filter-based, method 145	Austin Webberville Road
209	$PM_{2.5}$ FEM, method 209	Corpus Christi Huisache
209	$PM_{2.5}$ FRM manual filter-based, method 145	San Antonio Northwest
209	$PM_{2.5}$ FEM, method 209	Fort Worth California Parkway North
209	$PM_{2.5}$ FRM manual filter-based, method 145	Houston Aldine

$PM_{2.5}$ FEM Primary Monitor Method Code	Collocated QC Monitor Type and Method Code	Site Name
209	$PM_{2.5}$ FEM, method 209	Port Arthur Memorial School
209	$PM_{2.5}$ FRM manual filter-based, method 145	Dona Park
238 (planned upgrade to 638)	$PM_{2.5}$ FRM manual filter-based, method 145	Houston Deer Park #2 (completed February 23, 2023)
638	$PM_{2.5}$ FRM manual filter-based, method 145	Dallas Hinton (completed June 28, 2023)
638	$PM_{2.5}$ FRM manual filter-based, method 145	El Paso Chamizal (pending deployment)
638	$PM_{2.5}$ FEM, method 638	El Paso UTEP (pending deployment)

- number
FEM – federal equivalent method
FRM – federal reference method
$PM_{2.5}$ – particulate matter of 2.5 micrometers in diameter or less
QC – quality control

Previously Recommended Changes

In the 2021 AMNP, the TCEQ recommended installing $PM_{2.5}$ (FEM/FRM with method codes 209 and 145) collocated QC monitors at El Paso UTEP but now recommends changing this to the same method collocated QC monitors for $PM_{2.5}$ FEM continuous method code 238 (FEM/FEM). The TCEQ previously recommended installing $PM_{2.5}$ collocated QC (FEM/FRM) continuous with manual method monitors at the Mission site. However, the TCEQ is re-considering this recommendation as the change is no longer necessary to meet $PM_{2.5}$ collocation requirements based on new proposed network changes. The TCEQ continues to evaluate $PM_{2.5}$ collocation monitoring requirements and will submit new recommendations as necessary. The TCEQ will continue to evaluate additional collocated QC monitors to meet requirements due to the new $PM_{2.5}$ method code 238 in the TCEQ network. The status of previously approved $PM_{2.5}$ collocated QC recommendations are listed in AMNP Table 10.

Table 10: Previously Approved Particulate Matter of 2.5 Micrometers or Less Collocated QC Changes

Site Name	Existing $PM_{2.5}$ Monitor(s)	Previous Recommendation	New Recommendation	Status
El Paso UTEP	$PM_{2.5}$ FRM	FEM method 209/FRM method code 145	FEM/FEM method code 238	Pending site relocation
Mission	$PM_{2.5}$ FEM continuous	FEM method 209/FRM method 145	Under reconsideration	Under reconsideration

FEM – federal equivalent method
FRM – federal reference method
$PM_{2.5}$ – particulate matter of 2.5 micrometers or less in diameter
QC – quality control
UTEP – University of Texas at El Paso

The TCEQ 2022 AMNP recommended changing the network designation for the Freeport South Avenue I $PM_{2.5}$ FRM monitor with metal speciation analyses from state-

initiative to federal SPM. The EPA approved this recommendation in a letter dated March 3, 2023, and the change was effective retroactively on January 1, 2023.

The TCEQ listed additional $PM_{2.5}$ monitoring considerations in the 2021 AMNP based on previously received AMNP comments. The TCEQ 2022 AMNP formally recommended the $PM_{2.5}$ monitoring considerations at the existing Houston Bayland Park site and at new sites in the Houston Fifth Ward, Houston Pleasantville neighborhood, and in the Gregory-Portland area in San Patricio County. The Houston Bayland Park $PM_{2.5}$ special purpose monitor was deployed on April 22, 2022.

In a letter dated March 3, 2023, the EPA acknowledged the new site additions and noted that the air monitoring sites were not federally required and were thus at the discretion of the TCEQ. The TCEQ worked with community groups to evaluate areas for the establishment of new ambient air monitoring sites at Finnigan Park in the Houston Fifth Ward and at Pleasantville Elementary School in the Houston Pleasantville area. The TCEQ continues to work with the property owners to establish site usage agreements and to deploy the special purpose monitors by December 31, 2023. The TCEQ is evaluating site options for the establishment of a new ambient air monitoring site in the Gregory-Portland area. The TCEQ continues to work with property owners to establish site usage agreements and to deploy the special purpose monitors by December 31, 2024.

The TCEQ continues to complete previously recommended changes including the replacement of $PM_{2.5}$ FRM non-continuous monitors and non-NAAQS comparable $PM_{2.5}$ continuous monitors ($PM_{2.5}$ TEOMs) with $PM_{2.5}$ FEM continuous monitors. The status of previously approved $PM_{2.5}$ recommendations are listed in AMNP Table 11.

Table 11: Previously Approved Particulate Matter of 2.5 Micrometers or Less Summary of Changes

Site Name	Monitor(s) Replaced	New Monitor	Action	Status
Ascarate Park Southeast	$PM_{2.5}$ TEOM	$PM_{2.5}$ FEM continuous	Method code change	Pending
Clinton	$PM_{2.5}$ TEOM	$PM_{2.5}$ FEM continuous	Method code change	Pending
Dallas Bexar Street	$PM_{2.5}$ TEOM	$PM_{2.5}$ FEM continuous	Method code change	Expected to be completed by June 30, 2024
El Paso UTEP	$PM_{2.5}$ TEOM	$PM_{2.5}$ FEM continuous	Method code change	Pending site relocation
Houston Finnigan Park (new site in Fifth Ward)	None – new monitor	$PM_{2.5}$ FEM continuous	Deploy	Expected to be completed by December 31, 2023
Houston Pleasantville (new site in Pleasantville neighborhood)	None – new monitor	$PM_{2.5}$ FEM continuous	Deploy	Expected to be completed by December 31, 2023

Site Name	Monitor(s) Replaced	New Monitor	Action	Status
Midlothian OFW	$PM_{2.5}$ TEOM	$PM_{2.5}$ FEM continuous	Method code change	Pending site relocation, expected to be completed by December 31, 2023
New site – Gregory-Portland area	None – new monitor	$PM_{2.5}$ FEM continuous	Deploy	Expected to be completed by December 31, 2024
Old Highway 90	$PM_{2.5}$ TEOM	$PM_{2.5}$ FEM continuous	Deploy	Expected to be completed by December 31, 2024
San Antonio Bulverde Parkway	$PM_{2.5}$ TEOM (state-initiative)	$PM_{2.5}$ FEM continuous	Method code change and add as federal special purpose monitoring for spatial coverage	Expected to be completed by December 31, 2024
Skyline Park	None – new monitor	$PM_{2.5}$ FEM continuous	Deploy	Expected to be completed by December 31, 2024

FEM – federal equivalent method
FRM – federal reference method
OFW – Old Fort Worth
$PM_{2.5}$ – particulate matter of 2.5 micrometers or less in diameter
TEOM – tapered element oscillating microbalance
UTEP – University of Texas at El Paso

Regulatory $PM_{2.5}$ Monitoring Network Changes

The TCEQ evaluated the current $PM_{2.5}$ monitoring network and determined the existing $PM_{2.5}$ network meets all federal monitoring requirements; therefore, no changes are recommended.

Volatile Organic Compounds (VOC)

The TCEQ VOC network is designed to meet PAMS requirements, as discussed further in this section. The TCEQ is required to operate two VOC monitors and exceeds this requirement with 12 monitors. For purposes of meeting federal PAMS requirements, the TCEQ VOC network includes eight automated gas chromatograph (autoGC) continuous monitors and four non-continuous canister monitors. AMNP Appendix L, Table 1 lists the number of required and current VOC monitors in each Texas CBSA. AMNP Appendix B lists the air monitoring sites where VOCs are measured.

Monitoring Requirements

Title 40 CFR Part 58, Appendix D, Section 5 requires state agencies to collect speciated VOC hourly-averaged measurements at NCore sites located in CBSAs with a population of 1,000,000 or more persons as part of the PAMS network requirements. The TCEQ exceeds PAMS required VOC monitoring requirements with autoGCs at the two PAMS sites listed in AMNP Table 2 and at six other sites as listed in AMNP Appendix B.

Previously Recommended Changes

The TCEQ listed additional state-initiative non-regulatory VOC monitoring considerations in the 2021 AMNP based on previously received AMNP comments. The TCEQ 2022 AMNP formally recommended the non-regulatory VOC monitoring considerations at the new sites in the Houston Fifth Ward and in the Gregory-Portland area in San Patricio County. The TCEQ worked with community groups to evaluate areas for the establishment of a new ambient air monitoring site at Finnigan Park in the Houston Fifth Ward area. The TCEQ continues to work with the property owners to establish site usage agreements and to deploy the state-initiative special purpose VOC monitor by December 31, 2023. The TCEQ is evaluating site options for the establishment of a new ambient air monitoring site in the Gregory-Portland area. The TCEQ continues to work with the property owners to establish site usage agreements and to deploy the state-initiative special purpose VOC monitor by December 31, 2024.

Regulatory and Non-Regulatory VOC Monitoring Network Changes

The TCEQ listed one additional monitoring consideration in the draft 2023 AMNP based on previously received AMNP comments. The TCEQ received positive support and comment on the deployment of a special purpose VOC canister monitor to the new Houston Pleasantville Elementary site. Therefore, this recommendation to deploy a VOC canister monitor has been incorporated into this AMNP as state-initiative, special purpose monitoring.

The TCEQ evaluated the current regulatory VOC monitoring network and determined the existing VOC network meets all federal monitoring requirements; therefore, no additional changes are recommended.

Carbonyls

The TCEQ carbonyl monitoring network is designed to meet PAMS requirements, as discussed further in this section. The TCEQ is required to operate two carbonyl monitors and exceeds this requirement with four monitors. AMNP Appendix L, Table 2 lists the number of required and current carbonyl monitors in each Texas CBSA. AMNP Appendix B lists the air monitoring sites where carbonyls are measured.

Monitoring Requirements

Title 40 CFR Part 58, Appendix D, Section 5 requires state agencies to collect PAMS carbonyl measurements with three eight-hour averaged samples taken every third day at each NCore site located in CBSAs with a population of 1,000,000 or more persons. The TCEQ exceeds carbonyl monitoring requirements with carbonyl monitors at the two required PAMS sites listed in AMNP Table 2 and at two other sites listed in AMNP Appendix B.

Previously Recommended Changes

The TCEQ 2022 AMNP recommended no changes to the carbonyl monitoring network.

Regulatory Carbonyl Monitoring Network Changes

The TCEQ evaluated the current carbonyl monitoring network and determined the existing carbonyl network meets all federal monitoring requirements; therefore, no changes are recommended.

Meteorology

The TCEQ meteorology monitoring network includes surface meteorology parameters (solar radiation, wind speed, wind direction, and temperature), upper air measurements (mixing height), and other meteorological parameters, as discussed further in this section. Surface meteorology is measured at most air monitoring stations and additional meteorology parameters are required at PAMS monitoring stations. All meteorology monitors in the TCEQ network are included in AMNP Appendix B.

Monitoring Requirements

Title 40 CFR Part 58, Appendix D, Section 5 requires state agencies to collect PAMS surface and upper air meteorology measurements at all NCore sites in CBSAs with a population of 1,000,000 or more persons. Meteorological PAMS measurements at the required PAMS sites (or alternatively approved waiver locations) include measurements of wind speed, wind direction, outdoor temperature, atmospheric pressure, relative humidity, precipitation, hourly averaged mixing-height, solar radiation, and ultraviolet radiation. The TCEQ meets these meteorological monitoring requirements with measurements collected at the Dallas Hinton, Houston Deer Park #2, and La Porte Airport sites.

Previously Recommended Changes

The TCEQ 2019 AMNP recommended several meteorology monitoring changes that were approved by the EPA in a letter dated November 4, 2019. The TCEQ recommended deploying wind speed, wind direction, and outdoor temperature monitors to a new air monitoring site, Dallas Bexar Street, in the Dallas County southern sector. The new Dallas Bexar Street wind speed, wind direction, and outdoor temperature monitors are expected to be operational by December 31, 2023. The TCEQ recommended deploying a ceilometer to the San Antonio Northwest site and the ceilometer is expected to be operational as equipment becomes available in 2024.

The TCEQ 2020 AMNP recommended deploying wind speed, wind direction, and outdoor temperature monitors to a second near-road monitoring station in the San Antonio MSA. The EPA approved the recommendation for a second San Antonio near-road air monitoring station at the new site San Antonio Sherwood Drive in a letter dated August 16, 2021. The TCEQ experienced unexpected challenges obtaining power to the recommended site and has performed additional site reconnaissance to evaluate alternative near-road site options on the same road segment and expects to deploy the site and wind speed, wind direction, and outdoor temperature monitors before December 31, 2024. Once the alternative near-road site location evaluation is complete, the TCEQ will submit a revised recommendation to the EPA for approval.

The TCEQ 2022 AMNP recommended decommissioning the San Antonio Gardner Road wind speed, wind direction, and outdoor temperature monitors. The EPA approved the decommission in a letter dated March 3, 2023. The San Antonio Gardner Road wind speed, wind direction, and outdoor temperature monitors were decommissioned on March 13, 2023. The TCEQ 2022 AMNP recommended deploying wind speed, wind direction, and outdoor temperature monitors to the new air monitoring sites in the Houston Fifth Ward, the Houston Pleasantville neighborhood, and the Gregory-Portland area. The Houston Fifth Ward and the Houston Pleasantville neighborhood monitors are expected to be operational by December 31, 2023. The Gregory-Portland area monitor is expected to be operational by December 31, 2024. The TCEQ 2022 AMNP

recommended changing the Freeport South Avenue I wind speed, wind direction, and outdoor temperature monitors' network designation from state-initiative to federal SPM. The EPA approved of the changes in a letter dated March 3, 2023. The Freeport South Avenue I wind speed, wind direction, and outdoor temperature monitors' network designation was changed from state-initiative to federal SPM retroactively on January 1, 2023.

Regulatory Meteorology Monitoring Network Changes

The TCEQ is upgrading older meteorology technology to new all-in-one sonic weather sensors as equipment becomes available. The new sensor provides measurements of wind speed, wind direction, and ambient air temperature with options to report relative humidity and barometric pressure.

The TCEQ relocated the Houston Kirkpatrick wind speed, wind direction, and outdoor temperature special purpose monitors to the Houston Harvard Street air monitoring site on April 19, 2023. The Houston Kirkpatrick site measured only meteorological parameters and the site was discontinued on April 18, 2023. The Houston Harvard Street site monitors for O_3 and NO_2. Reallocating the meteorological monitors to Houston Harvard Street will provide valuable background information supporting the movement of air pollution. The meteorology special purpose monitor changes were acknowledged by the EPA in an email on May 2, 2023.

Air Monitoring Site Relocations

The TCEQ establishes property site usage agreements as a contractual means to locate and operate a continuous air monitoring station on public or privately owned land. Property owners retain the right to revoke the usage agreement at any time. When possible, the TCEQ works with the existing property owner to identify another suitable air monitoring site location. In some circumstances, a new location must be identified, and a new site usage agreement implemented. The TCEQ is relocating the air monitoring sites listed in AMNP Table 12. The existing site and monitoring equipment remain operational unless noted in AMNP Table 12. Existing site and air monitoring details are provided in Appendix B.

Table 12: Air Monitoring Site Relocations

Site Name	New Site Name	New Site Address	Reason for Relocation	Status
Baytown Garth	No change	4898 ½ Ashbel Cove Drive, Baytown, Texas	Relocation 0.33 mile northwest due to property owner revocation of usage agreement (sale of property)	Expected by December 2023
Brownsville	Brownsville East 6th Street	86 East 6th Street, Brownsville, Texas	Relocation one mile northwest of the existing site due to property owner revocation of usage agreement (building expansion), approved by the EPA in a letter dated August 19, 2021	Completed April 5, 2023

Site Name	New Site Name	New Site Address	Reason for Relocation	Status
El Paso UTEP	Pending site selection	Pending site selection	Relocation due to property owner revocation of usage agreement (building expansion)	Site temporarily deactivated November 2021, expected by December 2024
Houston Deer Park #2	Houston Deer Park	4413 Glenwood Avenue, Deer Park, Texas	Relocation less than 0.1 mile west of existing site due to property owner revocation of usage agreement (park expansion), approved by the EPA in a letter dated May 18, 2022	Expected by August 2024
Laredo Vidaurri	Laredo College	Laredo College, West End Washington Street, corner of Taylor and Crawford Roads, Laredo, Texas,	Relocation approximately 0.85 miles southwest of previous site due to property owner revocation of usage agreement (sale of property), approved by the EPA in a letter dated July 1, 2022	Completed November 8, 2022
Midlothian OFW	Midlothian Old Fort Worth Road	Pending site selection	Relocation on current property after construction is completed due to property owner revocation of site access (new property owners)	Site temporarily deactivated April 22, 2022, expected by December 2023
National Seashore	No change	Maintenance Service Road at 20420 Park Road 22, Corpus Christi	Relocation approximately 0.3 miles south of existing site due to property owner revocation of usage agreement.	Completed January 10, 2023
Terrell Temtex	Pending site selection	Pending site selection	Relocation due to property owner revocation of usage agreement (building expansion)	Site temporarily deactivated May 31, 2022, expected by December 2024
Mission	No change	No change	Relocation 40 feet west due to property owner revocation of site access (parking lot expansion)	Site temporarily deactivated December 15, 2022, expected by August 2023

- number sign
EPA – United States Environmental Protection Agency
OFW – Old Fort Worth
UTEP – University of Texas at El Paso

Additional Monitoring Considerations

The TCEQ reviews its ambient air quality monitoring network annually and develops the AMNP to demonstrate how Texas is meeting or will meet federal air monitoring requirements specified in 40 CFR Part 58 and its appendices. Additional ambient air

monitoring requested during previous AMNP public inspection and comment periods continue to be evaluated for potential inclusion in the TCEQ ambient air monitoring network. Any future implementation of these monitoring considerations may be included as part of the TCEQ federal ambient air monitoring network or as state-initiative monitoring. The TCEQ incorporated the draft 2023 AMNP consideration into the Volatile Organic Compounds section of this AMNP.

Conclusion

As discussed in this report, the TCEQ has evaluated all federal requirements for ambient air quality monitoring and reviewed the TCEQ ambient air quality monitoring network. After consideration of the federal regulations, 2021 U.S. Census Bureau population data, EI data, and 2019-2021 design values, the TCEQ has determined that it will meet or exceed all monitoring requirements with the above-mentioned recommendations for the next calendar year.

Appendix A

2023 Summary of Proposed Network Changes

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

Appendix A: 2023 Summary of Proposed Network Changes

Metropolitan Statistical Area	Air Monitoring Site Name	Proposed Action	Parameter(s)	Estimated Completion Date
Dallas-Fort Worth-Arlington	Convention Center	Replace manual filter-based monitor and decommission manual filter-based collocated quality control monitor	PM_{10} FEM continuous	December 31, 2024
El Paso	Ojo De Agua	Replace manual filter-based monitor and decommission manual filter-based collocated quality control monitor	PM_{10} FEM continuous	December 31, 2024
El Paso	Socorro Hueco	Replace manual filter-based monitor and decommission manual filter-based collocated quality control monitor	PM_{10} FEM continuous	December 31, 2024
El Paso	El Paso Mimosa	Deploy manual filter-based collocated quality control monitor	PM_{10}	December 31, 2024
Houston-The Woodlands-Sugar Land	New Site: Houston Pleasantville Elementary	Deploy new monitor	Special purpose, non-regulatory volatile organic compounds by canister	December 31, 2023
Houston-The Woodlands-Sugar Land	Houston Harvard	Deploy meteorological monitors	Wind speed, wind direction, and outdoor temperature	Completed April 19, 2023
Houston-The Woodlands-Sugar Land	Houston Kirkpatrick	Relocate meteorological monitors to Houston Harvard and discontinue site	Wind speed, wind direction, and outdoor temperature	Completed April 18, 2023

FEM – federal equivalent method
PM_{10} – particulate matter of 10 micrometers or less in diameter

Appendix B

Ambient Air Monitoring Network Site List

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

Appendix B: Ambient Air Monitoring Network Site List

MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Amarillo, TX	483751025	Amarillo 24th Avenue	4205 NE 24th Avenue, Amarillo	SO2	SLAMS	Pulsed Fluorescence	Continuous	Population Exposure	Neighborhood	Suburban	35.236740	-101.787387
Amarillo, TX	483751025	Amarillo 24th Avenue	4205 NE 24th Avenue, Amarillo	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Suburban	35.236740	-101.787387
Amarillo, TX	483751025	Amarillo 24th Avenue	4205 NE 24th Avenue, Amarillo	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Suburban	35.236740	-101.787387
Amarillo, TX	483750320	Amarillo A&M	6500 Amarillo Blvd West, Amarillo	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Urban Scale	Urban and Center City	35.201595	-101.909266
Amarillo, TX	483751077	Amarillo Xcel El Rancho	Folsom Rd. & El Rancho Rd., Amarillo	SO2	SLAMS	Pulsed Fluorescence	Continuous	Source Oriented	Neighborhood	Rural	35.316492	-101.741749
Amarillo, TX	483751077	Amarillo Xcel El Rancho	Folsom Rd. & El Rancho Rd., Amarillo	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Rural	35.316492	-101.741749
Amarillo, TX	483751077	Amarillo Xcel El Rancho	Folsom Rd. & El Rancho Rd., Amarillo	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Rural	35.316492	-101.741749
Austin-Round Rock, TX	484530020	Austin Audubon Society	12200 Lime Creek Rd, Leander	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Rural	30.483164	-97.872306
Austin-Round Rock, TX	484530020	Austin Audubon Society	12200 Lime Creek Rd, Leander	PM10 (FRM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Rural	30.483164	-97.872306
Austin-Round Rock, TX	484530020	Austin Audubon Society	12200 Lime Creek Rd, Leander	Solar Radiation	SPM	Photovoltaic	Continuous	Population Exposure	Urban Scale	Rural	30.483164	-97.872306
Austin-Round Rock, TX	484530020	Austin Audubon Society	12200 Lime Creek Rd, Leander	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Population Exposure	Urban Scale	Rural	30.483164	-97.872306
Austin-Round Rock, TX	484530020	Austin Audubon Society	12200 Lime Creek Rd, Leander	Wind	SPM	Sonic weather sensor	Continuous	Population Exposure	Urban Scale	Rural	30.483164	-97.872306
Austin-Round Rock, TX	484530014	Austin North Hills Drive	3824 North Hills Drive, Austin	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Population Exposure	Urban Scale	Suburban	30.354942	-97.761729
Austin-Round Rock, TX	484530014	Austin North Hills Drive	3824 North Hills Drive, Austin	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	30.354942	-97.761729
Austin-Round Rock, TX	484530014	Austin North Hills Drive	3824 North Hills Drive, Austin	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Suburban	30.354942	-97.761729
Austin-Round Rock, TX	484530014	Austin North Hills Drive	3824 North Hills Drive, Austin	SO2	SLAMS	Pulsed Fluorescence	Continuous	Population Exposure	Urban Scale	Suburban	30.354942	-97.761729
Austin-Round Rock, TX	484530014	Austin North Hills Drive	3824 North Hills Drive, Austin	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Suburban	30.354942	-97.761729

Appendix B: Ambient Air Monitoring Network Site List

MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Austin-Round Rock, TX	484530014	Austin North Hills Drive	3824 North Hills Drive, Austin	Wind	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Suburban	30.354942	-97.761729
Austin-Round Rock, TX	484531068	Austin North Interstate 35	8912 N IH 35 SVRD SB, Austin	CO	Near Road, SLAMS	Gas Filter Correlation	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	30.353847	-97.691573
Austin-Round Rock, TX	484531068	Austin North Interstate 35	8912 N IH 35 SVRD SB, Austin	NO, NO2, NOx	Near Road, SLAMS	Chemi-luminescence	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	30.353847	-97.691573
Austin-Round Rock, TX	484531068	Austin North Interstate 35	8912 N IH 35 SVRD SB, Austin	PM2.5 (Beta)	Near Road, SLAMS	Beta Attenuation, BAM 1022	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	30.353847	-97.691573
Austin-Round Rock, TX	484531068	Austin North Interstate 35	8912 N IH 35 SVRD SB, Austin	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	30.353847	-97.691573
Austin-Round Rock, TX	484531068	Austin North Interstate 35	8912 N IH 35 SVRD SB, Austin	Wind	SPM	Sonic weather sensor	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	30.353847	-97.691573
Austin-Round Rock, TX	484530021	Austin Webberville Rd	2600B Webberville Rd, Austin	PM10 (FRM) (planned FEM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Urban and Center City	30.263226	-97.712728
Austin-Round Rock, TX	484530021	Austin Webberville Rd	2600B Webberville Rd, Austin	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Urban and Center City	30.263226	-97.712728
Austin-Round Rock, TX	484530021	Austin Webberville Rd	2600B Webberville Rd, Austin	PM2.5 (FRM)	Collocated QC, SLAMS	Sequential FRM Gravimetric	24 Hours; 1, 12 Days	Population Exposure	Neighborhood	Urban and Center City	30.263226	-97.712728
Austin-Round Rock, TX	484530021	Austin Webberville Rd	2600B Webberville Rd, Austin	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Population Exposure	Neighborhood	Urban and Center City	30.263226	-97.712728
Austin-Round Rock, TX	484530021	Austin Webberville Rd	2600B Webberville Rd, Austin	Wind	SPM	Sonic weather sensor	Continuous	Population Exposure	Neighborhood	Urban and Center City	30.263226	-97.712728
Beaumont-Port Arthur, TX	482450009	Beaumont Downtown	1086 Vermont Avenue, Beaumont	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Population Exposure	Neighborhood	Suburban	30.036465	-94.071088
Beaumont-Port Arthur, TX	482450009	Beaumont Downtown	1086 Vermont Avenue, Beaumont	O3	PAMS, SLAMS	UV Photometric	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Suburban	30.036465	-94.071088
Beaumont-Port Arthur, TX	482450009	Beaumont Downtown	1086 Vermont Avenue, Beaumont	SO2	SLAMS	Pulsed Fluorescence	Continuous	Population Exposure	Neighborhood	Suburban	30.036465	-94.071088
Beaumont-Port Arthur, TX	482450009	Beaumont Downtown	1086 Vermont Avenue, Beaumont	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Precursor Emissions Impact	Neighborhood	Suburban	30.036465	-94.071088
Beaumont-Port Arthur, TX	482450009	Beaumont Downtown	1086 Vermont Avenue, Beaumont	Speciated VOC (AutoGC)	PAMS, SLAMS	Automated Gas Chromatograph	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Suburban	30.036465	-94.071088

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Beaumont-Port Arthur, TX	482450009	Beaumont Downtown	1086 Vermont Avenue, Beaumont	Temperature (Outdoor)	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Suburban	30.036465	-94.071088
Beaumont-Port Arthur, TX	482450009	Beaumont Downtown	1086 Vermont Avenue, Beaumont	Wind	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Suburban	30.036465	-94.071088
Beaumont-Port Arthur, TX	482450022	Hamshire	12552 Second St, Not In A City	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Background; Regional Transport	Neighborhood , Urban Scale	Suburban	29.863957	-94.317802
Beaumont-Port Arthur, TX	482450022	Hamshire	12552 Second St, Not In A City	O3	SLAMS	UV Photometric	Continuous	Background; Regional Transport	Urban Scale	Suburban	29.863957	-94.317802
Beaumont-Port Arthur, TX	482450022	Hamshire	12552 Second St, Not In A City	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Suburban	29.863957	-94.317802
Beaumont-Port Arthur, TX	482450022	Hamshire	12552 Second St, Not In A City	Solar Radiation	SPM	Photovoltaic	Continuous	General, Background	Neighborhood	Suburban	29.863957	-94.317802
Beaumont-Port Arthur, TX	482450022	Hamshire	12552 Second St, Not In A City	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Suburban	29.863957	-94.317802
Beaumont-Port Arthur, TX	482450022	Hamshire	12552 Second St, Not In A City	Wind	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Suburban	29.863957	-94.317802
Beaumont-Port Arthur, TX	482450018	Jefferson County Airport	End of 90th Street @ Jefferson County Airport, Port Arthur	Precipitation	PAMS, SLAMS	Rain Gauge	Continuous	General, Background	Neighborhood	Suburban	29.942813	-94.000797
Beaumont-Port Arthur, TX	482450018	Jefferson County Airport	End of 90th Street @ Jefferson County Airport, Port Arthur	Temperature (Outdoor)	PAMS, SLAMS	Sonic weather sensor	Continuous	General, Background	Neighborhood	Suburban	29.942813	-94.000797
Beaumont-Port Arthur, TX	482450018	Jefferson County Airport	End of 90th Street @ Jefferson County Airport, Port Arthur	Wind	PAMS, SLAMS	Sonic weather sensor	Continuous	General, Background	Neighborhood	Suburban	29.942813	-94.000797
Beaumont-Port Arthur, TX	482451035	Nederland 17th Street	1516 17th Street, Nederland	Barometric Pressure	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Suburban	29.979958	-94.004746
Beaumont-Port Arthur, TX	482451035	Nederland 17th Street	1516 17th Street, Nederland	Dew Point	SPM	Derived at site	Continuous	Population Exposure	Neighborhood	Suburban	29.979958	-94.004746
Beaumont-Port Arthur, TX	482451035	Nederland 17th Street	1516 17th Street, Nederland	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Suburban	29.979958	-94.004746
Beaumont-Port Arthur, TX	482451035	Nederland 17th Street	1516 17th Street, Nederland	O3	PAMS, SLAMS	UV Photometric	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Suburban	29.979958	-94.004746
Beaumont-Port Arthur, TX	482451035	Nederland 17th Street	1516 17th Street, Nederland	Relative Humidity	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Suburban	29.979958	-94.004746

Appendix B: Ambient Air Monitoring Network Site List

MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Beaumont-Port Arthur, TX	482451035	Nederland 17th Street	1516 17th Street, Nederland	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Precursor Emissions Impact	Neighborhood	Suburban	29.979958	-94.004746
Beaumont-Port Arthur, TX	482451035	Nederland 17th Street	1516 17th Street, Nederland	Speciated VOC (AutoGC)	PAMS, SLAMS	Automated Gas Chromatograph	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Suburban	29.979958	-94.004746
Beaumont-Port Arthur, TX	482451035	Nederland 17th Street	1516 17th Street, Nederland	Temperature (Outdoor)	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Suburban	29.979958	-94.004746
Beaumont-Port Arthur, TX	482451035	Nederland 17th Street	1516 17th Street, Nederland	UV Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Precursor Emissions Impact	Neighborhood	Suburban	29.979958	-94.004746
Beaumont-Port Arthur, TX	482451035	Nederland 17th Street	1516 17th Street, Nederland	Wind	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Suburban	29.979958	-94.004746
Beaumont-Port Arthur, TX	483611083	Orange 1st Street	2239 1st Street, Orange	SO2	SLAMS	Pulsed Fluorescence	Continuous	Source Oriented	Neighborhood	Urban and Center City	30.153757	-93.725956
Beaumont-Port Arthur, TX	483611083	Orange 1st Street	2239 1st Street, Orange	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Urban and Center City	30.153757	-93.725956
Beaumont-Port Arthur, TX	483611083	Orange 1st Street	2239 1st Street, Orange	Wind	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Urban and Center City	30.153757	-93.725956
Beaumont-Port Arthur, TX	482450021	Port Arthur Memorial School	2200 Jefferson Drive, Port Arthur	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Suburban	29.922911	-93.909025
Beaumont-Port Arthur, TX	482450021	Port Arthur Memorial School	2200 Jefferson Drive, Port Arthur	PM2.5 (Beta)	Collocated QC, SLAMS	Beta Attenuation, BAM 1022	Continuous	Quality Assurance	Neighborhood	Suburban	29.922911	-93.909025
Beaumont-Port Arthur, TX	482450011	Port Arthur West	623 Ellias Street, Port Arthur	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.897505	-93.991079
Beaumont-Port Arthur, TX	482450011	Port Arthur West	623 Ellias Street, Port Arthur	SO2	SLAMS	Pulsed Fluorescence	Continuous	Source Oriented	Neighborhood	Urban and Center City	29.897505	-93.991079
Beaumont-Port Arthur, TX	482450011	Port Arthur West	623 Ellias Street, Port Arthur	Solar Radiation	SPM	Photovoltaic	Continuous	Population Exposure; Source Oriented	Neighborhood	Urban and Center City	29.897505	-93.991079
Beaumont-Port Arthur, TX	482450011	Port Arthur West	623 Ellias Street, Port Arthur	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Source Oriented	Neighborhood	Urban and Center City	29.897505	-93.991079
Beaumont-Port Arthur, TX	482450011	Port Arthur West	623 Ellias Street, Port Arthur	Wind	SPM	Sonic weather sensor	Continuous	Population Exposure; Source Oriented	Neighborhood	Urban and Center City	29.897505	-93.991079
Beaumont-Port Arthur, TX	482451071	Port Arthur West 7th Street Gate 2	West 7th Street, Valero Port Arthur Gate 2, Port Arthur	SO2	SLAMS	Pulsed Fluorescence	Continuous	Source Oriented	Neighborhood	Rural	29.844111	-93.965228

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Beaumont-Port Arthur, TX	482451071	Port Arthur West 7th Street Gate 2	West 7th Street, Valero Port Arthur Gate 2, Port Arthur	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Rural	29.844111	-93.965228
Beaumont-Port Arthur, TX	482451071	Port Arthur West 7th Street Gate 2	West 7th Street, Valero Port Arthur Gate 2, Port Arthur	Wind	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Rural	29.844111	-93.965228
Beaumont-Port Arthur, TX	482450101	SETRPC 40 Sabine Pass	5200 Mechanic, Not In A City	O3	PAMS, SLAMS	UV Photometric	Continuous	Max Ozone Concentration	Neighborhood	Rural	29.727908	-93.894113
Beaumont-Port Arthur, TX	483611100	SETRPC 42 Mauriceville	Intersection of TX Hwys 62 & 12, Port Arthur	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Regional Transport; Upwind Background	Regional Scale	Suburban	30.194288	-93.867181
Beaumont-Port Arthur, TX	482450102	SETRPC 43 Jefferson Co Airport	Jefferson County Airport, Port Arthur	O3	SPM	UV Photometric	Continuous	Max Precursor Emissions Impact	Middle Scale	Suburban	29.942813	-94.000797
Beaumont-Port Arthur, TX	483611001	West Orange	2700 Austin Ave, West Orange	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Population Exposure	Neighborhood	Urban and Center City	30.085250	-93.761368
Beaumont-Port Arthur, TX	483611001	West Orange	2700 Austin Ave, West Orange	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Urban and Center City	30.085250	-93.761368
Beaumont-Port Arthur, TX	483611001	West Orange	2700 Austin Ave, West Orange	Solar Radiation	SPM	Photovoltaic	Continuous	Source Oriented	Neighborhood	Urban and Center City	30.085250	-93.761368
Beaumont-Port Arthur, TX	483611001	West Orange	2700 Austin Ave, West Orange	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Source Oriented	Neighborhood	Urban and Center City	30.085250	-93.761368
Beaumont-Port Arthur, TX	483611001	West Orange	2700 Austin Ave, West Orange	Wind	SPM	Sonic weather sensor	Continuous	Source Oriented	Neighborhood	Urban and Center City	30.085250	-93.761368
Big Spring, TX*	482271072	Big Spring Midway	1218 N. Midway Rd, Big Spring	SO2	SLAMS	Pulsed Fluorescence	Continuous	Source Oriented	Neighborhood	Rural	32.280435	-101.407124
Big Spring, TX*	482271072	Big Spring Midway	1218 N. Midway Rd, Big Spring	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Rural	32.280435	-101.407124
Big Spring, TX*	482271072	Big Spring Midway	1218 N. Midway Rd, Big Spring	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Rural	32.280435	-101.407124
Borger, TX*	482331073	Borger FM 1559	19440 FM 1559, Borger	SO2	SLAMS	Pulsed Fluorescence	Continuous	Source Oriented	Neighborhood	Rural	35.676023	-101.440041
Borger, TX*	482331073	Borger FM 1559	19440 FM 1559, Borger	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Rural	35.676023	-101.440041
Borger, TX*	482331073	Borger FM 1559	19440 FM 1559, Borger	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Rural	35.676023	-101.440041

Appendix B: Ambient Air Monitoring Network Site List

MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Brownsville-Harlingen, TX	480610006	Brownsville	344 Porter Drive, Brownsville (pending relocation to 85 East 6th Street)	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Regional Scale	Urban and Center City	25.892518	-97.493830
Brownsville-Harlingen, TX	480610006	Brownsville	344 Porter Drive, Brownsville (pending relocation to 85 East 6th Street)	Solar Radiation	SPM	Photovoltaic	Continuous	Highest Concentration	Neighborhood	Urban and Center City	25.892518	-97.493830
Brownsville-Harlingen, TX	480610006	Brownsville	344 Porter Drive, Brownsville (pending relocation to 85 East 6th Street)	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Population Exposure	Urban Scale	Urban and Center City	25.892518	-97.493830
Brownsville-Harlingen, TX	480610006	Brownsville	344 Porter Drive, Brownsville (pending relocation to 85 East 6th Street)	Wind	SPM	Sonic weather sensor	Continuous	Highest Concentration	Neighborhood	Urban and Center City	25.892518	-97.493830
Brownsville-Harlingen, TX	480611023	Harlingen Teege	1602 W Teege Avenue, Harlingen	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	26.200335	-97.712684
Brownsville-Harlingen, TX	480611023	Harlingen Teege	1602 W Teege Avenue, Harlingen	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Population Exposure	Neighborhood	Suburban	26.200335	-97.712684
Brownsville-Harlingen, TX	480611023	Harlingen Teege	1602 W Teege Avenue, Harlingen	Wind	SPM	Sonic weather sensor	Continuous	Population Exposure	Neighborhood	Suburban	26.200335	-97.712684
Brownsville-Harlingen, TX	480612004	Isla Blanca State Park Road	33174 State Park Road 100, South Padre Island	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Regional Transport	Urban Scale	Rural	26.071100	-97.157700
Brownsville-Harlingen, TX	480612004	Isla Blanca State Park Road	33174 State Park Road 100, South Padre Island	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Regional Transport	Regional Scale	Rural	26.071100	-97.157700
Brownsville-Harlingen, TX	480612004	Isla Blanca State Park Road	33174 State Park Road 100, South Padre Island	Wind (3m)	SPM	Sonic weather sensor	Continuous	Regional Transport	Regional Scale	Rural	26.071100	-97.157700
College Station-Bryan, TX	480411086	Bryan Finfeather Road	3670 Finfeather Road, Bryan	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Exposure; Regional Transport	Neighborhood	Rural	30.628343	-96.362832
College Station-Bryan, TX	480411086	Bryan Finfeather Road	3670 Finfeather Road, Bryan	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Rural	30.628343	-96.362832
College Station-Bryan, TX	480411086	Bryan Finfeather Road	3670 Finfeather Road, Bryan	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Rural	30.628343	-96.362832
College Station-Bryan, TX	483951076	Franklin Oak Grove	8127 Oak Grove Road, Franklin	SO2	SLAMS	Pulsed Fluorescence	Continuous	Source Oriented	Neighborhood	Rural	31.168956	-96.482001
College Station-Bryan, TX	483951076	Franklin Oak Grove	8127 Oak Grove Road, Franklin	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Rural	31.168956	-96.482001

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
College Station-Bryan, TX	483951076	Franklin Oak Grove	8127 Oak Grove Road, Franklin	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Rural	31.168956	-96.482001
Corpus Christi, TX	483550032	Corpus Christi Huisache	3810 Huisache Street, Corpus Christi	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Urban and Center City	27.804487	-97.431552
Corpus Christi, TX	483550032	Corpus Christi Huisache	3810 Huisache Street, Corpus Christi	PM2.5 (Beta)	Collocated QC, SLAMS	Beta Attenuation, BAM 1022	Continuous	Quality Assurance	Neighborhood	Urban and Center City	27.804487	-97.431552
Corpus Christi, TX	483550032	Corpus Christi Huisache	3810 Huisache Street, Corpus Christi	SO2	SLAMS	Pulsed Fluorescence	Continuous	Concentration; Population Exposure	Neighborhood	Urban and Center City	27.804487	-97.431552
Corpus Christi, TX	483550032	Corpus Christi Huisache	3810 Huisache Street, Corpus Christi	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Population Exposure	Middle Scale	Urban and Center City	27.804487	-97.431552
Corpus Christi, TX	483550032	Corpus Christi Huisache	3810 Huisache Street, Corpus Christi	Wind	SPM	Sonic weather sensor	Continuous	Population Exposure	Middle Scale	Urban and Center City	27.804487	-97.431552
Corpus Christi, TX	483550026	Corpus Christi Tuloso	9860 La Branch, Corpus Christi	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	27.832429	-97.555417
Corpus Christi, TX	483550026	Corpus Christi Tuloso	9860 La Branch, Corpus Christi	SO2	SLAMS	Pulsed Fluorescence	Continuous	Population Exposure	Neighborhood	Suburban	27.832429	-97.555417
Corpus Christi, TX	483550026	Corpus Christi Tuloso	9860 La Branch, Corpus Christi	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Highest Concentration	Neighborhood	Suburban	27.832429	-97.555417
Corpus Christi, TX	483550026	Corpus Christi Tuloso	9860 La Branch, Corpus Christi	Wind	SPM	Sonic weather sensor	Continuous	Highest Concentration	Neighborhood	Suburban	27.832429	-97.555417
Corpus Christi, TX	483550025	Corpus Christi West	902 Airport Road, Corpus Christi	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	27.765347	-97.434272
Corpus Christi, TX	483550025	Corpus Christi West	902 Airport Road, Corpus Christi	SO2	SLAMS	Pulsed Fluorescence	Continuous	Population Exposure	Neighborhood	Suburban	27.765347	-97.434272
Corpus Christi, TX	483550025	Corpus Christi West	902 Airport Road, Corpus Christi	Solar Radiation	SPM	Photovoltaic	Continuous	Population Exposure	Neighborhood	Suburban	27.765347	-97.434272
Corpus Christi, TX	483550025	Corpus Christi West	902 Airport Road, Corpus Christi	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Population Exposure	Neighborhood	Suburban	27.765347	-97.434272
Corpus Christi, TX	483550025	Corpus Christi West	902 Airport Road, Corpus Christi	Wind	SPM	Sonic weather sensor	Continuous	Population Exposure	Neighborhood	Suburban	27.765347	-97.434272
Corpus Christi, TX	483550034	Dona Park	5707 Up River Rd, Corpus Christi	PM10 (FRM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Urban and Center City	27.811825	-97.465702
Corpus Christi, TX	483550034	Dona Park	5707 Up River Rd, Corpus Christi	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Urban and Center City	27.811825	-97.465702

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Corpus Christi, TX	483550034	Dona Park	5707 Up River Rd, Corpus Christi	PM2.5 (Speciation)	SPM	Carbons, Elements, Ions, 2025/URG	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Urban and Center City	27.811825	-97.465702
Corpus Christi, TX	483550034	Dona Park	5707 Up River Rd, Corpus Christi	PM2.5 Mass (Speciation)	Collocated QC, SLAMS	Sequential FRM Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Urban and Center City	27.811825	-97.465702
Corpus Christi, TX	483550034	Dona Park	5707 Up River Rd, Corpus Christi	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Highest Concentration	Regional Scale	Urban and Center City	27.811825	-97.465702
Corpus Christi, TX	483550034	Dona Park	5707 Up River Rd, Corpus Christi	Wind	SPM	Sonic weather sensor	Continuous	Highest Concentration	Regional Scale	Urban and Center City	27.811825	-97.465702
Corsicana, TX*	483491051	Corsicana Airport	Corsicana Airport, Corsicana	Dew Point	SPM	Derived at site	Continuous	General, Background		Rural	32.031946	-96.399146
Corsicana, TX*	483491051	Corsicana Airport	Corsicana Airport, Corsicana	NO, NO2, NOx	SPM	Chemi-luminescence	Continuous	General, Background; Max Precursor Emissions Impact	Urban Scale	Rural	32.031946	-96.399146
Corsicana, TX*	483491051	Corsicana Airport	Corsicana Airport, Corsicana	O3	SPM	UV Photometric	Continuous	Background; Max Ozone Concentration	Urban Scale	Rural	32.031946	-96.399146
Corsicana, TX*	483491051	Corsicana Airport	Corsicana Airport, Corsicana	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Source Oriented	Neighborhood	Rural	32.031946	-96.399146
Corsicana, TX*	483491051	Corsicana Airport	Corsicana Airport, Corsicana	Relative Humidity	SPM	Sonic weather sensor	Continuous	General, Background	Urban Scale	Rural	32.031946	-96.399146
Corsicana, TX*	483491051	Corsicana Airport	Corsicana Airport, Corsicana	SO2	SPM	Pulsed Fluorescence	Continuous	Source Oriented	Urban Scale	Rural	32.031946	-96.399146
Corsicana, TX*	483491051	Corsicana Airport	Corsicana Airport, Corsicana	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	General, Background	Urban Scale	Rural	32.031946	-96.399146
Corsicana, TX*	483491051	Corsicana Airport	Corsicana Airport, Corsicana	Wind	SPM	Sonic weather sensor	Continuous	General, Background	Urban Scale	Rural	32.031946	-96.399146
Corsicana, TX*	483491081	Richland Southeast 1220 Road	Southeast 1220 Road, Richland	SO2	SLAMS	Pulsed Fluorescence	Continuous	Source Oriented	Neighborhood	Rural	31.904105	-96.351865
Corsicana, TX*	483491081	Richland Southeast 1220 Road	Southeast 1220 Road, Richland	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Rural	31.904105	-96.351865
Corsicana, TX*	483491081	Richland Southeast 1220 Road	Southeast 1220 Road, Richland	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Rural	31.904105	-96.351865
Dallas-Fort Worth-Arlington, TX	484393011	Arlington Municipal Airport	5504 South Collins Street, Arlington	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Population Exposure	Neighborhood	Suburban	32.656365	-97.088590

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Dallas-Fort Worth-Arlington, TX	484393011	Arlington Municipal Airport	5504 South Collins Street, Arlington	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	32.656365	-97.088590
Dallas-Fort Worth-Arlington, TX	484393011	Arlington Municipal Airport	5504 South Collins Street, Arlington	Solar Radiation	SPM	Photovoltaic	Continuous	Highest Concentration	Neighborhood	Suburban	32.656365	-97.088590
Dallas-Fort Worth-Arlington, TX	484393011	Arlington Municipal Airport	5504 South Collins Street, Arlington	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Highest Concentration	Neighborhood	Suburban	32.656365	-97.088590
Dallas-Fort Worth-Arlington, TX	484393011	Arlington Municipal Airport	5504 South Collins Street, Arlington	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Highest Concentration	Neighborhood	Suburban	32.656365	-97.088590
Dallas-Fort Worth-Arlington, TX	482510003	Cleburne Airport	1650 Airport Drive, Cleburne	O3	PAMS, SLAMS	UV Photometric	Continuous	Population Exposure	Urban Scale	Suburban	32.353599	-97.436744
Dallas-Fort Worth-Arlington, TX	482510003	Cleburne Airport	1650 Airport Drive, Cleburne	Radar Profiler	SPM	Radar profiler	Continuous	Regional Transport	Regional Scale	Suburban	32.353599	-97.436744
Dallas-Fort Worth-Arlington, TX	482510003	Cleburne Airport	1650 Airport Drive, Cleburne	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	General, Background	Neighborhood	Suburban	32.353599	-97.436744
Dallas-Fort Worth-Arlington, TX	482510003	Cleburne Airport	1650 Airport Drive, Cleburne	Temperature (Outdoor)	PAMS, SLAMS	Sonic weather sensor	Continuous	General, Background	Neighborhood	Suburban	32.353599	-97.436744
Dallas-Fort Worth-Arlington, TX	482510003	Cleburne Airport	1650 Airport Drive, Cleburne	Wind	PAMS, SLAMS	Sonic weather sensor	Continuous	General, Background	Neighborhood	Suburban	32.353599	-97.436744
Dallas-Fort Worth-Arlington, TX	481130050	Convention Center	717 South Akard, Dallas	PM10 (FRM)	Collocated QC, SLAMS	HiVol Gravimetric	24 Hours; 1, 12 Days	Population Exposure	Neighborhood	Urban and Center City	32.774254	-96.797702
Dallas-Fort Worth-Arlington, TX	481130050	Convention Center	717 South Akard, Dallas	PM10 (FRM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Urban and Center City	32.774254	-96.797702
Dallas-Fort Worth-Arlington, TX	481130050	Convention Center	717 South Akard, Dallas	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Urban and Center City	32.774254	-96.797702
Dallas-Fort Worth-Arlington, TX	481130050	Convention Center	717 South Akard, Dallas	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Population Exposure	Neighborhood	Urban and Center City	32.774254	-96.797702
Dallas-Fort Worth-Arlington, TX	481130050	Convention Center	717 South Akard, Dallas	Wind	SPM	Sonic weather sensor	Continuous	Population Exposure	Neighborhood	Urban and Center City	32.774254	-96.797702
Dallas-Fort Worth-Arlington, TX	481131096	Dallas Bexar Street	5800 Bexar Street, Dallas	PM10 (FRM) (planned FEM)	SPM	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Urban and Center City	32.742975	-96.753203
Dallas-Fort Worth-Arlington, TX	481131096	Dallas Bexar Street	5800 Bexar Street, Dallas	PM2.5 (TEOM)^{N}	SPM	TEOM Gravimetric	Continuous	Population Exposure	Neighborhood	Urban and Center City	32.742975	-96.753203
Dallas-Fort Worth-Arlington, TX	481131096	Dallas Bexar Street	5800 Bexar Street, Dallas	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Urban and Center City	32.742975	-96.753203

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Dallas-Fort Worth-Arlington, TX	481131096	Dallas Bexar Street	5800 Bexar Street, Dallas	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Urban and Center City	32.742975	-96.753203
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	Barometric Pressure	PAMS, SLAMS	Barometric pressure transducer	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	Carbonyl	PAMS, SLAMS	DNPH Silica HPLC	8 Hour; Seasonal, 24 Hours; Seasonal	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	Ceilometer	PAMS, SLAMS	Radar profiler	Continuous	Neighborhood Transport	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	CO (High Sensitivity)	NCORE, SLAMS	Gas Filter Correlation	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	Dew Point	SPM	Derived at site	Continuous	Population Exposure	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	NO2 (Direct)	PAMS, SLAMS	Direct-Read NO2	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	NOy (High Sensitivity)	NCORE, PAMS, SLAMS	Chemi-luminescence	Continuous	Highest Concentration	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	O3	NCORE, PAMS, SLAMS	UV Photometric	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	PM10-2.5	NCORE, SLAMS, SPM	Broadband Spectroscopy electronic average	Continuous	Population Exposure	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	PM10 (FEM)	NCORE, SLAMS, SPM	Broadband Spectroscopy, T640x standard conditions	Continuous	Population Exposure	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	PM2.5 (FEM)	NCORE, SLAMS, SPM	Broadband Spectroscopy, T640x	Continuous	Population Exposure	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	PM2.5 (FRM)	NCORE, SLAMS	Sequential FRM Gravimetric	24 Hours; 1, 3 Days	Population Exposure	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	PM2.5 (FRM)	Collocated QC, SLAMS	Sequential FRM Gravimetric	24 Hours; 1, 12 Days	Population Exposure	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	PM2.5 (Speciation)	CSN STN, NCORE, SLAMS	Carbons, Elements, Ions, SASS/URG	24 Hours; 1, 3 Days	Population Exposure	Neighborhood	Urban and Center City	32.820073	-96.860125

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	Precipitation	PAMS, SLAMS	Rain Gauge	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	Relative Humidity	NCORE, PAMS, SLAMS	Humidity Sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	SO2 (High Sensitivity)	NCORE, SLAMS	Pulsed Fluorescence	Continuous	Population Exposure	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	Speciated VOC (AutoGC)	PAMS, SLAMS	Automated Gas Chromatograph	Continuous	Highest Concentration; Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	Temperature (Outdoor)	PAMS, SLAMS	Aspirated Thermister	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	UV Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	Visibility	SPM	Visibility Sensor	Continuous	Population Exposure	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481130069	Dallas Hinton	1415 Hinton Street, Dallas	Wind	PAMS, SLAMS	Potentiometer Cup Anemometer	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.820073	-96.860125
Dallas-Fort Worth-Arlington, TX	481131067	Dallas LBJ Freeway	8652 LBJ Freeway, Dallas	NO, NO2, NOx	Near Road, SLAMS	Chemi-luminescence	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	32.921151	-96.753540
Dallas-Fort Worth-Arlington, TX	481131067	Dallas LBJ Freeway	8652 LBJ Freeway, Dallas	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	32.921151	-96.753540
Dallas-Fort Worth-Arlington, TX	481131067	Dallas LBJ Freeway	8652 LBJ Freeway, Dallas	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	32.921151	-96.753540
Dallas-Fort Worth-Arlington, TX	481130075	Dallas North #2	12532 1/2 Nuestra Drive, Dallas	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Population Exposure	Neighborhood	Suburban	32.919214	-96.808498
Dallas-Fort Worth-Arlington, TX	481130075	Dallas North #2	12532 1/2 Nuestra Drive, Dallas	O3	PAMS, SLAMS	UV Photometric	Continuous	Population Exposure	Urban Scale	Suburban	32.919214	-96.808498
Dallas-Fort Worth-Arlington, TX	481130075	Dallas North #2	12532 1/2 Nuestra Drive, Dallas	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	General, Background	Neighborhood	Suburban	32.919214	-96.808498
Dallas-Fort Worth-Arlington, TX	481130075	Dallas North #2	12532 1/2 Nuestra Drive, Dallas	Temperature (Outdoor)	PAMS, SLAMS	Aspirated Thermister	Continuous	General, Background	Neighborhood	Suburban	32.919214	-96.808498

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Dallas-Fort Worth-Arlington, TX	481130075	Dallas North #2	12532 1/2 Nuestra Drive, Dallas	Wind	PAMS, SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Suburban	32.919214	-96.808498
Dallas-Fort Worth-Arlington, TX	481130087	Dallas Redbird Airport Executive	3277 W Redbird Lane, Dallas	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Population Exposure	Neighborhood	Suburban	32.676454	-96.872038
Dallas-Fort Worth-Arlington, TX	481130087	Dallas Redbird Airport Executive	3277 W Redbird Lane, Dallas	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Urban Scale	Suburban	32.676454	-96.872038
Dallas-Fort Worth-Arlington, TX	481130087	Dallas Redbird Airport Executive	3277 W Redbird Lane, Dallas	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Suburban	32.676454	-96.872038
Dallas-Fort Worth-Arlington, TX	481130087	Dallas Redbird Airport Executive	3277 W Redbird Lane, Dallas	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Suburban	32.676454	-96.872038
Dallas-Fort Worth-Arlington, TX	481210034	Denton Airport South	Denton Airport South, Denton	Dew Point	SPM	Derived at site	Continuous	Population Exposure	Urban Scale	Rural	33.219053	-97.196302
Dallas-Fort Worth-Arlington, TX	481210034	Denton Airport South	Denton Airport South, Denton	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Max Ozone Concentration; Population Exposure	Urban Scale	Rural	33.219053	-97.196302
Dallas-Fort Worth-Arlington, TX	481210034	Denton Airport South	Denton Airport South, Denton	NOy (High Sensitivity)	PAMS, SLAMS	Chemi-luminescence	Continuous	Max Ozone Concentration; Population Exposure	Urban Scale	Rural	33.219053	-97.196302
Dallas-Fort Worth-Arlington, TX	481210034	Denton Airport South	Denton Airport South, Denton	O3	PAMS, SLAMS	UV Photometric	Continuous	Max Ozone Concentration; Population Exposure	Urban Scale	Rural	33.219053	-97.196302
Dallas-Fort Worth-Arlington, TX	481210034	Denton Airport South	Denton Airport South, Denton	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Urban Scale	Rural	33.219053	-97.196302
Dallas-Fort Worth-Arlington, TX	481210034	Denton Airport South	Denton Airport South, Denton	Precipitation	PAMS, SLAMS	Rain Gauge	Continuous	Max Ozone Concentration	Urban Scale	Rural	33.219053	-97.196302
Dallas-Fort Worth-Arlington, TX	481210034	Denton Airport South	Denton Airport South, Denton	Relative Humidity	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Ozone Concentration	Urban Scale	Rural	33.219053	-97.196302
Dallas-Fort Worth-Arlington, TX	481210034	Denton Airport South	Denton Airport South, Denton	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Ozone Concentration	Urban Scale	Rural	33.219053	-97.196302
Dallas-Fort Worth-Arlington, TX	481210034	Denton Airport South	Denton Airport South, Denton	Speciated VOC (Canister)	PAMS, SLAMS	Canister GC-MS	24 Hours; 1, 6 Days	Max Ozone Concentration; Population Exposure	Urban Scale	Rural	33.219053	-97.196302
Dallas-Fort Worth-Arlington, TX	481210034	Denton Airport South	Denton Airport South, Denton	Temperature (Outdoor)	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Ozone Concentration	Urban Scale	Rural	33.219053	-97.196302

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Dallas-Fort Worth-Arlington, TX	481210034	Denton Airport South	Denton Airport South, Denton	Wind	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Ozone Concentration	Urban Scale	Rural	33.219053	-97.196302
Dallas-Fort Worth-Arlington, TX	484390075	Eagle Mountain Lake	14290 Morris Dido Newark Rd, Eagle Mountain	NO, NO2, NOx	SPM	Chemi-luminescence	Continuous	Max Precursor Emissions Impact	Urban Scale	Rural	32.987874	-97.477114
Dallas-Fort Worth-Arlington, TX	484390075	Eagle Mountain Lake	14290 Morris Dido Newark Rd, Eagle Mountain	O3	SLAMS	UV Photometric	Continuous	Max Ozone Concentration	Neighborhood	Rural	32.987874	-97.477114
Dallas-Fort Worth-Arlington, TX	484390075	Eagle Mountain Lake	14290 Morris Dido Newark Rd, Eagle Mountain	Solar Radiation	SPM	Photovoltaic	Continuous	Highest Concentration	Middle Scale	Rural	32.987874	-97.477114
Dallas-Fort Worth-Arlington, TX	484390075	Eagle Mountain Lake	14290 Morris Dido Newark Rd, Eagle Mountain	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Highest Concentration	Middle Scale	Rural	32.987874	-97.477114
Dallas-Fort Worth-Arlington, TX	484390075	Eagle Mountain Lake	14290 Morris Dido Newark Rd, Eagle Mountain	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Highest Concentration	Middle Scale	Rural	32.987874	-97.477114
Dallas-Fort Worth-Arlington, TX	481130061	Earhart	3434 Bickers (Earhart Elem School), Dallas	PM10 (FRM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Urban and Center City	32.785382	-96.876594
Dallas-Fort Worth-Arlington, TX	484391053	Fort Worth California Parkway North	1198 California Parkway North, Fort Worth	CO	Near Road, SLAMS	Gas Filter Correlation	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	32.664777	-97.337907
Dallas-Fort Worth-Arlington, TX	484391053	Fort Worth California Parkway North	1198 California Parkway North, Fort Worth	NO, NO2, NOx	Near Road, SLAMS	Chemi-luminescence	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	32.664777	-97.337907
Dallas-Fort Worth-Arlington, TX	484391053	Fort Worth California Parkway North	1198 California Parkway North, Fort Worth	PM2.5 (Beta)	Near Road, SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Microscale	Urban and Center City	32.664777	-97.337907
Dallas-Fort Worth-Arlington, TX	484391053	Fort Worth California Parkway North	1198 California Parkway North, Fort Worth	PM2.5 (Beta)	Collocated QC, SLAMS	Beta Attenuation, BAM 1022	Continuous	Quality Assurance	Microscale	Urban and Center City	32.664777	-97.337907
Dallas-Fort Worth-Arlington, TX	484391053	Fort Worth California Parkway North	1198 California Parkway North, Fort Worth	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	32.664777	-97.337907
Dallas-Fort Worth-Arlington, TX	484391053	Fort Worth California Parkway North	1198 California Parkway North, Fort Worth	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	32.664777	-97.337907
Dallas-Fort Worth-Arlington, TX	484391002	Fort Worth Northwest	3317 Ross Ave, Fort Worth	Carbonyl	PAMS, SLAMS	DNPH Silica HPLC	24 Hours; Seasonal	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.805818	-97.356523
Dallas-Fort Worth-Arlington, TX	484391002	Fort Worth Northwest	3317 Ross Ave, Fort Worth	Dew Point	SPM	Derived at site	Continuous	Population Exposure	Middle Scale	Urban and Center City	32.805818	-97.356523
Dallas-Fort Worth-Arlington, TX	484391002	Fort Worth Northwest	3317 Ross Ave, Fort Worth	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Urban and Center City	32.805818	-97.356523

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Dallas-Fort Worth-Arlington, TX	484391002	Fort Worth Northwest	3317 Ross Ave, Fort Worth	O3	PAMS, SLAMS	UV Photometric	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Urban and Center City	32.805818	-97.356523
Dallas-Fort Worth-Arlington, TX	484391002	Fort Worth Northwest	3317 Ross Ave, Fort Worth	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Urban and Center City	32.805818	-97.356523
Dallas-Fort Worth-Arlington, TX	484391002	Fort Worth Northwest	3317 Ross Ave, Fort Worth	Relative Humidity	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.805818	-97.356523
Dallas-Fort Worth-Arlington, TX	484391002	Fort Worth Northwest	3317 Ross Ave, Fort Worth	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.805818	-97.356523
Dallas-Fort Worth-Arlington, TX	484391002	Fort Worth Northwest	3317 Ross Ave, Fort Worth	Speciated VOC (AutoGC)	PAMS, SLAMS	Automated Gas Chromatograph	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Urban and Center City	32.805818	-97.356523
Dallas-Fort Worth-Arlington, TX	484391002	Fort Worth Northwest	3317 Ross Ave, Fort Worth	Temperature (Outdoor)	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.805818	-97.356523
Dallas-Fort Worth-Arlington, TX	484391002	Fort Worth Northwest	3317 Ross Ave, Fort Worth	Wind	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	32.805818	-97.356523
Dallas-Fort Worth-Arlington, TX	480850005	Frisco	6590 Hillcrest Road, Frisco	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Urban Scale	Suburban	33.132424	-96.786413
Dallas-Fort Worth-Arlington, TX	480850005	Frisco	6590 Hillcrest Road, Frisco	Solar Radiation	SPM	Photovoltaic	Continuous	General, Background	Urban Scale	Suburban	33.132424	-96.786413
Dallas-Fort Worth-Arlington, TX	480850005	Frisco	6590 Hillcrest Road, Frisco	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Urban Scale	Suburban	33.132424	-96.786413
Dallas-Fort Worth-Arlington, TX	480850005	Frisco	6590 Hillcrest Road, Frisco	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Urban Scale	Suburban	33.132424	-96.786413
Dallas-Fort Worth-Arlington, TX	480850009	Frisco Eubanks	6601 Eubanks, Frisco	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Population Exposure; Source Oriented	Neighborhood	Suburban	33.144678	-96.828795
Dallas-Fort Worth-Arlington, TX	480850009	Frisco Eubanks	6601 Eubanks, Frisco	TSP (Pb)	SLAMS	HiVol ICP-MS	24 Hours; 1, 6 Days	Population Exposure; Source Oriented	Neighborhood	Suburban	33.144678	-96.828795
Dallas-Fort Worth-Arlington, TX	480850009	Frisco Eubanks	6601 Eubanks, Frisco	TSP (Pb)	Collocated QC, SLAMS	HiVol ICP-MS	24 Hours; 1, 12 Days	Population Exposure; Source Oriented	Neighborhood	Suburban	33.144678	-96.828795
Dallas-Fort Worth-Arlington, TX	480850009	Frisco Eubanks	6601 Eubanks, Frisco	Wind (3m)	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Suburban	33.144678	-96.828795

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Dallas-Fort Worth-Arlington, TX	480850029	Frisco Stonebrook	7202 Stonebrook Parkway, Frisco	TSP (Pb)	SPM	HiVol ICP-MS	24 Hours; 1, 6 Days	Population Exposure; Source Oriented	Neighborhood	Suburban	33.136047	-96.824484
Dallas-Fort Worth-Arlington, TX	484393009	Grapevine Fairway	4100 Fairway Dr, Grapevine	Barometric Pressure	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Ozone Concentration	Neighborhood	Suburban	32.984265	-97.063700
Dallas-Fort Worth-Arlington, TX	484393009	Grapevine Fairway	4100 Fairway Dr, Grapevine	Dew Point	SPM	Derived at site	Continuous	Highest Concentration; Max Ozone Concentration	Neighborhood	Suburban	32.984265	-97.063700
Dallas-Fort Worth-Arlington, TX	484393009	Grapevine Fairway	4100 Fairway Dr, Grapevine	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Max Ozone Concentration; Population Exposure	Neighborhood	Suburban	32.984265	-97.063700
Dallas-Fort Worth-Arlington, TX	484393009	Grapevine Fairway	4100 Fairway Dr, Grapevine	O3	PAMS, SLAMS	UV Photometric	Continuous	Max Ozone Concentration; Population Exposure	Neighborhood	Suburban	32.984265	-97.063700
Dallas-Fort Worth-Arlington, TX	484393009	Grapevine Fairway	4100 Fairway Dr, Grapevine	Relative Humidity	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Ozone Concentration	Neighborhood	Suburban	32.984265	-97.063700
Dallas-Fort Worth-Arlington, TX	484393009	Grapevine Fairway	4100 Fairway Dr, Grapevine	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Ozone Concentration	Neighborhood	Suburban	32.984265	-97.063700
Dallas-Fort Worth-Arlington, TX	484393009	Grapevine Fairway	4100 Fairway Dr, Grapevine	Speciated VOC (Canister)	PAMS, SLAMS	Canister GC-MS	24 Hours; 1, 6 Days	Max Ozone Concentration; Population Exposure	Neighborhood	Suburban	32.984265	-97.063700
Dallas-Fort Worth-Arlington, TX	484393009	Grapevine Fairway	4100 Fairway Dr, Grapevine	Temperature (Outdoor)	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Ozone Concentration	Neighborhood	Suburban	32.984265	-97.063700
Dallas-Fort Worth-Arlington, TX	484393009	Grapevine Fairway	4100 Fairway Dr, Grapevine	Wind	PAMS, SLAMS	Sonic weather sensor	Continuous	Max Ozone Concentration	Neighborhood	Suburban	32.984265	-97.063700
Dallas-Fort Worth-Arlington, TX	482311006	Greenville	824 Sayle Street, Greenville	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Population Exposure; Upwind Background	Neighborhood	Suburban	33.153092	-96.115580
Dallas-Fort Worth-Arlington, TX	482311006	Greenville	824 Sayle Street, Greenville	O3	SLAMS	UV Photometric	Continuous	Population Exposure; Upwind Background	Neighborhood	Suburban	33.153092	-96.115580
Dallas-Fort Worth-Arlington, TX	482311006	Greenville	824 Sayle Street, Greenville	Solar Radiation	SPM	Photovoltaic	Continuous	General, Background	Neighborhood	Suburban	33.153092	-96.115580
Dallas-Fort Worth-Arlington, TX	482311006	Greenville	824 Sayle Street, Greenville	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Suburban	33.153092	-96.115580
Dallas-Fort Worth-Arlington, TX	482311006	Greenville	824 Sayle Street, Greenville	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Suburban	33.153092	-96.115580

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Dallas-Fort Worth-Arlington, TX	484391006	Haws Athletic Center	600 1/2 Congress St, Fort Worth	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Urban and Center City	32.759195	-97.342308
Dallas-Fort Worth-Arlington, TX	481391044	Italy	900 FM 667 Ellis County, Italy	Dew Point	SPM	Derived at site	Continuous	Upwind Background	Urban Scale	Rural	32.175430	-96.870198
Dallas-Fort Worth-Arlington, TX	481391044	Italy	900 FM 667 Ellis County, Italy	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Upwind Background	Urban Scale	Rural	32.175430	-96.870198
Dallas-Fort Worth-Arlington, TX	481391044	Italy	900 FM 667 Ellis County, Italy	O3	PAMS, SLAMS	UV Photometric	Continuous	Upwind Background	Urban Scale	Rural	32.175430	-96.870198
Dallas-Fort Worth-Arlington, TX	481391044	Italy	900 FM 667 Ellis County, Italy	Relative Humidity	PAMS, SLAMS	Humidity Sensor	Continuous	Upwind Background	Urban Scale	Rural	32.175430	-96.870198
Dallas-Fort Worth-Arlington, TX	481391044	Italy	900 FM 667 Ellis County, Italy	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Upwind Background	Urban Scale	Rural	32.175430	-96.870198
Dallas-Fort Worth-Arlington, TX	481391044	Italy	900 FM 667 Ellis County, Italy	Speciated VOC (Canister)	PAMS, SLAMS	Canister GC-MS	24 Hours; 1, 6 Days	Upwind Background	Urban Scale	Rural	32.175430	-96.870198
Dallas-Fort Worth-Arlington, TX	481391044	Italy	900 FM 667 Ellis County, Italy	Temperature (Outdoor)	PAMS, SLAMS	Aspirated Thermister	Continuous	Upwind Background	Urban Scale	Rural	32.175430	-96.870198
Dallas-Fort Worth-Arlington, TX	481391044	Italy	900 FM 667 Ellis County, Italy	UV Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Upwind Background	Urban Scale	Rural	32.175430	-96.870198
Dallas-Fort Worth-Arlington, TX	481391044	Italy	900 FM 667 Ellis County, Italy	Wind	PAMS, SLAMS	Potentiometer Cup Anemometer	Continuous	Upwind Background	Urban Scale	Rural	32.175430	-96.870198
Dallas-Fort Worth-Arlington, TX	482511008	Johnson County Luisa	2420 Luisa Ln, Alvarado	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Population Exposure	Neighborhood	Suburban	32.469679	-97.169259
Dallas-Fort Worth-Arlington, TX	482511008	Johnson County Luisa	2420 Luisa Ln, Alvarado	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Suburban	32.469679	-97.169259
Dallas-Fort Worth-Arlington, TX	482570005	Kaufman	3790 S Houston St, Kaufman	Dew Point	SPM	Derived at site	Continuous	Highest Concentration	Neighborhood	Suburban	32.564961	-96.317685
Dallas-Fort Worth-Arlington, TX	482570005	Kaufman	3790 S Houston St, Kaufman	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Population Exposure; Upwind Background	Neighborhood , Urban Scale	Suburban	32.564961	-96.317685
Dallas-Fort Worth-Arlington, TX	482570005	Kaufman	3790 S Houston St, Kaufman	O3	PAMS, SLAMS	UV Photometric	Continuous	Population Exposure; Upwind Background	Urban Scale	Suburban	32.564961	-96.317685
Dallas-Fort Worth-Arlington, TX	482570005	Kaufman	3790 S Houston St, Kaufman	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Upwind Background	Urban Scale	Suburban	32.564961	-96.317685
Dallas-Fort Worth-Arlington, TX	482570005	Kaufman	3790 S Houston St, Kaufman	Relative Humidity	PAMS, SLAMS	Sonic weather sensor	Continuous	Upwind Background	Urban Scale	Suburban	32.564961	-96.317685

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Dallas-Fort Worth-Arlington, TX	482570005	Kaufman	3790 S Houston St, Kaufman	SO2	SLAMS	Pulsed Fluorescence	Continuous	Population Exposure; Upwind Background	Neighborhood	Suburban	32.564961	-96.317685
Dallas-Fort Worth-Arlington, TX	482570005	Kaufman	3790 S Houston St, Kaufman	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Upwind Background	Urban Scale	Suburban	32.564961	-96.317685
Dallas-Fort Worth-Arlington, TX	482570005	Kaufman	3790 S Houston St, Kaufman	Temperature (Outdoor)	PAMS, SLAMS	Sonic weather sensor	Continuous	Upwind Background	Urban Scale	Suburban	32.564961	-96.317685
Dallas-Fort Worth-Arlington, TX	482570005	Kaufman	3790 S Houston St, Kaufman	Wind	PAMS, SLAMS	Sonic weather sensor	Continuous	Upwind Background	Urban Scale	Suburban	32.564961	-96.317685
Dallas-Fort Worth-Arlington, TX	484392003	Keller	FAA Site off Alta Vista Road, Fort Worth	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Max Precursor Emissions Impact	Urban Scale	Suburban	32.922503	-97.282089
Dallas-Fort Worth-Arlington, TX	484392003	Keller	FAA Site off Alta Vista Road, Fort Worth	O3	PAMS, SLAMS	UV Photometric	Continuous	Max Ozone Concentration; Population Exposure	Neighborhood	Suburban	32.922503	-97.282089
Dallas-Fort Worth-Arlington, TX	484392003	Keller	FAA Site off Alta Vista Road, Fort Worth	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	General, Background	Urban Scale	Suburban	32.922503	-97.282089
Dallas-Fort Worth-Arlington, TX	484392003	Keller	FAA Site off Alta Vista Road, Fort Worth	Temperature (Outdoor)	PAMS, SLAMS	Aspirated Thermister	Continuous	General, Background	Urban Scale	Suburban	32.922503	-97.282089
Dallas-Fort Worth-Arlington, TX	484392003	Keller	FAA Site off Alta Vista Road, Fort Worth	Wind	PAMS, SLAMS	Potentiometer Cup Anemometer	Continuous	General, Background	Urban Scale	Suburban	32.922503	-97.282089
Dallas-Fort Worth-Arlington, TX	481390016	Midlothian OFW	2725 Old Fort Worth Road, Midlothian	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Source Oriented	Neighborhood	Suburban	32.482086	-97.026894
Dallas-Fort Worth-Arlington, TX	481390016	Midlothian OFW	2725 Old Fort Worth Road, Midlothian	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Urban Scale	Suburban	32.482086	-97.026894
Dallas-Fort Worth-Arlington, TX	481390016	Midlothian OFW	2725 Old Fort Worth Road, Midlothian	PM2.5 (Speciation)	SPM	Carbons, Elements, Ions, 2025/URG	24 Hours; 1, 6 Days	Population Exposure; Source Oriented	Neighborhood , Regional Scale	Suburban	32.482086	-97.026894
Dallas-Fort Worth-Arlington, TX	481390016	Midlothian OFW	2725 Old Fort Worth Road, Midlothian	PM2.5 (TEOM)^{N}	SPM	TEOM Gravimetric	Continuous	Regional Transport	Regional Scale	Suburban	32.482086	-97.026894
Dallas-Fort Worth-Arlington, TX	481390016	Midlothian OFW	2725 Old Fort Worth Road, Midlothian	PM2.5 Mass (Speciation)	SPM	Sequential FRM Gravimetric	24 Hours; 1, 6 Days	Population Exposure; Source Oriented	Regional Scale	Suburban	32.482086	-97.026894
Dallas-Fort Worth-Arlington, TX	481390016	Midlothian OFW	2725 Old Fort Worth Road, Midlothian	SO2	SLAMS	Pulsed Fluorescence	Continuous	Source Oriented	Neighborhood	Suburban	32.482086	-97.026894
Dallas-Fort Worth-Arlington, TX	481390016	Midlothian OFW	2725 Old Fort Worth Road, Midlothian	Solar Radiation	SPM	Photovoltaic	Continuous	General, Background	Neighborhood	Suburban	32.482086	-97.026894

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Dallas-Fort Worth-Arlington, TX	481390016	Midlothian OFW	2725 Old Fort Worth Road, Midlothian	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Suburban	32.482086	-97.026894
Dallas-Fort Worth-Arlington, TX	481390016	Midlothian OFW	2725 Old Fort Worth Road, Midlothian	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Suburban	32.482086	-97.026894
Dallas-Fort Worth-Arlington, TX	483670081	Parker County	3033 New Authon Rd, Weatherford	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Urban Scale	Rural	32.868773	-97.905945
Dallas-Fort Worth-Arlington, TX	483670081	Parker County	3033 New Authon Rd, Weatherford	Solar Radiation	SPM	Photovoltaic	Continuous	Source Oriented	Neighborhood	Rural	32.868773	-97.905945
Dallas-Fort Worth-Arlington, TX	483670081	Parker County	3033 New Authon Rd, Weatherford	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Source Oriented	Neighborhood	Rural	32.868773	-97.905945
Dallas-Fort Worth-Arlington, TX	483670081	Parker County	3033 New Authon Rd, Weatherford	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Source Oriented	Neighborhood	Rural	32.868773	-97.905945
Dallas-Fort Worth-Arlington, TX	481211032	Pilot Point	792 E Northside Dr, Pilot Point	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Regional Scale	Suburban	33.410654	-96.944598
Dallas-Fort Worth-Arlington, TX	481211032	Pilot Point	792 E Northside Dr, Pilot Point	Solar Radiation	SPM	Photovoltaic	Continuous	Upwind Background	Regional Scale	Suburban	33.410654	-96.944598
Dallas-Fort Worth-Arlington, TX	481211032	Pilot Point	792 E Northside Dr, Pilot Point	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Upwind Background	Regional Scale	Suburban	33.410654	-96.944598
Dallas-Fort Worth-Arlington, TX	481211032	Pilot Point	792 E Northside Dr, Pilot Point	Wind	SPM	Sonic weather sensor	Continuous	Upwind Background	Regional Scale	Suburban	33.410654	-96.944598
Dallas-Fort Worth-Arlington, TX	483970001	Rockwall Heath	100 E Heath St, Rockwall	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	32.936521	-96.459214
Dallas-Fort Worth-Arlington, TX	483970001	Rockwall Heath	100 E Heath St, Rockwall	Solar Radiation	SPM	Photovoltaic	Continuous	Population Exposure	Neighborhood	Suburban	32.936521	-96.459214
Dallas-Fort Worth-Arlington, TX	483970001	Rockwall Heath	100 E Heath St, Rockwall	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Population Exposure	Neighborhood	Suburban	32.936521	-96.459214
Dallas-Fort Worth-Arlington, TX	483970001	Rockwall Heath	100 E Heath St, Rockwall	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Suburban	32.936521	-96.459214
Dallas-Fort Worth-Arlington, TX	482570020	Terrell Temtex	2988 Temtex Blvd, Terrell	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Rural	32.731930	-96.317922
Dallas-Fort Worth-Arlington, TX	482570020	Terrell Temtex	2988 Temtex Blvd, Terrell	TSP (Pb)	SLAMS	HiVol ICP-MS	24 Hours; 1, 6 Days	Population Exposure; Source Oriented	Neighborhood	Rural	32.731930	-96.317922
Dallas-Fort Worth-Arlington, TX	482570020	Terrell Temtex	2988 Temtex Blvd, Terrell	TSP (Pb)	Collocated QC, SLAMS	HiVol ICP-MS	24 Hours; 1, 12 Days	Population Exposure; Source Oriented	Neighborhood	Rural	32.731930	-96.317922

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Dallas-Fort Worth-Arlington, TX	482570020	Terrell Temtex	2988 Temtex Blvd, Terrell	Wind (3m)	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Rural	32.731930	-96.317922
Eagle Pass, TX*	483230004	Eagle Pass	265 Foster Maldonado, Eagle Pass	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Regional Transport	Regional Scale	Urban and Center City	28.704612	-100.451148
Eagle Pass, TX*	483230004	Eagle Pass	265 Foster Maldonado, Eagle Pass	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Regional Transport	Regional Scale	Urban and Center City	28.704612	-100.451148
Eagle Pass, TX*	483230004	Eagle Pass	265 Foster Maldonado, Eagle Pass	Visibility	SPM	Visibility Sensor	Continuous	Regional Transport	Regional Scale	Urban and Center City	28.704612	-100.451148
Eagle Pass, TX*	483230004	Eagle Pass	265 Foster Maldonado, Eagle Pass	Wind	SPM	Sonic weather sensor	Continuous	Regional Transport	Regional Scale	Urban and Center City	28.704612	-100.451148
El Paso, TX	481410055	Ascarate Park SE	650 R E Thomason Loop, El Paso	Barometric Pressure	PAMS, SLAMS	Barometric pressure transducer	Continuous	Max Ozone Concentration; Upwind Background	Neighborhood	Suburban	31.746749	-106.402795
El Paso, TX	481410055	Ascarate Park SE	650 R E Thomason Loop, El Paso	Dew Point	SPM	Derived at site	Continuous	Highest Concentration; Upwind Background	Urban Scale	Suburban	31.746749	-106.402795
El Paso, TX	481410055	Ascarate Park SE	650 R E Thomason Loop, El Paso	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Highest Concentration; Upwind Background	Neighborhood , Urban Scale	Suburban	31.746749	-106.402795
El Paso, TX	481410055	Ascarate Park SE	650 R E Thomason Loop, El Paso	O3	PAMS, SLAMS	UV Photometric	Continuous	Max Ozone Concentration; Upwind Background	Neighborhood	Suburban	31.746749	-106.402795
El Paso, TX	481410055	Ascarate Park SE	650 R E Thomason Loop, El Paso	PM2.5 (TEOM)^{N}	SPM	TEOM Gravimetric	Continuous	Population Exposure	Neighborhood	Suburban	31.746749	-106.402795
El Paso, TX	481410055	Ascarate Park SE	650 R E Thomason Loop, El Paso	Relative Humidity	PAMS, SLAMS	Humidity Sensor	Continuous	Max Ozone Concentration; Upwind Background	Neighborhood	Suburban	31.746749	-106.402795
El Paso, TX	481410055	Ascarate Park SE	650 R E Thomason Loop, El Paso	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Ozone Concentration; Upwind Background	Neighborhood	Suburban	31.746749	-106.402795
El Paso, TX	481410055	Ascarate Park SE	650 R E Thomason Loop, El Paso	Temperature (Outdoor)	PAMS, SLAMS	Aspirated Thermister	Continuous	Max Ozone Concentration; Upwind Background	Neighborhood	Suburban	31.746749	-106.402795
El Paso, TX	481410055	Ascarate Park SE	650 R E Thomason Loop, El Paso	Visibility	SPM	Visibility Sensor	Continuous	Highest Concentration; Population Exposure	Urban Scale	Suburban	31.746749	-106.402795

Appendix B: Ambient Air Monitoring Network Site List

MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
El Paso, TX	481410055	Ascarate Park SE	650 R E Thomason Loop, El Paso	Wind	PAMS, SLAMS	Potentiometer Cup Anemometer	Continuous	Max Ozone Concentration; Upwind Background	Neighborhood	Suburban	31.746749	-106.402795
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	CO (High Sensitivity)	NCORE, SLAMS	Gas Filter Correlation	Continuous	Highest Concentration	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	Dew Point	SPM	Derived at site	Continuous	Highest Concentration; Max Precursor Emissions Impact	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Highest Concentration; Max Precursor Emissions Impact	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	NOy (High Sensitivity)	NCORE, SLAMS	Chemi-luminescence	Continuous	Highest Concentration	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	O3	NCORE, PAMS, SLAMS	UV Photometric	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	PM10-2.5	NCORE, SLAMS, SPM	Beta Attenuation electronic average	Continuous	Highest Concentration; Population Exposure	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	$PM10^{N}$ LC (planned FEM)	NCORE, SLAMS	Attenuation, BAM 1020 local conditions	Continuous	Urban and Center City	Neighborhood	Concentration; Population Exposure	31.765692	-106.455232
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	PM2.5	NCORE, SLAMS, SPM	Beta Attenuation, BAM 1020	Continuous	Highest Concentration; Population Exposure	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	PM2.5 (FRM)	NCORE, SLAMS, SPM	Sequential FRM Gravimetric	24 Hours; 1, 3 Days	Highest Concentration; Population Exposure	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	PM2.5 (Speciation)	CSN STN, NCORE, SLAMS	Carbons, Elements, Ions, SASS/URG	24 Hours; 1, 3 Days	Highest Concentration	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	Relative Humidity	PAMS, SLAMS	Humidity Sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	SO2 (High Sensitivity)	NCORE, SLAMS	Pulsed Fluorescence	Continuous	Highest Concentration	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	31.765692	-106.455235

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	Speciated VOC (AutoGC)	PAMS, SLAMS	Automated Gas Chromatograph	Continuous	Highest Concentration; Max Precursor Emissions Impact	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	Temperature (Outdoor)	PAMS, SLAMS	Aspirated Thermister	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410044	El Paso Chamizal	800 S San Marcial Street, El Paso	Wind	PAMS, SLAMS	Potentiometer Cup Anemometer	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	31.765692	-106.455235
El Paso, TX	481410038	El Paso Mimosa	7501 Mimosa Avenue, El Paso	PM10 (FRM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Suburban	31.735872	-106.377911
El Paso, TX	481410037	El Paso UTEP	250 Rim Rd, El Paso	CO	SPM	Gas Filter Correlation	Continuous	Highest Concentration	Neighborhood	Urban and Center City	31.768302	-106.501256
El Paso, TX	481410037	El Paso UTEP	250 Rim Rd, El Paso	Dew Point	SPM	Derived at site	Continuous	Max Ozone Concentration; Population Exposure	Neighborhood	Urban and Center City	31.768302	-106.501256
El Paso, TX	481410037	El Paso UTEP	250 Rim Rd, El Paso	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Max Ozone Concentration; Population Exposure	Neighborhood	Urban and Center City	31.768302	-106.501256
El Paso, TX	481410037	El Paso UTEP	250 Rim Rd, El Paso	O3	PAMS, SLAMS	UV Photometric	Continuous	Max Ozone Concentration; Population Exposure	Neighborhood	Urban and Center City	31.768302	-106.501256
El Paso, TX	481410037	El Paso UTEP	250 Rim Rd, El Paso	PM2.5 (FRM)	SLAMS, SPM	Sequential FRM Gravimetric	24 Hours; 1, 6 Days	General, Background; Population Exposure	Neighborhood	Urban and Center City	31.768302	-106.501256
El Paso, TX	481410037	El Paso UTEP	250 Rim Rd, El Paso	PM2.5 (TEOM)^{N}	SPM	TEOM Gravimetric	Continuous	Highest Concentration	Neighborhood	Urban and Center City	31.768302	-106.501256
El Paso, TX	481410037	El Paso UTEP	250 Rim Rd, El Paso	Precipitation	PAMS, SLAMS	Rain Gauge	Continuous	Max Ozone Concentration	Neighborhood	Urban and Center City	31.768302	-106.501256
El Paso, TX	481410037	El Paso UTEP	250 Rim Rd, El Paso	Relative Humidity	PAMS, SLAMS	Humidity Sensor	Continuous	Max Ozone Concentration	Neighborhood	Urban and Center City	31.768302	-106.501256
El Paso, TX	481410037	El Paso UTEP	250 Rim Rd, El Paso	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Ozone Concentration	Neighborhood	Urban and Center City	31.768302	-106.501256
El Paso, TX	481410037	El Paso UTEP	250 Rim Rd, El Paso	Temperature (Outdoor)	PAMS, SLAMS	Aspirated Thermister	Continuous	Max Ozone Concentration	Neighborhood	Urban and Center City	31.768302	-106.501256
El Paso, TX	481410037	El Paso UTEP	250 Rim Rd, El Paso	UV Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Ozone Concentration	Neighborhood	Urban and Center City	31.768302	-106.501256

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
El Paso, TX	481410037	El Paso UTEP	250 Rim Rd, El Paso	Wind	PAMS, SLAMS	Potentiometer Cup Anemometer	Continuous	Max Ozone Concentration	Neighborhood	Urban and Center City	31.768302	-106.501256
El Paso, TX	481410029	Ivanhoe	10834 Ivanhoe (Ivanhoe Fire Station), El Paso	O3	SPM	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	31.785756	-106.323584
El Paso, TX	481410029	Ivanhoe	10834 Ivanhoe (Ivanhoe Fire Station), El Paso	PM10 (FRM) (planned FEM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Suburban	31.785756	-106.323584
El Paso, TX	481410029	Ivanhoe	10834 Ivanhoe (Ivanhoe Fire Station), El Paso	Relative Humidity	Border Grant, SLAMS	Humidity Sensor	Continuous	General, Background	Neighborhood	Suburban	31.785756	-106.323584
El Paso, TX	481410029	Ivanhoe	10834 Ivanhoe (Ivanhoe Fire Station), El Paso	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Suburban	31.785756	-106.323584
El Paso, TX	481410029	Ivanhoe	10834 Ivanhoe (Ivanhoe Fire Station), El Paso	Wind	Border Grant, SLAMS	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Suburban	31.785756	-106.323584
El Paso, TX	481411021	Ojo De Agua	6767 Ojo De Agua, El Paso	CO	SLAMS	Gas Filter Correlation	Continuous	Population Exposure	Neighborhood	Suburban	31.862509	-106.547315
El Paso, TX	481411021	Ojo De Agua	6767 Ojo De Agua, El Paso	O3	SPM	UV Photometric	Continuous	General, Background	Neighborhood	Suburban	31.862509	-106.547315
El Paso, TX	481411021	Ojo De Agua	6767 Ojo De Agua, El Paso	PM10 (FRM)	Collocated QC, SLAMS	HiVol Gravimetric	24 Hours; 1, 12 Days	Population Exposure	Neighborhood	Suburban	31.862509	-106.547315
El Paso, TX	481411021	Ojo De Agua	6767 Ojo De Agua, El Paso	PM10 (FRM) (planned FEM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Suburban	31.862509	-106.547315
El Paso, TX	481411021	Ojo De Agua	6767 Ojo De Agua, El Paso	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Suburban	31.862509	-106.547315
El Paso, TX	481410058	Skyline Park	5050A Yvette Drive, El Paso	O3	Border Grant, SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	31.893912	-106.425825
El Paso, TX	481410058	Skyline Park	5050A Yvette Drive, El Paso	Temperature (Outdoor)	Border Grant, SLAMS	Aspirated Thermister	Continuous	Population Exposure	Neighborhood	Suburban	31.893912	-106.425825
El Paso, TX	481410058	Skyline Park	5050A Yvette Drive, El Paso	Wind	Border Grant, SLAMS	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Suburban	31.893912	-106.425825
El Paso, TX	481410057	Socorro Hueco	320 Old Hueco Tanks Road, El Paso	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	31.667545	-106.287951
El Paso, TX	481410057	Socorro Hueco	320 Old Hueco Tanks Road, El Paso	PM10 (FRM)	Border Grant, Collocated QC, SLAMS	HiVol Gravimetric	24 Hours; 1, 12 Days	Population Exposure	Neighborhood	Suburban	31.667545	-106.287951

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
El Paso, TX	481410057	Socorro Hueco	320 Old Hueco Tanks Road, El Paso	PM10 (FRM) (planned FEM)	Border Grant, SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	General, Background; Population Exposure	Neighborhood	Suburban	31.667545	-106.287951
El Paso, TX	481410057	Socorro Hueco	320 Old Hueco Tanks Road, El Paso	PM2.5 (TEOM)^{N}	SPM	TEOM Gravimetric	Continuous	Population Exposure	Neighborhood	Suburban	31.667545	-106.287951
El Paso, TX	481410057	Socorro Hueco	320 Old Hueco Tanks Road, El Paso	Radar Profiler	SPM	Radar profiler	Continuous	Regional Transport	Regional Scale	Suburban	31.667545	-106.287951
El Paso, TX	481410057	Socorro Hueco	320 Old Hueco Tanks Road, El Paso	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Population Exposure	Neighborhood	Suburban	31.667545	-106.287951
El Paso, TX	481410057	Socorro Hueco	320 Old Hueco Tanks Road, El Paso	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Suburban	31.667545	-106.287951
El Paso, TX	481410693	Van Buren	2700 Harrison Avenue, El Paso	PM10 (FRM)	SPM	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Urban and Center City	31.813352	-106.464534
El Paso, TX	481410693	Van Buren	2700 Harrison Avenue, El Paso	Relative Humidity	SPM	Humidity Sensor	Continuous	Population Exposure	Neighborhood	Urban and Center City	31.813352	-106.464534
El Paso, TX	481410693	Van Buren	2700 Harrison Avenue, El Paso	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Population Exposure	Neighborhood	Urban and Center City	31.813352	-106.464534
El Paso, TX	481410693	Van Buren	2700 Harrison Avenue, El Paso	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Urban and Center City	31.813352	-106.464534
Granbury, TX*	482210001	Granbury	200 N Gordon Street, Granbury	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	32.442312	-97.803542
Granbury, TX*	482210001	Granbury	200 N Gordon Street, Granbury	Solar Radiation	SPM	Photovoltaic	Continuous	General, Background	Middle Scale	Suburban	32.442312	-97.803542
Granbury, TX*	482210001	Granbury	200 N Gordon Street, Granbury	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Middle Scale	Suburban	32.442312	-97.803542
Granbury, TX*	482210001	Granbury	200 N Gordon Street, Granbury	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Middle Scale	Suburban	32.442312	-97.803542
Houston-The Woodlands-Sugar Land, TX	482010058	Baytown	7210 1/2 Bayway Drive, Baytown	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Suburban	29.770694	-95.031230
Houston-The Woodlands-Sugar Land, TX	482010058	Baytown	7210 1/2 Bayway Drive, Baytown	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Highest Concentration	Neighborhood	Suburban	29.770694	-95.031230
Houston-The Woodlands-Sugar Land, TX	482010058	Baytown	7210 1/2 Bayway Drive, Baytown	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Highest Concentration	Neighborhood	Suburban	29.770694	-95.031230

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Houston-The Woodlands-Sugar Land, TX	482011017	Baytown Garth	8622 Garth Road Unit A, Baytown	O3	SLAMS	UV Photometric	Continuous	Max Ozone Concentration	Neighborhood	Suburban	29.823336	-94.983859
Houston-The Woodlands-Sugar Land, TX	482011017	Baytown Garth	8622 Garth Road Unit A, Baytown	Solar Radiation	SPM	Photovoltaic	Continuous	Population Exposure	Neighborhood	Suburban	29.823336	-94.983859
Houston-The Woodlands-Sugar Land, TX	482011017	Baytown Garth	8622 Garth Road Unit A, Baytown	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Population Exposure	Neighborhood	Suburban	29.823336	-94.983859
Houston-The Woodlands-Sugar Land, TX	482011017	Baytown Garth	8622 Garth Road Unit A, Baytown	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Suburban	29.823336	-94.983859
Houston-The Woodlands-Sugar Land, TX	482010026	Channelview	1405 Sheldon Road, Channelview	Dew Point	SPM	Derived at site	Continuous	Highest Concentration	Neighborhood	Suburban	29.802694	-95.125510
Houston-The Woodlands-Sugar Land, TX	482010026	Channelview	1405 Sheldon Road, Channelview	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Population Exposure	Middle Scale , Neighborhood	Suburban	29.802694	-95.125510
Houston-The Woodlands-Sugar Land, TX	482010026	Channelview	1405 Sheldon Road, Channelview	O3	PAMS, SLAMS	UV Photometric	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Suburban	29.802694	-95.125510
Houston-The Woodlands-Sugar Land, TX	482010026	Channelview	1405 Sheldon Road, Channelview	Relative Humidity	PAMS, SLAMS	Humidity Sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Suburban	29.802694	-95.125510
Houston-The Woodlands-Sugar Land, TX	482010026	Channelview	1405 Sheldon Road, Channelview	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Precursor Emissions Impact	Neighborhood	Suburban	29.802694	-95.125510
Houston-The Woodlands-Sugar Land, TX	482010026	Channelview	1405 Sheldon Road, Channelview	Speciated VOC (AutoGC)	PAMS, SLAMS	Automated Gas Chromatograph	Continuous	Population Exposure	Neighborhood	Suburban	29.802694	-95.125510
Houston-The Woodlands-Sugar Land, TX	482010026	Channelview	1405 Sheldon Road, Channelview	Temperature (Outdoor)	PAMS, SLAMS	Aspirated Thermister	Continuous	Max Precursor Emissions Impact	Neighborhood	Suburban	29.802694	-95.125510
Houston-The Woodlands-Sugar Land, TX	482010026	Channelview	1405 Sheldon Road, Channelview	Wind	PAMS, SLAMS	Potentiometer Cup Anemometer	Continuous	Max Precursor Emissions Impact	Neighborhood	Suburban	29.802694	-95.125510
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	Barometric Pressure	PAMS, SLAMS	Barometric pressure transducer	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	Carbonyl	PAMS, SLAMS	DNPH Silica HPLC	24 Hours; Seasonal	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	CO (High Sensitivity)	SPM	Gas Filter Correlation	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	Dew Point	SPM	Derived at site	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.733729	-95.257603

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	O3	PAMS, SLAMS	UV Photometric	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	PM10 (FRM)	Collocated QC, SLAMS	HiVol Gravimetric	24 Hours; 1, 12 Days	Highest Concentration; Population Exposure	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	PM10 (FRM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Highest Concentration; Source Oriented	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	PM2.5 (FRM)	SLAMS	Sequential FRM Gravimetric	24 Hours; 1, 1 Days	Concentration; Population Exposure; Source Oriented	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	PM2.5 (FRM)	Collocated QC, SLAMS	Sequential FRM Gravimetric	24 Hours; 1, 12 Days	Highest Concentration; Population Exposure	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	PM2.5 (Speciation)	SPM	Carbons, Elements, Ions, 2025/2025	24 Hours; 1, 6 Days	Highest Concentration	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	PM2.5 (TEOM)^{N}	SPM	TEOM Gravimetric	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	PM2.5 Mass (Speciation)	SPM	Sequential FRM Gravimetric	24 Hours; 1, 6 Days	Highest Concentration	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	Precipitation	SPM	Continuous	Continuous	General, Background	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	Relative Humidity	PAMS, SLAMS	Humidity Sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	SO2	SLAMS	Pulsed Fluorescence	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	Speciated VOC (AutoGC)	PAMS, SLAMS	Automated Gas Chromatograph	Continuous	Concentration; Population Exposure; Source Oriented	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	Temperature (Outdoor)	PAMS, SLAMS	Aspirated Thermister	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	29.733729	-95.257603

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	UV Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	482011035	Clinton	9525 1/2 Clinton Dr, Houston	Wind	PAMS, SLAMS	Potentiometer Cup Anemometer	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	29.733729	-95.257603
Houston-The Woodlands-Sugar Land, TX	483390078	Conroe Relocated	9472A Hwy 1484, Conroe	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	General, Background; Population Exposure	Urban Scale	Suburban	30.350326	-95.425137
Houston-The Woodlands-Sugar Land, TX	483390078	Conroe Relocated	9472A Hwy 1484, Conroe	O3	PAMS, SLAMS	UV Photometric	Continuous	General, Background; Population Exposure	Urban Scale	Suburban	30.350326	-95.425137
Houston-The Woodlands-Sugar Land, TX	483390078	Conroe Relocated	9472A Hwy 1484, Conroe	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	General, Background	Neighborhood	Suburban	30.350326	-95.425137
Houston-The Woodlands-Sugar Land, TX	483390078	Conroe Relocated	9472A Hwy 1484, Conroe	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Highest Concentration	Neighborhood	Suburban	30.350326	-95.425137
Houston-The Woodlands-Sugar Land, TX	483390078	Conroe Relocated	9472A Hwy 1484, Conroe	Temperature (Outdoor)	PAMS, SLAMS	Aspirated Thermister	Continuous	Highest Concentration	Neighborhood	Suburban	30.350326	-95.425137
Houston-The Woodlands-Sugar Land, TX	483390078	Conroe Relocated	9472A Hwy 1484, Conroe	Wind	PAMS, SLAMS	Potentiometer Cup Anemometer	Continuous	Highest Concentration	Neighborhood	Suburban	30.350326	-95.425137
Houston-The Woodlands-Sugar Land, TX	480391012	Freeport South Avenue I	207 South Avenue I, Freeport	PM2.5 (FRM)	SPM	Sequential FRM Gravimetric	24 Hours; 1, 6 Days	Source Oriented	Neighborhood	Suburban	28.964395	-95.354975
Houston-The Woodlands-Sugar Land, TX	480391012	Freeport South Avenue I	207 South Avenue I, Freeport	PM2.5 (Speciation)	SPM	Elements	24 Hours; 1, 6 Days	Source Oriented	Neighborhood	Suburban	28.964395	-95.354975
Houston-The Woodlands-Sugar Land, TX	480391012	Freeport South Avenue I	207 South Avenue I, Freeport	SO2	SPM	Pulsed Fluorescence	Continuous	Source Oriented	Middle Scale	Suburban	28.964395	-95.354975
Houston-The Woodlands-Sugar Land, TX	480391012	Freeport South Avenue I	207 South Avenue I, Freeport	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Source Oriented	Middle Scale	Suburban	28.964395	-95.354975
Houston-The Woodlands-Sugar Land, TX	480391012	Freeport South Avenue I	207 South Avenue I, Freeport	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General Background	Middle Scale	Suburban	28.964395	-95.354975
Houston-The Woodlands-Sugar Land, TX	481671034	Galveston 99th Street	9511 Avenue V 1/2, Galveston	Dew Point	SPM	Derived at site	Continuous	General, Background; Upwind Background	Middle Scale	Suburban	29.254478	-94.861287
Houston-The Woodlands-Sugar Land, TX	481671034	Galveston 99th Street	9511 Avenue V 1/2, Galveston	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	General, Background; Upwind Background	Middle Scale , Urban Scale	Suburban	29.254478	-94.861287

Appendix B: Ambient Air Monitoring Network Site List

MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Houston-The Woodlands-Sugar Land, TX	481671034	Galveston 99th Street	9511 Avenue V 1/2, Galveston	O3	PAMS, SLAMS	UV Photometric	Continuous	Max Ozone Concentration; Upwind Background	Urban Scale	Suburban	29.254478	-94.861287
Houston-The Woodlands-Sugar Land, TX	481671034	Galveston 99th Street	9511 Avenue V 1/2, Galveston	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Regional Transport	Regional Scale	Suburban	29.254478	-94.861287
Houston-The Woodlands-Sugar Land, TX	481671034	Galveston 99th Street	9511 Avenue V 1/2, Galveston	Relative Humidity	PAMS, SLAMS	Humidity Sensor	Continuous	Max Ozone Concentration; Upwind Background	Urban Scale	Suburban	29.254478	-94.861287
Houston-The Woodlands-Sugar Land, TX	481671034	Galveston 99th Street	9511 Avenue V 1/2, Galveston	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Ozone Concentration; Upwind Background	Urban Scale	Suburban	29.254478	-94.861287
Houston-The Woodlands-Sugar Land, TX	481671034	Galveston 99th Street	9511 Avenue V 1/2, Galveston	Temperature (Outdoor)	PAMS, SLAMS	Aspirated Thermister	Continuous	Max Ozone Concentration; Upwind Background	Urban Scale	Suburban	29.254478	-94.861287
Houston-The Woodlands-Sugar Land, TX	481671034	Galveston 99th Street	9511 Avenue V 1/2, Galveston	Wind	PAMS, SLAMS	Potentiometer Cup Anemometer	Continuous	Max Ozone Concentration; Upwind Background	Urban Scale	Suburban	29.254478	-94.861287
Houston-The Woodlands-Sugar Land, TX	482010024	Houston Aldine	4510 1/2 Aldine Mail Rd, Houston	Barometric Pressure	PAMS, SLAMS	Barometric pressure transducer	Continuous	Max Ozone Concentration	Neighborhood	Suburban	29.901031	-95.326125
Houston-The Woodlands-Sugar Land, TX	482010024	Houston Aldine	4510 1/2 Aldine Mail Rd, Houston	Dew Point	SPM	Derived at site	Continuous	Population Exposure	Urban Scale	Suburban	29.901031	-95.326125
Houston-The Woodlands-Sugar Land, TX	482010024	Houston Aldine	4510 1/2 Aldine Mail Rd, Houston	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Max Ozone Concentration; Population Exposure	Neighborhood	Suburban	29.901031	-95.326125
Houston-The Woodlands-Sugar Land, TX	482010024	Houston Aldine	4510 1/2 Aldine Mail Rd, Houston	NOy (High Sensitivity)	PAMS, SLAMS	Chemi-luminescence	Continuous	Max Ozone Concentration; Population Exposure	Neighborhood	Suburban	29.901031	-95.326125
Houston-The Woodlands-Sugar Land, TX	482010024	Houston Aldine	4510 1/2 Aldine Mail Rd, Houston	O3	PAMS, SLAMS	UV Photometric	Continuous	Max Ozone Concentration; Population Exposure	Neighborhood	Suburban	29.901031	-95.326125
Houston-The Woodlands-Sugar Land, TX	482010024	Houston Aldine	4510 1/2 Aldine Mail Rd, Houston	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Suburban	29.901031	-95.326125
Houston-The Woodlands-Sugar Land, TX	482010024	Houston Aldine	4510 1/2 Aldine Mail Rd, Houston	PM2.5 (FRM)	Collocated QC, SLAMS	Sequential FRM Gravimetric	24 Hours; 1, 12 Days	Population Exposure	Neighborhood	Suburban	29.901031	-95.326125
Houston-The Woodlands-Sugar Land, TX	482010024	Houston Aldine	4510 1/2 Aldine Mail Rd, Houston	Relative Humidity	PAMS, SLAMS	Humidity Sensor	Continuous	Max Ozone Concentration	Neighborhood	Suburban	29.901031	-95.326125

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Houston-The Woodlands-Sugar Land, TX	482010024	Houston Aldine	4510 1/2 Aldine Mail Rd, Houston	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Ozone Concentration	Neighborhood	Suburban	29.901031	-95.326125
Houston-The Woodlands-Sugar Land, TX	482010024	Houston Aldine	4510 1/2 Aldine Mail Rd, Houston	Temperature (Outdoor)	PAMS, SLAMS	Aspirated Thermister	Continuous	Max Ozone Concentration	Neighborhood	Suburban	29.901031	-95.326125
Houston-The Woodlands-Sugar Land, TX	482010024	Houston Aldine	4510 1/2 Aldine Mail Rd, Houston	Wind	PAMS, SLAMS	Potentiometer Cup Anemometer	Continuous	Max Ozone Concentration	Neighborhood	Suburban	29.901031	-95.326125
Houston-The Woodlands-Sugar Land, TX	482010055	Houston Bayland Park	6400 Bissonnet Street, Houston	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Population Exposure	Middle Scale , Neighborhood	Suburban	29.695747	-95.499222
Houston-The Woodlands-Sugar Land, TX	482010055	Houston Bayland Park	6400 Bissonnet Street, Houston	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Middle Scale	Suburban	29.695747	-95.499222
Houston-The Woodlands-Sugar Land, TX	482010055	Houston Bayland Park	6400 Bissonnet Street, Houston	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Suburban	29.695747	-95.499222
Houston-The Woodlands-Sugar Land, TX	482010055	Houston Bayland Park	6400 Bissonnet Street, Houston	Solar Radiation	SPM	Photovoltaic	Continuous	General, Background; Max Precursor Emissions Impact	Middle Scale	Suburban	29.695747	-95.499222
Houston-The Woodlands-Sugar Land, TX	482010055	Houston Bayland Park	6400 Bissonnet Street, Houston	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	General, Background; Max Precursor Emissions Impact	Middle Scale	Suburban	29.695747	-95.499222
Houston-The Woodlands-Sugar Land, TX	482010055	Houston Bayland Park	6400 Bissonnet Street, Houston	Wind	SPM	Sonic weather sensor	Continuous	General, Background; Max Precursor Emissions Impact	Middle Scale	Suburban	29.695747	-95.499222
Houston-The Woodlands-Sugar Land, TX	482010051	Houston Croquet	13826 1/2 Croquet, Houston	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	29.623980	-95.474347
Houston-The Woodlands-Sugar Land, TX	482010051	Houston Croquet	13826 1/2 Croquet, Houston	SO2	SLAMS	Pulsed Fluorescence	Continuous	Population Exposure	Neighborhood	Suburban	29.623980	-95.474347
Houston-The Woodlands-Sugar Land, TX	482010051	Houston Croquet	13826 1/2 Croquet, Houston	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Population Exposure	Neighborhood	Suburban	29.623980	-95.474347
Houston-The Woodlands-Sugar Land, TX	482010051	Houston Croquet	13826 1/2 Croquet, Houston	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Suburban	29.623980	-95.474347
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	Barometric Pressure	PAMS, SLAMS	Barometric pressure transducer	Continuous	General, Background	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	Carbonyl	PAMS, SLAMS	DNPH Silica HPLC	8 Hour; Seasonal, 24 Hours; Seasonal	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Urban and Center City	29.669736	-95.128525

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	CO (High Sensitivity)	NCORE, SLAMS	Gas Filter Correlation	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	Dew Point	SPM	Derived at site	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	NO2 (Direct)	PAMS, SLAMS	Direct-Read NO2	Continuous	Population Exposure; Source Oriented	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	NOy (High Sensitivity)	NCORE, PAMS, SLAMS	Chemi-luminescence	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	O3	NCORE, PAMS, SLAMS	UV Photometric	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant St, Deer Park	PM10 (FEM)	NCORE, SLAMS	spectroscopy, standard conditions	Continuous	Urban and Center City	Neighborhood	Population Exposure	29.670059	-95.128510
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	PM10-2.5	NCORE, SLAMS, SPM	Broadband spectroscopy T640X, electronic	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	PM2.5 (FEM)	NCORE, SLAMS, SPM	Broadband spectroscopy T640X	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	PM2.5 (FRM)	NCORE, SLAMS	Sequential FRM Gravimetric	24 Hours; 1, 3 Days	Population Exposure	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	PM2.5 (Speciation)	CSN Supplemental, SLAMS	Carbons, Elements, Ions, SASS/URG	24 Hours; 1, 3 Days	Population Exposure	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	PM2.5 (Speciation)	CSN STN, Collocated QC, SLAMS	Carbons, Elements, Ions, SASS/URG	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	Precipitation	PAMS, SLAMS	Rain Gauge	Continuous	General, Background	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	Relative Humidity	NCORE, PAMS, SLAMS	Humidity Sensor	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	SO2 (High Sensitivity)	NCORE, SLAMS	Pulsed Fluorescence	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	29.669736	-95.128525

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	Speciated VOC (AutoGC)	PAMS, SLAMS	Automated Gas Chromatograph	Continuous	Max Precursor Emissions Impact; Population Exposure	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	Temperature (Outdoor)	NCORE, PAMS, SLAMS	Aspirated Thermister	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	UV Radiation	PAMS, SLAMS	Photovoltaic	Continuous	General, Background	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011039	Houston Deer Park #2	4514 1/2 Durant Street, Deer Park	Wind	NCORE, PAMS, SLAMS	Potentiometer Cup Anemometer	Continuous	Max Precursor Emissions Impact	Neighborhood	Urban and Center City	29.669736	-95.128525
Houston-The Woodlands-Sugar Land, TX	482011034	Houston East	1262 1/2 Mae Drive, Houston	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Highest Concentration; Population Exposure	Middle Scale , Neighborhood	Suburban	29.767997	-95.220582
Houston-The Woodlands-Sugar Land, TX	482011034	Houston East	1262 1/2 Mae Drive, Houston	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	29.767997	-95.220582
Houston-The Woodlands-Sugar Land, TX	482011034	Houston East	1262 1/2 Mae Drive, Houston	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Suburban	29.767997	-95.220582
Houston-The Woodlands-Sugar Land, TX	482011034	Houston East	1262 1/2 Mae Drive, Houston	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Population Exposure	Urban Scale	Suburban	29.767997	-95.220582
Houston-The Woodlands-Sugar Land, TX	482011034	Houston East	1262 1/2 Mae Drive, Houston	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Suburban	29.767997	-95.220582
Houston-The Woodlands-Sugar Land, TX	482010417	Houston Harvard Street	160 Harvard Street, Houston	NO, NO2, NOx	SPM	Chemi-luminescence	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.772860	-95.395858
Houston-The Woodlands-Sugar Land, TX	482010417	Houston Harvard Street	160 Harvard Street, Houston	O3	SPM	UV Photometric	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.772860	-95.395858
Houston-The Woodlands-Sugar Land, TX	482010060	Houston Kirkpatrick (will be relocated to Houston Harvard)	5565 Kirkpatrick, Houston	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Population Exposure	Neighborhood	Suburban	29.807428	-95.293627
Houston-The Woodlands-Sugar Land, TX	482010060	Houston Kirkpatrick (will be relocated to Houston Harvard)	5565 Kirkpatrick, Houston	Wind	SPM	Sonic weather sensor	Continuous	Population Exposure	Neighborhood	Suburban	29.807428	-95.293627
Houston-The Woodlands-Sugar Land, TX	482010062	Houston Monroe	9726 1/2 Monroe, Houston	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	29.625602	-95.267019
Houston-The Woodlands-Sugar Land, TX	482010062	Houston Monroe	9726 1/2 Monroe, Houston	PM10 (FRM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Suburban	29.625602	-95.267019
Houston-The Woodlands-Sugar Land, TX	482010062	Houston Monroe	9726 1/2 Monroe, Houston	Precipitation	SPM	Continuous	Continuous	General, Background	Neighborhood	Suburban	29.625602	-95.267019

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Houston-The Woodlands-Sugar Land, TX	482011052	Houston North Loop	822 North Loop, Houston	CO	Near Road, SLAMS	Gas Filter Correlation	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	29.814390	-95.387817
Houston-The Woodlands-Sugar Land, TX	482011052	Houston North Loop	822 North Loop, Houston	NO, NO2, NOx	Near Road, SLAMS	Chemi-luminescence	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	29.814390	-95.387817
Houston-The Woodlands-Sugar Land, TX	482011052	Houston North Loop	822 North Loop, Houston	PM2.5 (Beta)	Near Road, SLAMS	Beta Attenuation, BAM 1022	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	29.814390	-95.387817
Houston-The Woodlands-Sugar Land, TX	482011052	Houston North Loop	822 North Loop, Houston	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	29.814390	-95.387817
Houston-The Woodlands-Sugar Land, TX	482011052	Houston North Loop	822 North Loop, Houston	Wind	SPM	Sonic weather sensor	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	29.814390	-95.387817
Houston-The Woodlands-Sugar Land, TX	482010046	Houston North Wayside	7330 1/2 North Wayside, Houston	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	29.828482	-95.283895
Houston-The Woodlands-Sugar Land, TX	482010046	Houston North Wayside	7330 1/2 North Wayside, Houston	PM10 (TEOM)[N]	SPM	with modification (non-NAAQS	Continuous	Population Exposure	Neighborhood	Suburban	29.828482	-95.283895
Houston-The Woodlands-Sugar Land, TX	482010046	Houston North Wayside	7330 1/2 North Wayside, Houston	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Suburban	29.828482	-95.283895
Houston-The Woodlands-Sugar Land, TX	482010046	Houston North Wayside	7330 1/2 North Wayside, Houston	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Suburban	29.828482	-95.283895
Houston-The Woodlands-Sugar Land, TX	482010046	Houston North Wayside	7330 1/2 North Wayside, Houston	Wind (3m)	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Suburban	29.828482	-95.283895
Houston-The Woodlands-Sugar Land, TX	482011066	Houston Southwest Freeway	5617 Westward Avenue, Houston	NO, NO2, NOx	Near Road, SLAMS	Chemi-luminescence	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	29.721618	-95.492655
Houston-The Woodlands-Sugar Land, TX	482011066	Houston Southwest Freeway	5617 Westward Avenue, Houston	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	29.721618	-95.492655
Houston-The Woodlands-Sugar Land, TX	482011066	Houston Southwest Freeway	5617 Westward Avenue, Houston	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	29.721618	-95.492655
Houston-The Woodlands-Sugar Land, TX	482010066	Houston Westhollow	3333 1/2 Hwy 6 South, Houston	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	29.723333	-95.635950
Houston-The Woodlands-Sugar Land, TX	482010066	Houston Westhollow	3333 1/2 Hwy 6 South, Houston	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Suburban	29.723333	-95.635950
Houston-The Woodlands-Sugar Land, TX	482010066	Houston Westhollow	3333 1/2 Hwy 6 South, Houston	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Population Exposure	Neighborhood	Suburban	29.723333	-95.635950
Houston-The Woodlands-Sugar Land, TX	482010066	Houston Westhollow	3333 1/2 Hwy 6 South, Houston	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Suburban	29.723333	-95.635950

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Houston-The Woodlands-Sugar Land, TX	482011043	La Porte Airport C243	La Porte Airport, 2434 Buchanan Street, La Porte	Ceilometer	SPM	Radar profiler	Continuous	Regional Transport	Regional Scale	Suburban	29.671636	-95.064716
Houston-The Woodlands-Sugar Land, TX	482011043	La Porte Airport C243	La Porte Airport, 2434 Buchanan Street, La Porte	Precipitation	PAMS, SLAMS	Rain Gauge	Continuous	General, Background	Neighborhood	Suburban	29.671636	-95.064716
Houston-The Woodlands-Sugar Land, TX	482011043	La Porte Airport C243	La Porte Airport, 2434 Buchanan Street, La Porte	Radar Profiler	SPM	Radar profiler	Continuous	Regional Transport	Regional Scale	Suburban	29.671636	-95.064716
Houston-The Woodlands-Sugar Land, TX	482011043	La Porte Airport C243	La Porte Airport, 2434 Buchanan Street, La Porte	Temperature (Outdoor)	PAMS, SLAMS	Aspirated Thermister	Continuous	General, Background	Neighborhood	Suburban	29.671636	-95.064716
Houston-The Woodlands-Sugar Land, TX	482011043	La Porte Airport C243	La Porte Airport, 2434 Buchanan Street, La Porte	Wind	PAMS, SLAMS	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Suburban	29.671636	-95.064716
Houston-The Woodlands-Sugar Land, TX	480391016	Lake Jackson	109B Brazoria Hwy 332 West, Lake Jackson	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Population Exposure; Source Oriented	Middle Scale , Neighborhood	Suburban	29.043754	-95.472958
Houston-The Woodlands-Sugar Land, TX	480391016	Lake Jackson	109B Brazoria Hwy 332 West, Lake Jackson	O3	SLAMS	UV Photometric	Continuous	Population Exposure; Source Oriented	Neighborhood	Suburban	29.043754	-95.472958
Houston-The Woodlands-Sugar Land, TX	480391016	Lake Jackson	109B Brazoria Hwy 332 West, Lake Jackson	Solar Radiation	SPM	Photovoltaic	Continuous	Highest Concentration	Middle Scale	Suburban	29.043754	-95.472958
Houston-The Woodlands-Sugar Land, TX	480391016	Lake Jackson	109B Brazoria Hwy 332 West, Lake Jackson	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Highest Concentration	Middle Scale	Suburban	29.043754	-95.472958
Houston-The Woodlands-Sugar Land, TX	480391016	Lake Jackson	109B Brazoria Hwy 332 West, Lake Jackson	Wind	SPM	Sonic weather sensor	Continuous	Highest Concentration	Middle Scale , Regional Scale	Suburban	29.043754	-95.472958
Houston-The Woodlands-Sugar Land, TX	482010047	Lang	4401 1/2 Lang Rd, Houston	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Population Exposure	Middle Scale , Urban Scale	Suburban	29.834206	-95.489120
Houston-The Woodlands-Sugar Land, TX	482010047	Lang	4401 1/2 Lang Rd, Houston	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Urban Scale	Suburban	29.834206	-95.489120
Houston-The Woodlands-Sugar Land, TX	482010047	Lang	4401 1/2 Lang Rd, Houston	PM10 (FRM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Suburban	29.834206	-95.489120
Houston-The Woodlands-Sugar Land, TX	482011015	Lynchburg Ferry	4364 Independence Parkway South, Baytown	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Source Oriented	Middle Scale , Neighborhood	Suburban	29.758947	-95.079341
Houston-The Woodlands-Sugar Land, TX	482011015	Lynchburg Ferry	4364 Independence Parkway South, Baytown	O3	SLAMS	UV Photometric	Continuous	Source Oriented	Middle Scale	Suburban	29.758947	-95.079341
Houston-The Woodlands-Sugar Land, TX	482011015	Lynchburg Ferry	4364 Independence Parkway South, Baytown	Solar Radiation	SPM	Photovoltaic	Continuous	Highest Concentration	Neighborhood	Suburban	29.758947	-95.079341
Houston-The Woodlands-Sugar Land, TX	482011015	Lynchburg Ferry	4364 Independence Parkway South, Baytown	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Highest Concentration	Neighborhood	Suburban	29.758947	-95.079341

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Houston-The Woodlands-Sugar Land, TX	482011015	Lynchburg Ferry	4364 Independence Parkway South, Baytown	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Highest Concentration	Neighborhood	Suburban	29.758947	-95.079341
Houston-The Woodlands-Sugar Land, TX	480391004	Manvel Croix Park	4503 Croix Pkwy, Manvel	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Population Exposure	Urban Scale	Suburban	29.520454	-95.392512
Houston-The Woodlands-Sugar Land, TX	480391004	Manvel Croix Park	4503 Croix Pkwy, Manvel	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Urban Scale	Suburban	29.520454	-95.392512
Houston-The Woodlands-Sugar Land, TX	480391004	Manvel Croix Park	4503 Croix Pkwy, Manvel	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Population Exposure	Neighborhood	Suburban	29.520454	-95.392512
Houston-The Woodlands-Sugar Land, TX	480391004	Manvel Croix Park	4503 Croix Pkwy, Manvel	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Suburban	29.520454	-95.392512
Houston-The Woodlands-Sugar Land, TX	482010029	Northwest Harris County	16822 Kitzman, Tomball	Dew Point	SPM	Derived at site	Continuous	General, Background	Microscale	Rural	30.039525	-95.673947
Houston-The Woodlands-Sugar Land, TX	482010029	Northwest Harris County	16822 Kitzman, Tomball	NO, NO2, NOx	PAMS, SLAMS	Chemi-luminescence	Continuous	Downwind; Population Exposure	Urban Scale	Rural	30.039525	-95.673947
Houston-The Woodlands-Sugar Land, TX	482010029	Northwest Harris County	16822 Kitzman, Tomball	O3	PAMS, SLAMS	UV Photometric	Continuous	Downwind; Population Exposure	Urban Scale	Rural	30.039525	-95.673947
Houston-The Woodlands-Sugar Land, TX	482010029	Northwest Harris County	16822 Kitzman, Tomball	Relative Humidity	PAMS, SLAMS	Sonic weather sensor	Continuous	General, Background	Urban Scale	Rural	30.039525	-95.673947
Houston-The Woodlands-Sugar Land, TX	482010029	Northwest Harris County	16822 Kitzman, Tomball	Solar Radiation	PAMS, SLAMS	Photovoltaic	Continuous	General, Background	Urban Scale	Rural	30.039525	-95.673947
Houston-The Woodlands-Sugar Land, TX	482010029	Northwest Harris County	16822 Kitzman, Tomball	Temperature (Outdoor)	PAMS, SLAMS	Sonic weather sensor	Continuous	General, Background	Urban Scale	Rural	30.039525	-95.673947
Houston-The Woodlands-Sugar Land, TX	482010029	Northwest Harris County	16822 Kitzman, Tomball	Wind	PAMS, SLAMS	Sonic weather sensor	Continuous	General, Background	Urban Scale	Rural	30.039525	-95.673947
Houston-The Woodlands-Sugar Land, TX	482010416	Park Place	7421 Park Place Blvd, Houston	Barometric Pressure	SPM	Barometric pressure transducer	Continuous	General, Background	Neighborhood	Urban and Center City	29.686298	-95.294732
Houston-The Woodlands-Sugar Land, TX	482010416	Park Place	7421 Park Place Blvd, Houston	Dew Point	SPM	Derived at site	Continuous	General, Background	Neighborhood	Urban and Center City	29.686298	-95.294732
Houston-The Woodlands-Sugar Land, TX	482010416	Park Place	7421 Park Place Blvd, Houston	NO, NO2, NOx	SPM	Chemi-luminescence	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.686298	-95.294732
Houston-The Woodlands-Sugar Land, TX	482010416	Park Place	7421 Park Place Blvd, Houston	O3	SPM	UV Photometric	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.686298	-95.294732
Houston-The Woodlands-Sugar Land, TX	482010416	Park Place	7421 Park Place Blvd, Houston	Precipitation	SPM	Continuous	Continuous	General, Background	Neighborhood	Urban and Center City	29.686298	-95.294732

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Houston-The Woodlands-Sugar Land, TX	482010416	Park Place	7421 Park Place Blvd, Houston	Relative Humidity	SPM	Humidity Sensor	Continuous	General, Background	Neighborhood	Urban and Center City	29.686298	-95.294732
Houston-The Woodlands-Sugar Land, TX	482010416	Park Place	7421 Park Place Blvd, Houston	SO2	SPM	Pulsed Fluorescence	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.686298	-95.294732
Houston-The Woodlands-Sugar Land, TX	482010416	Park Place	7421 Park Place Blvd, Houston	Solar Radiation	SPM	Photovoltaic	Continuous	General, Background	Neighborhood	Urban and Center City	29.686298	-95.294732
Houston-The Woodlands-Sugar Land, TX	482010416	Park Place	7421 Park Place Blvd, Houston	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Urban and Center City	29.686298	-95.294732
Houston-The Woodlands-Sugar Land, TX	482010416	Park Place	7421 Park Place Blvd, Houston	UV Radiation	SPM	Photovoltaic	Continuous	General, Background	Neighborhood	Urban and Center City	29.686298	-95.294732
Houston-The Woodlands-Sugar Land, TX	482010416	Park Place	7421 Park Place Blvd, Houston	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Urban and Center City	29.686298	-95.294732
Houston-The Woodlands-Sugar Land, TX	482011050	Seabrook Friendship Park	4522 Park Rd, Seabrook	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Population Exposure	Middle Scale , Neighborhood	Suburban	29.583054	-95.015540
Houston-The Woodlands-Sugar Land, TX	482011050	Seabrook Friendship Park	4522 Park Rd, Seabrook	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	29.583054	-95.015540
Houston-The Woodlands-Sugar Land, TX	482011050	Seabrook Friendship Park	4522 Park Rd, Seabrook	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Neighborhood	Suburban	29.583054	-95.015540
Houston-The Woodlands-Sugar Land, TX	482011050	Seabrook Friendship Park	4522 Park Rd, Seabrook	Solar Radiation	SPM	Photovoltaic	Continuous	Highest Concentration	Middle Scale	Suburban	29.583054	-95.015540
Houston-The Woodlands-Sugar Land, TX	482011050	Seabrook Friendship Park	4522 Park Rd, Seabrook	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Highest Concentration	Middle Scale	Suburban	29.583054	-95.015540
Houston-The Woodlands-Sugar Land, TX	482011050	Seabrook Friendship Park	4522 Park Rd, Seabrook	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Highest Concentration	Middle Scale	Suburban	29.583054	-95.015540
Houston-The Woodlands-Sugar Land, TX	480710013	Smith Point Hawkins Camp	1850 Hawkins Camp Rd, Anahuac	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Source Oriented	Neighborhood	Suburban	29.546262	-94.786969
Houston-The Woodlands-Sugar Land, TX	480710013	Smith Point Hawkins Camp	1850 Hawkins Camp Rd, Anahuac	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Source Oriented	Neighborhood	Suburban	29.546262	-94.786969
Houston-The Woodlands-Sugar Land, TX	481670004	Texas City Fire Station	2516 Texas Avenue, Texas City	PM10 (FRM) (planned FEM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Highest Concentration	Neighborhood	Urban and Center City	29.384805	-94.931308
Killeen-Temple-Fort Hood, TX	480271047	Killeen Skylark Field	1605 Stone Tree Drive, Killeen	NO, NO2, NOx	SPM	Chemi-luminescence	Continuous	General, Background	Urban Scale	Urban and Center City	31.088008	-97.679746
Killeen-Temple-Fort Hood, TX	480271047	Killeen Skylark Field	1605 Stone Tree Drive, Killeen	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Urban Scale	Urban and Center City	31.088008	-97.679746

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Killeen-Temple-Fort Hood, TX	480271047	Killeen Skylark Field	1605 Stone Tree Drive, Killeen	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Population Exposure	Urban Scale	Urban and Center City	31.088008	-97.679746
Killeen-Temple-Fort Hood, TX	480271047	Killeen Skylark Field	1605 Stone Tree Drive, Killeen	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Urban Scale	Urban and Center City	31.088008	-97.679746
Killeen-Temple-Fort Hood, TX	480271045	Temple Georgia	8406 Georgia Avenue, Temple	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Urban Scale	Suburban	31.122444	-97.431042
Killeen-Temple-Fort Hood, TX	480271045	Temple Georgia	8406 Georgia Avenue, Temple	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Urban Scale	Suburban	31.122444	-97.431042
Killeen-Temple-Fort Hood, TX	480271045	Temple Georgia	8406 Georgia Avenue, Temple	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Suburban	31.122444	-97.431042
Killeen-Temple-Fort Hood, TX	480271045	Temple Georgia	8406 Georgia Avenue, Temple	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Suburban	31.122444	-97.431042
Kingsville, TX*	482730314	National Seashore	20420 Park Road, Corpus Christi	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Regional Transport	Regional Scale	Rural	27.422433	-97.300869
Kingsville, TX*	482730314	National Seashore	20420 Park Road, Corpus Christi	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Regional Transport	Regional Scale	Rural	27.422433	-97.300869
Kingsville, TX*	482730314	National Seashore	20420 Park Road, Corpus Christi	Wind	SPM	Sonic weather sensor	Continuous	Regional Transport	Regional Scale	Rural	27.422433	-97.300869
Laredo, TX	484790017	Laredo Bridge	700 Zaragosa St, Laredo	PM10 (FRM)	Border Grant, SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Highest Concentration	Microscale	Urban and Center City	27.501729	-99.503131
Laredo, TX	484790017	Laredo Bridge	700 Zaragosa St, Laredo	Speciated VOC (Canister)	Border Grant, SLAMS, SPM	Canister GC-MS	24 Hours; 1, 6 Days	Highest Concentration	Neighborhood	Urban and Center City	27.501729	-99.503131
Laredo, TX	484790017	Laredo Bridge	700 Zaragosa St, Laredo	Temperature (Outdoor)	Border Grant, SLAMS	Aspirated Thermister	Continuous	Population Exposure	Neighborhood	Urban and Center City	27.501729	-99.503131
Laredo, TX	484790017	Laredo Bridge	700 Zaragosa St, Laredo	Wind	Border Grant, SLAMS	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Urban and Center City	27.501729	-99.503131
Laredo, TX	484790016	Laredo College	West End Washington Street, (corner of Taylor and Crawford Roads), Laredo	CO	Border Grant, SLAMS	Gas Filter Correlation	Continuous	Population Exposure	Neighborhood	Urban and Center City	27.579045	-99.523949
Laredo, TX	484790016	Laredo College	West End Washington Street, (corner of Taylor and Crawford Roads), Laredo	O3	Border Grant, SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Urban and Center City	27.579045	-99.523949
Laredo, TX	484790016	Laredo College	West End Washington Street, (corner of Taylor and Crawford Roads), Laredo	PM10 (FRM)	Border Grant, SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Urban and Center City	27.579045	-99.523949

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Laredo, TX	484790016	Laredo College	West End Washington Street, (corner of Taylor and Crawford Roads), Laredo	Temperature (Outdoor)	Border Grant, SLAMS	Sonic weather sensor	Continuous	Population Exposure	Neighborhood	Urban and Center City	27.579045	-99.523949
Laredo, TX	484790016	Laredo College	West End Washington Street, (corner of Taylor and Crawford Roads), Laredo	Wind	Border Grant, SLAMS	Sonic weather sensor	Continuous	Population Exposure	Neighborhood	Urban and Center City	27.579045	-99.523949
Laredo, TX	484790313	World Trade Bridge	Mines Road 11601 FM 1472, Laredo	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Source Oriented	Microscale	Suburban	27.599586	-99.533436
Longview, TX	481830001	Longview	Gregg Co Airport near Longview, Longview	NO, NO2, NOx	SPM	Chemi-luminescence	Continuous	Population Exposure	Neighborhood	Rural	32.378680	-94.711821
Longview, TX	481830001	Longview	Gregg Co Airport near Longview, Longview	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Rural	32.378680	-94.711821
Longview, TX	481830001	Longview	Gregg Co Airport near Longview, Longview	Precipitation	SPM	Rain Gauge	Continuous	General, Background	Neighborhood	Rural	32.378680	-94.711821
Longview, TX	481830001	Longview	Gregg Co Airport near Longview, Longview	SO2	SLAMS	Pulsed Fluorescence	Continuous	Background; Population Exposure	Neighborhood	Rural	32.378680	-94.711821
Longview, TX	481830001	Longview	Gregg Co Airport near Longview, Longview	Solar Radiation	SPM	Photovoltaic	Continuous	General, Background	Neighborhood	Rural	32.378680	-94.711821
Longview, TX	481830001	Longview	Gregg Co Airport near Longview, Longview	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Rural	32.378680	-94.711821
Longview, TX	481830001	Longview	Gregg Co Airport near Longview, Longview	Wind	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Rural	32.378680	-94.711821
Longview, TX	484011082	Tatum CR 2181d Martin Creek Lake	9515 County Road 2181d, Tatum	SO2	SPM	Pulsed Fluorescence	Continuous	Source Oriented	Neighborhood	Rural	32.277911	-94.570870
Longview, TX	484011082	Tatum CR 2181d Martin Creek Lake	9515 County Road 2181d, Tatum	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Rural	32.277911	-94.570870
Longview, TX	484011082	Tatum CR 2181d Martin Creek Lake	9515 County Road 2181d, Tatum	Wind	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Rural	32.277911	-94.570870
Longview, TX***	482031079	Hallsville Red Oak Road	9206 Red Oak Road, Hallsville	SO2	SLAMS	Pulsed Fluorescence	Continuous	Source Oriented	Neighborhood	Rural	32.470219	-94.481587
Longview, TX***	482031079	Hallsville Red Oak Road	9206 Red Oak Road, Hallsville	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Rural	32.470219	-94.481587
Longview, TX***	482031079	Hallsville Red Oak Road	9206 Red Oak Road, Hallsville	Wind	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Rural	32.470219	-94.481587

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Longview, TX***	482030002	Karnack	Hwy 134 & Spur 449, Not In A City	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	General, Background	Regional Scale , Urban Scale	Rural	32.668989	-94.167472
Longview, TX***	482030002	Karnack	Hwy 134 & Spur 449, Not In A City	O3	SLAMS	UV Photometric	Continuous	General, Background	Regional Scale	Rural	32.668989	-94.167472
Longview, TX***	482030002	Karnack	Hwy 134 & Spur 449, Not In A City	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	General, Background	Regional Scale	Rural	32.668989	-94.167472
Longview, TX***	482030002	Karnack	Hwy 134 & Spur 449, Not In A City	PM2.5 (Speciation)	CSN Supplemental, SLAMS	Carbons, Elements, Ions, 2025/2025	24 Hours; 1, 6 Days	Background; Regional Transport	Regional Scale	Rural	32.668989	-94.167472
Longview, TX***	482030002	Karnack	Hwy 134 & Spur 449, Not In A City	Solar Radiation	SPM	Photovoltaic	Continuous	General, Background	Urban Scale	Rural	32.668989	-94.167472
Longview, TX***	482030002	Karnack	Hwy 134 & Spur 449, Not In A City	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	General, Background	Urban Scale	Rural	32.668989	-94.167472
Longview, TX***	482030002	Karnack	Hwy 134 & Spur 449, Not In A City	Visibility	SPM	Visibility Sensor	Continuous	General, Background	Urban Scale	Rural	32.668989	-94.167472
Longview, TX***	482030002	Karnack	Hwy 134 & Spur 449, Not In A City	Wind	SPM	Sonic weather sensor	Continuous	General, Background	Urban Scale	Rural	32.668989	-94.167472
Lubbock, TX	483031028	Lubbock 12th Street	3901 East 12th Street, Lubbock	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Urban Scale	Urban and Center City	33.585556	-101.786928
Lubbock, TX	483031028	Lubbock 12th Street	3901 East 12th Street, Lubbock	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Regional Scale	Urban and Center City	33.585556	-101.786928
Lubbock, TX	483031028	Lubbock 12th Street	3901 East 12th Street, Lubbock	Wind (3m)	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Regional Scale	Urban and Center City	33.585556	-101.786928
McAllen-Edinburg-Mission, TX	482151046	Edinburg East Freddy Gonzalez Drive	1491 East Freddy Gonzalez Drive, Edinburg	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Regional Scale	Urban and Center City	26.288622	-98.152066
McAllen-Edinburg-Mission, TX	482151046	Edinburg East Freddy Gonzalez Drive	1491 East Freddy Gonzalez Drive, Edinburg	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Population Exposure	Regional Scale	Urban and Center City	26.288622	-98.152066
McAllen-Edinburg-Mission, TX	482151046	Edinburg East Freddy Gonzalez Drive	1491 East Freddy Gonzalez Drive, Edinburg	Wind (3m)	SPM	Sonic weather sensor	Continuous	Population Exposure	Regional Scale	Urban and Center City	26.288622	-98.152066
McAllen-Edinburg-Mission, TX	482150043	Mission	2300 North Glasscock, Mission	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Suburban	26.226210	-98.291069
McAllen-Edinburg-Mission, TX	482150043	Mission	2300 North Glasscock, Mission	PM10 (FRM) (planned FEM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Urban Scale	Suburban	26.226210	-98.291069
McAllen-Edinburg-Mission, TX	482150043	Mission	2300 North Glasscock, Mission	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Urban Scale	Suburban	26.226210	-98.291069

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MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
McAllen-Edinburg-Mission, TX	482150043	Mission	2300 North Glasscock, Mission	Solar Radiation	SPM	Photovoltaic	Continuous	Population Exposure	Microscale	Suburban	26.226210	-98.291069
McAllen-Edinburg-Mission, TX	482150043	Mission	2300 North Glasscock, Mission	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Population Exposure	Microscale	Suburban	26.226210	-98.291069
McAllen-Edinburg-Mission, TX	482150043	Mission	2300 North Glasscock, Mission	Wind	SPM	Sonic weather sensor	Continuous	Population Exposure	Microscale	Suburban	26.226210	-98.291069
Mount Pleasant, TX*	484491078	Cookville FM 4855	385 CR 4855, Not In A City	SO2	SLAMS	Pulsed Fluorescence	Continuous	Source Oriented	Neighborhood	Rural	33.075149	-94.847303
Mount Pleasant, TX*	484491078	Cookville FM 4855	385 CR 4855, Not In A City	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Rural	33.075149	-94.847303
Mount Pleasant, TX*	484491078	Cookville FM 4855	385 CR 4855, Not In A City	Wind	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Rural	33.075149	-94.847303
None**	480430101	Bravo Big Bend	Big Bend National Park	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	General, Background	Regional Scale	Rural	29.302557	-103.177892
None**	480430101	Bravo Big Bend	Big Bend National Park	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Microscale	Rural	29.302557	-103.177892
None**	480430101	Bravo Big Bend	Big Bend National Park	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Regional Scale	Rural	29.302557	-103.177892
None**	481611084	Fairfield FM 2570 Ward Ranch	488 FM 2570, Fairfield	SO2	SPM	Pulsed Fluorescence	Continuous	Source Oriented	Neighborhood	Rural	31.797834	-96.103101
None**	481611084	Fairfield FM 2570 Ward Ranch	488 FM 2570, Fairfield	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Source Oriented	Neighborhood	Rural	31.797834	-96.103101
None**	481611084	Fairfield FM 2570 Ward Ranch	488 FM 2570, Fairfield	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Source Oriented	Neighborhood	Rural	31.797834	-96.103101
None**	482551070	Karnes County	1100B East Main Avenue, Karnes City	NO, NO2, NOx	SPM	Chemi-luminescence	Continuous	Max Precursor Emissions Impact; Upwind Background	Urban Scale	Rural	28.880440	-97.888065
None**	482551070	Karnes County	1100B East Main Avenue, Karnes City	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Rural	28.880440	-97.888065
None**	482551070	Karnes County	1100B East Main Avenue, Karnes City	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Rural	28.880440	-97.888065
Odessa, TX	481351014	Odessa Gonzales	2700 Disney, Odessa	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Highest Concentration	Regional Scale	Suburban	31.870262	-102.334760

Appendix B: Ambient Air Monitoring Network Site List

MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Odessa, TX	481351014	Odessa Gonzales	2700 Disney, Odessa	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Population Exposure	Neighborhood	Suburban	31.870262	-102.334760
Odessa, TX	481351014	Odessa Gonzales	2700 Disney, Odessa	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Suburban	31.870262	-102.334760
San Antonio-New Braunfels, TX	480290059	Calaveras Lake	14620 Laguna Rd, San Antonio	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Source Oriented; Upwind Background	Urban Scale	Rural	29.275386	-98.311660
San Antonio-New Braunfels, TX	480290059	Calaveras Lake	14620 Laguna Rd, San Antonio	O3	SLAMS	UV Photometric	Continuous	Source Oriented; Upwind Background	Urban Scale	Rural	29.275386	-98.311660
San Antonio-New Braunfels, TX	480290059	Calaveras Lake	14620 Laguna Rd, San Antonio	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure; Source Oriented	Urban Scale	Rural	29.275386	-98.311660
San Antonio-New Braunfels, TX	480290059	Calaveras Lake	14620 Laguna Rd, San Antonio	SO2	SLAMS	Pulsed Fluorescence	Continuous	Population Exposure; Source Oriented	Neighborhood	Rural	29.275386	-98.311660
San Antonio-New Braunfels, TX	480290059	Calaveras Lake	14620 Laguna Rd, San Antonio	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Source Oriented	Urban Scale	Rural	29.275386	-98.311660
San Antonio-New Braunfels, TX	480290059	Calaveras Lake	14620 Laguna Rd, San Antonio	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Source Oriented	Urban Scale	Rural	29.275386	-98.311660
San Antonio-New Braunfels, TX	480290052	Camp Bullis	F Range (1000 Yd marker off Wilderness Trail), Near Wilderness Rd, San Antonio	NO, NO2, NOx	SPM	Chemi-luminescence	Continuous	Max Precursor Emissions Impact	Urban Scale	Rural	29.632083	-98.564942
San Antonio-New Braunfels, TX	480290052	Camp Bullis	F Range (1000 Yd marker off Wilderness Trail), Near Wilderness Rd, San Antonio	O3	SLAMS	UV Photometric	Continuous	Max Ozone Concentration; Population Exposure	Urban Scale	Rural	29.632083	-98.564942
San Antonio-New Braunfels, TX	480290052	Camp Bullis	F Range (1000 Yd marker off Wilderness Trail), Near Wilderness Rd, San Antonio	Solar Radiation	SPM	Photovoltaic	Continuous	Highest Concentration	Urban Scale	Rural	29.632083	-98.564942
San Antonio-New Braunfels, TX	480290052	Camp Bullis	F Range (1000 Yd marker off Wilderness Trail), Near Wilderness Rd, San Antonio	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Highest Concentration	Urban Scale	Rural	29.632083	-98.564942
San Antonio-New Braunfels, TX	480290052	Camp Bullis	F Range (1000 Yd marker off Wilderness Trail), Near Wilderness Rd, San Antonio	Wind	SPM	Sonic weather sensor	Continuous	Highest Concentration	Urban Scale	Rural	29.632083	-98.564942
San Antonio-New Braunfels, TX	484931038	Floresville Hospital Boulevard	1404 Hospital Blvd, Floresville	NO, NO2, NOx	SPM	Chemi-luminescence	Continuous	Max Precursor Emissions Impact; Upwind Background	Urban Scale	Rural	29.130700	-98.148100
San Antonio-New Braunfels, TX	484931038	Floresville Hospital Boulevard	1404 Hospital Blvd, Floresville	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Rural	29.130700	-98.148100

Appendix B: Ambient Air Monitoring Network Site List

MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
San Antonio-New Braunfels, TX	484931038	Floresville Hospital Boulevard	1404 Hospital Blvd, Floresville	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Rural	29.130700	-98.148100
San Antonio-New Braunfels, TX	480290060	Frank Wing Municipal Court	401 South Frio St, San Antonio	PM10 (FRM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Middle Scale	Urban and Center City	29.422194	-98.505412
San Antonio-New Braunfels, TX	480290677	Old Hwy 90	911 Old Hwy 90 West, San Antonio	PM2.5 (TEOM)^{N}	SPM	Gravimetric	Continuous	Population Exposure	Neighborhood	Urban and Center City	29.423938	-98.580502
San Antonio-New Braunfels, TX	480291087	San Antonio Bulverde Parkway	3843 Bulverde Parkway, San Antonio	PM10 (FRM) (planned FEM)	SLAMS	HiVol Gravimetric	24 Hours; 1, 6 Days	Population Exposure	Neighborhood	Suburban	29.635139	-98.417676
San Antonio-New Braunfels, TX	480291087	San Antonio Bulverde Parkway	3843 Bulverde Parkway, San Antonio	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Population Exposure	Neighborhood	Suburban	29.635139	-98.417676
San Antonio-New Braunfels, TX	480291087	San Antonio Bulverde Parkway	3843 Bulverde Parkway, San Antonio	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Population Exposure	Neighborhood	Suburban	29.635139	-98.417676
San Antonio-New Braunfels, TX	480291069	San Antonio Interstate 35	9904 IH 35 N, San Antonio	CO	Near Road, SLAMS	Gas Filter Correlation	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	29.529431	-98.391395
San Antonio-New Braunfels, TX	480291069	San Antonio Interstate 35	9904 IH 35 N, San Antonio	NO, NO2, NOx	Near Road, SLAMS	Chemi-luminescence	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	29.529431	-98.391395
San Antonio-New Braunfels, TX	480291069	San Antonio Interstate 35	9904 IH 35 N, San Antonio	PM2.5 (Beta)	Near Road, SLAMS	Beta Attenuation, BAM 1022	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	29.529431	-98.391395
San Antonio-New Braunfels, TX	480291069	San Antonio Interstate 35	9904 IH 35 N, San Antonio	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	29.529431	-98.391395
San Antonio-New Braunfels, TX	480291069	San Antonio Interstate 35	9904 IH 35 N, San Antonio	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Max Precursor Emissions Impact	Microscale	Urban and Center City	29.529431	-98.391395
San Antonio-New Braunfels, TX	480290032	San Antonio Northwest	6655 Bluebird Lane, San Antonio	NO, NO2, NOx	SLAMS	Chemi-luminescence	Continuous	Population Exposure	Neighborhood	Suburban	29.515054	-98.620189
San Antonio-New Braunfels, TX	480290032	San Antonio Northwest	6655 Bluebird Lane, San Antonio	O3	SLAMS	UV Photometric	Continuous	Max Ozone Concentration; Population Exposure	Urban Scale	Suburban	29.515054	-98.620189
San Antonio-New Braunfels, TX	480290032	San Antonio Northwest	6655 Bluebird Lane, San Antonio	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Urban Scale	Suburban	29.515054	-98.620189
San Antonio-New Braunfels, TX	480290032	San Antonio Northwest	6655 Bluebird Lane, San Antonio	PM2.5 (FRM)	Collocated QC, SLAMS	Sequential FRM Gravimetric	24 Hours; 1, 12 Days	Population Exposure; Quality Assurance	Urban Scale	Suburban	29.515054	-98.620189
San Antonio-New Braunfels, TX	480290032	San Antonio Northwest	6655 Bluebird Lane, San Antonio	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Highest Concentration	Urban Scale	Suburban	29.515054	-98.620189

Appendix B: Ambient Air Monitoring Network Site List

MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
San Antonio-New Braunfels, TX	480290032	San Antonio Northwest	6655 Bluebird Lane, San Antonio	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Highest Concentration	Urban Scale	Suburban	29.515054	-98.620189
San Antonio-New Braunfels, TX	480131090	Von Ormy Highway 16	17534 North State Highway 16, Not In A City	PM2.5 (Beta)	SPM	Beta Attenuation, BAM 1022	Continuous	Population Exposure; Source Oriented	Microscale	Rural	29.162843	-98.589131
San Antonio-New Braunfels, TX	480131090	Von Ormy Highway 16	17534 North State Highway 16, Not In A City	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	General, Background	Neighborhood	Rural	29.162843	-98.589131
San Antonio-New Braunfels, TX	480131090	Von Ormy Highway 16	17534 North State Highway 16, Not In A City	Wind	SPM	Potentiometer Cup Anemometer	Continuous	General, Background	Neighborhood	Rural	29.162843	-98.589131
Texarkana, TX-Texarkana, AR	480371031	Texarkana New Boston	2700 New Boston Rd, Texarkana	PM2.5 (Beta)	SLAMS	Beta Attenuation, BAM 1022	Continuous	Population Exposure	Urban Scale	Urban and Center City	33.436209	-94.077773
Texarkana, TX-Texarkana, AR	480371031	Texarkana New Boston	2700 New Boston Rd, Texarkana	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Population Exposure	Urban Scale	Urban and Center City	33.436209	-94.077773
Texarkana, TX-Texarkana, AR	480371031	Texarkana New Boston	2700 New Boston Rd, Texarkana	Wind (3m)	SPM	Sonic weather sensor	Continuous	Population Exposure	Urban Scale	Urban and Center City	33.436209	-94.077773
Tyler, TX	484230007	Tyler Airport Relocated	14790 County Road 1145, Tyler	NO, NO2, NOx	SPM	Chemi-luminescence	Continuous	General, Background	Urban Scale	Rural	32.344014	-95.415764
Tyler, TX	484230007	Tyler Airport Relocated	14790 County Road 1145, Tyler	O3	SLAMS	UV Photometric	Continuous	General, Background	Urban Scale	Rural	32.344014	-95.415764
Tyler, TX	484230007	Tyler Airport Relocated	14790 County Road 1145, Tyler	Precipitation	SPM	Rain Gauge	Continuous	General, Background	Neighborhood	Rural	32.344014	-95.415764
Tyler, TX	484230007	Tyler Airport Relocated	14790 County Road 1145, Tyler	Solar Radiation	SPM	Photovoltaic	Continuous	General, Background	Neighborhood	Rural	32.344014	-95.415764
Tyler, TX	484230007	Tyler Airport Relocated	14790 County Road 1145, Tyler	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Rural	32.344014	-95.415764
Tyler, TX	484230007	Tyler Airport Relocated	14790 County Road 1145, Tyler	Wind	SPM	Sonic weather sensor	Continuous	General, Background	Neighborhood	Rural	32.344014	-95.415764
Victoria, TX	484690003	Victoria	106 Mockingbird Lane, Victoria	O3	SLAMS	UV Photometric	Continuous	Population Exposure	Neighborhood	Urban and Center City	28.836210	-97.005516
Victoria, TX	484690003	Victoria	106 Mockingbird Lane, Victoria	Solar Radiation	SPM	Photovoltaic	Continuous	Highest Concentration	Neighborhood	Urban and Center City	28.836210	-97.005516
Victoria, TX	484690003	Victoria	106 Mockingbird Lane, Victoria	Temperature (Outdoor)	SPM	Sonic weather sensor	Continuous	Highest Concentration	Neighborhood	Urban and Center City	28.836210	-97.005516
Victoria, TX	484690003	Victoria	106 Mockingbird Lane, Victoria	Wind	SPM	Sonic weather sensor	Continuous	Highest Concentration	Neighborhood	Urban and Center City	28.836210	-97.005516

Appendix B: Ambient Air Monitoring Network Site List

MSA , CBSA	Site Number	Site Name	Address	Monitor Type	Network	Methods	Operating Schedule	Monitoring Objective	Spatial Scale	Location Setting	Latitude	Longitude
Waco, TX	483091037	Waco Mazanec	4472 Mazanec Rd, Waco	CO	SLAMS	Gas Filter Correlation	Continuous	Upwind Background	Urban Scale	Rural	31.653081	-97.070686
Waco, TX	483091037	Waco Mazanec	4472 Mazanec Rd, Waco	O3	SLAMS	UV Photometric	Continuous	Upwind Background	Regional Scale	Rural	31.653081	-97.070686
Waco, TX	483091037	Waco Mazanec	4472 Mazanec Rd, Waco	PM2.5 (TEOM)^{N}	SPM	Gravimetric	Continuous	Regional Transport	Regional Scale	Rural	31.653081	-97.070686
Waco, TX	483091037	Waco Mazanec	4472 Mazanec Rd, Waco	SO2	SLAMS	Pulsed Fluorescence	Continuous	Upwind Background	Urban Scale	Rural	31.653081	-97.070686
Waco, TX	483091037	Waco Mazanec	4472 Mazanec Rd, Waco	Solar Radiation	SPM	Photovoltaic	Continuous	Regional Transport	Urban Scale	Rural	31.653081	-97.070686
Waco, TX	483091037	Waco Mazanec	4472 Mazanec Rd, Waco	Temperature (Outdoor)	SPM	Aspirated Thermister	Continuous	Regional Transport	Urban Scale	Rural	31.653081	-97.070686
Waco, TX	483091037	Waco Mazanec	4472 Mazanec Rd, Waco	Wind	SPM	Potentiometer Cup Anemometer	Continuous	Regional Transport	Urban Scale	Rural	31.653081	-97.070686

Appendix B: Ambient Air Monitoring Network Site List

Symbol/Acronym	Description
*	Micropolitan Statistical Area
**	County is not a Metropolitan or Micropolitan Statistical Area
***	Marshall, Texas, is no longer a Micropolitan Statistical Area according to the United States Office of Management and Budget (OMB) and is currently designated as a part of the Longview MSA, AQS is pending updates to match the new OMB designation.
N	Monitor is not suitable for comparison against the NAAQS as described in 40 Code of Federal Regulations Part 58.30
24-Hours; 1, 12 Days	1 24-hour sample, once every twelfth day
24-Hours; 1, 6 Days	1 24-hour sample, once every sixth day
24-Hours; 1, 3 Days	1 24-hour sample, once every third day
24-Hours, 1, 1 Days	1 24-hour sample, daily
24 Hours; Seasonal, 8 Hour; Seasonal	1 24-hour sample every sixth day seasonal, three eight-hour samples seasonal
24-Hour 1, 6 Days Seasonal	1 24-hour sample, once every sixth day seasonal
#	number
AMNP	Annual Monitoring Network Plan
AutoGC	automated gas chromatograph
Ave	avenue
BAM	beta attenuation method
Blvd	boulevard
Border	The Border network designation is part of the SLAMS network for monitors within 100 kilometers of the United States/Mexico border.
CBSA	core based statistical area
CO	carbon monoxide
CR	county road
CSN STN	Chemical Speciation Network Speciation Trends Network site (includes NCore monitors/requirements, samples analyzed by EPA contracted laboratory)
DNPH	dinitrophenylhydrazine
Dr	drive
E	east
FM	farm-to-market
FEM	federal equivalent method
FRM	federal reference method
GC	gas chromatograph
GC-MS	gas chromatograph mass spectrometry
HiVol	high-volume
Hi-Vol ICP-MS	high-volume with inductively coupled plasma by mass spectrometry
HPLC	high performance liquid chromatography
Hwy(s)	highway(s)
IH	Interstate Highway
LBJ	Lyndon B Johnson
LC	local conditions
Ln	lane
m	meter
Max	maximum
MSA	metropolitan statistical area/micropolitan statistical area
NCore	National Core Multipollutant Monitoring Stations
N	north

Appendix B: Ambient Air Monitoring Network Site List

Symbol/Acronym	Description
NE	northeast
NO_2	nitrogen dioxide
$NO/NO_2/NO_x$	nitrogen oxides
NO_y	total reactive nitrogen
O_3	ozone
OFW	Old Fort Worth
PAMS	Photochemical Assessment Monitoring Stations
Pkwy	parkway
PM_{10}	particulate matter of 10 micrometers or less in diameter
$PM_{10-2.5}$	coarse particulate matter
$PM_{2.5}$	particulate matter of 2.5 micrometers or less in diameter
Collocated QC	collocated (duplicate) monitor for quality control
Rd	road
S	south
SASS	Speciation Air Sampling System
SE	southeast
SETRPC	Southeast Texas Regional Planning Commission
SLAMS	State or Local Air Monitoring Stations
SO_2	sulfur dioxide (one-hour and five-minute maximum monitors)
SPM	special purpose monitor
St	street
SVRD	service road
TCEQ	Texas Commission on Environmental Quality
TEOM	tapered element oscillating microbalance (not NAAQS comparable)
TNMOC	total non-methane organic compound
TSP (Pb)	total suspended particulate (lead)
TX	Texas
URG	Universal Research Group
UTEP	University of Texas at El Paso
UV	ultraviolet
VOC	volatile organic compound
W	west
Wind	All wind sampler types produce data for parameters 61101, 61103, 61104, 61105, and 61106.
Yd	yard

Appendix C

Population and Criteria Pollutant Monitor Requirements and Count Summary by Metropolitan Statistical Area

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

Appendix C: Population and Criteria Pollutant Monitor Requirements and Count Summary by Metropolitan Statistical Area

Texas Metropolitan Statistical Area	2021 Population Estimate[1]	NO_2 and NO/NO_y Monitors Required[2,3]	NO_2 and NO/NO_y Monitors Existing[2,3]	SO_2 Monitors Required[2]	SO_2 Monitors Existing[2,4]	Pb Monitors Required	Pb Monitors Existing	O_3 Monitors Required	O_3 Monitors Existing	CO Monitors Required[2]	CO Monitors Existing[2,4]	PM_{10} Monitors Required[4]	PM_{10} Monitors Existing[4]	$PM_{2.5}$ Monitors Required[4]	$PM_{2.5}$ Monitors Existing[4]
Dallas-Fort Worth-Arlington	7,759,615	6	17	2	3	3	3	4	18	2	2	4-8	4	7	14
Houston-The Woodlands-Sugar Land	7,206,841	6	20	3	5	0	0	4	21	2	3	4-8	6	8	18
San Antonio-New Braunfels	2,601,788	3	5	1	1	0	0	2	3	1	1	2-4	2	3	5
Austin-Round Rock-Georgetown	2,352,426	2	2	0	1	0	0	2	2	1	1	2-4	2	3	3
McAllen-Edinburg-Mission	880,356	0	0	0	0	0	0	1	1	0	0	1-2	1	2	2
El Paso	871,234	2	4	1	1	0	0	3	7	1	3	4-8	6	5	8
Killeen-Temple	486,101	0	1	0	0	0	0	2	2	0	0	0-1	0	0	1
Brownsville-Harlingen	423,029	0	0	0	0	0	0	1	1	0	0	0-1	0	0	2
Corpus Christi	422,778	0	0	0	3	0	0	2	2	0	0	1-2	1	0	4
Beaumont-Port Arthur	395,419	1	4	3	4	0	0	2	7	0	0	0-1	0	0	3
Lubbock	325,245	0	0	0	0	0	0	0	0	0	0	0-1	0	0	1
Longview (includes Marshall)	287,868	0	2	2	3	0	0	1	2	0	0	0-1	0	0	2
Waco	280,428	0	0	0	1	0	0	1	1	0	1	0-1	0	0	1
College Station-Bryan	272,041	0	0	1	1	0	0	0	0	0	0	0-1	0	0	1
Amarillo	269,703	0	0	1	2	0	0	0	0	0	0	0-1	0	0	1
Laredo	267,945	0	0	0	0	0	0	0	1	0	1	0-1	2	0	1
Tyler	237,186	0	1	0	0	0	0	1	1	0	0	0	0	0	0
Abilene	177,314	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Midland	173,180	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Odessa	161,091	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Wichita Falls	149,013	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Texarkana	147,174	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Sherman-Denison	139,336	0	0	0	0	0	0	0	0	0	0	0	0	0	0
San Angelo	122,344	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Victoria	98,127	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Granbury[5]	64,222	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Eagle Pass[5]	58,056	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Corsicana[5]	53,591	0	1	1	2	0	0	0	1	0	0	0	0	0	1
Mount Pleasant[5]	43,799	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Big Spring[5]	34,128	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Kingsville[5]	30,975	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Borger[5]	20,495	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Karnes County[6]	NA	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Freestone County[6]	NA	0	0	0	1	0	0	0	0	0	0	0	0	0	0
Big Bend National Park[6]	NA	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Totals[3]		**20**	**58**	**18**	**31**	**3**	**3**	**27**	**72**	**7**	**12**	**18-45**	**24**	**28**	**73**

[1]United States Census Bureau population estimates as of July 1, 2021. Metropolitan and Micropolitan Statistical Areas Totals: 2020-2021 (census.gov)
[2]Required and existing counts include NO_y, high-sensitivity SO_2, and high-sensitivity CO monitors.
[3]Required monitor pending deployment is discussed in the applicable AMNP section.
[4]Individual monitors may fulfill multiple requirements and are only counted once. Collocated quality control monitors are not included in totals.
[5]Area is classified as a micropolitan statistical area and not subject to SLAMS (State or Local Air Monitoring Stations) requirements.
[6]Area not classified as a metropolitan or micropolitan statistical area; county population data is not applicable.
Metropolitan Statistical Areas are delineated by the United States Office of Management and Budget Delineation Files (census.gov)

CO - carbon monoxide
NA - not applicable
NO_2 and NO/NO_y - nitrogen dioxide, nitrogen oxide, and total reactive nitrogen compounds
Pb - lead
PM_{10} - particulate matter of 10 micrometers or less
$PM_{2.5}$ - particulate matter of 2.5 micrometers or less
O_3 - ozone

Appendix D

Nitrogen Dioxide, Nitrogen Oxide, and Total Reactive Nitrogen Monitor Requirements and Count Summary

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

Appendix D: Nitrogen Dioxide, Nitrogen Oxide, and Total Reactive Nitrogen Monitor Requirements and Count Summary

Core Based Statistical Areas	2021 Population Estimate[1]	Required NO_2 Area Wide Monitors	Required NO_2 RA 40 Monitors	Required NO_2 Near Road Monitors	Required True NO_2 PAMS Monitors	Required NO/NO_y PAMS/NCore Monitors	Total Required NO_2 and NO/NO_y Monitors	Total Existing NO_2 and NO/NO_y Monitors[2]
Dallas-Fort Worth-Arlington	7,759,615	1	1	2	1	1	6	17
Houston-The Woodlands-Sugar Land	7,206,841	1	1	2	1	1	6	20
San Antonio-New Braunfels	2,601,788	1	0	2	0	0	3	5
Austin-Round Rock-Georgetown	2,352,426	1	0	1	0	0	2	2
McAllen-Edinburg-Mission	880,356	0	0	0	0	0	0	0
El Paso	871,234	0	1	0	0	1	2	4
Killeen-Temple	486,101	0	0	0	0	0	0	1
Brownsville-Harlingen	423,029	0	0	0	0	0	0	0
Corpus Christi	422,778	0	0	0	0	0	0	0
Beaumont-Port Arthur	395,419	0	1	0	0	0	1	4
Lubbock	325,245	0	0	0	0	0	0	0
Longview	287,868	0	0	0	0	0	0	2
Waco	280,428	0	0	0	0	0	0	0
College Station-Bryan	272,041	0	0	0	0	0	0	0
Amarillo	269,703	0	0	0	0	0	0	0
Laredo	267,945	0	0	0	0	0	0	0
Tyler	237,186	0	0	0	0	0	0	1
Abilene	177,314	0	0	0	0	0	0	0
Midland	173,180	0	0	0	0	0	0	0
Odessa	161,091	0	0	0	0	0	0	0
Wichita Falls	149,013	0	0	0	0	0	0	0
Texarkana	147,174	0	0	0	0	0	0	0
Sherman-Denison	139,336	0	0	0	0	0	0	0
San Angelo	122,344	0	0	0	0	0	0	0
Victoria	98,127	0	0	0	0	0	0	0
Corsicana[3]	53,591	0	0	0	0	0	0	1
Karnes County[4]	NA	0	0	0	0	0	0	1
Totals		**4**	**4**	**7**	**2**	**3**	**20**	**58**

[1]United States Census Bureau population estimates as of July 1, 2021. Metropolitan and Micropolitan Statistical Areas Totals: 2020-2021 (census.gov)
[2]Monitors may fulfill multiple monitoring requirements and are only counted once.
[3]Area is classified as a micropolitan statistical area and not subject to SLAMS requirements.
[4]Area not classified as a metropolitan or micropolitan statistical area; county population data is not applicable.
NCore - National Core Multipollutant Monitoring Stations
NO - nitrogen oxide
NO_2 - nitrogen dioxide
NO_Y - total reactive nitrogen compounds
PAMS - Photochemical Assessment Monitoring Stations
RA-40 - Regional Administrator 40
Core Based Statistical Areas are delineated by the United States Office of Management and Budget Delineation Files (census.gov)

Appendix E

Sulfur Dioxide Monitor Requirements and Count Assessment

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

Appendix E: Sulfur Dioxide Monitor Requirements and Count Assessment

Core Based Statistical Area	County	2021 Population Estimates[1]	2021 Point Source (tpy)	2017 NEI Data (tpy)	2017 Point Source Data (tpy)	2017 NEI Non Point Source Data with 2020 Point Source Data (tpy)	PWEI	Required SO_2 PWEI Monitors	Required SO_2 DRR Monitors	Required SO_2 NCore Monitors (high sensitivity)	Total Required SO_2 Monitors	Existing Monitors[2]
Dallas-Fort Worth-Arlington		7,759,615				5,487	42,576	1	0	1	2	3
	Collin		10	104	6	108						
	Dallas		364	921	347	938						
	Denton		276	69	340	5						
	Ellis		2,978	1,659	1,561	3,076						
	Hunt		3	35	1	37						
	Johnson		67	105	78	94						
	Kaufman		55	122	91	87						
	Parker		145	256	234	167						
	Rockwall		0	9	0	9						
	Tarrant		20	909	23	907						
	Wise		44	24	9	59						
Houston-The Woodlands-Sugar Land		7,206,841				43,884	316,264	2	0	1	3	5
	Austin		3	42	32	12						
	Brazoria		480	681	585	575						
	Chambers		201	203	191	214						
	Fort Bend		33,969	37,802	37,736	34,035						
	Galveston		973	2,382	1,819	1,535						
	Harris		6,146	8,667	7,546	7,267						
	Liberty		12	39	15	36						
	Montgomery		35	181	23	192						
	Waller		0	17	1	16						
San Antonio-New Braunfels		2,601,788				10,901	28,361	1	0	0	1	1
	Atascosa		7,698	9,316	8,779	8,235						
	Bandera		0	2	0	2						
	Bexar		1,606	13,007	12,724	1,889						
	Comal		299	428	407	321						
	Guadalupe		95	144	109	131						
	Kendall		2	7	2	8						
	Medina		0	10	0	10						
	Wilson		144	270	109	306						
Austin-Round Rock-Georgetown		2,352,426				1,951	4,589	0	0	0	0	1
	Bastrop		69	305	292	82						

Appendix E: Sulfur Dioxide Monitor Requirements and Count Assessment

Core Based Statistical Area	County	2021 Population Estimates[1]	2021 Point Source (tpy)	2017 NEI Data (tpy)	2017 Point Source Data (tpy)	2017 NEI Non Point Source Data with 2020 Point Source Data (tpy)	PWEI	Required SO_2 PWEI Monitors	Required SO_2 DRR Monitors	Required SO_2 NCore Monitors (high sensitivity)	Total Required SO_2 Monitors	Existing Monitors[2]
	Caldwell		0	354	338	16						
	Hays		1,329	1,189	1,164	1,353						
	Travis		122	359	119	362						
	Williamson		86	57	5	138						
McAllen-Edinburg-Mission		880,356				111	98	0	0	0	0	0
	Hidalgo		28	125	42	111						
El Paso		871,234				307	267	0	0	1	1	1
	El Paso		189	390	282	298						
	Hudspeth		6	10	7	9						
Killeen-Temple		486,101				171	83	0	0	0	0	0
	Bell		107	96	43	160						
	Coryell		0	7	0	7						
	Lampasas		0	4	0	4						
Brownsville-Harlingen		423,029				84	36	0	0	0	0	0
	Cameron		2	83	1	84						
Corpus Christi		422,778				801	338	0	0	0	0	3
	Nueces		519	828	689	658						
	San Patricio		88	82	28	142						
Beaumont-Port Arthur		395,419				14,563	5,759	1	2	0	3	4
	Hardin		1	12	1	12						
	Jefferson		11,237	14,002	13,849	11,391						
	Orange		3,121	6,340	6,300	3,161						
Lubbock		325,245				85	28	0	0	0	0	0
	Crosby		0	4	0	3						
	Lubbock		5	57	4	59						
	Lynn		0	23	0	23						
Longview		287,868				52,235	15,037	1	1	0	2	3
	Gregg		23	68	23	67						
	Harrison		3,183	4,389	4,363	3,209						
	Rusk		48,930	36,599	36,578	48,952						
	Upshur		0	8	1	8						
Waco		280,428				3,011	844	0	0	0	0	1
	Falls		0	7	0	7						
	McLennan		2,923	3,181	3,100	3,004						
College Station-Bryan		272,041				11,009	2,995	0	1	0	1	1

Appendix E: Sulfur Dioxide Monitor Requirements and Count Assessment

Core Based Statistical Area	County	2021 Population Estimates[1]	2021 Point Source (tpy)	2017 NEI Data (tpy)	2017 Point Source Data (tpy)	2017 NEI Non Point Source Data with 2020 Point Source Data (tpy)	PWEI	Required SO_2 PWEI Monitors	Required SO_2 DRR Monitors	Required SO_2 NCore Monitors (high sensitivity)	Total Required SO_2 Monitors	Existing Monitors[2]
	Brazos		8	57	12	52						
	Burleson		0	8	0	8						
	Robertson		10,942	11,254	11,248	10,948						
Amarillo		269,703				13,069	3,525	0	1	0	1	2
	Armstrong		0	1	0	1						
	Carson		3	4	0	6						
	Potter		12,759	13,106	12,937	12,929						
	Randall		95	117	93	119						
	Oldham		0	14	0	14						
Laredo		267,945				477	128	0	0	0	0	0
	Webb		284	584	390	477						
Tyler		237,186				584	138	0	0	0	0	0
	Smith		538	534	488	584						
Abilene		177,314				67	12	0	0	0	0	0
	Callahan		0	3	0	3						
	Jones		24	13	9	27						
	Taylor		0	37	0	37						
Midland		173,180				1,375	238	0	0	0	0	0
	Martin		16	494	27	483						
	Midland		187	882	177	892						
Odessa		161,091				961	155	0	0	0	0	0
	Ector		505	1,484	1,028	961						
Wichita Falls		149,013				668	100	0	0	0	0	0
	Archer		0	2	0	2						
	Clay		61	50	47	64						
	Wichita		521	606	526	601						

Appendix E: Sulfur Dioxide Monitor Requirements and Count Assessment

Core Based Statistical Area	County	2021 Population Estimates[1]	2021 Point Source (tpy)	2017 NEI Data (tpy)	2017 Point Source Data (tpy)	2017 NEI Non Point Source Data with 2020 Point Source Data (tpy)	PWEI	Required SO_2 PWEI Monitors	Required SO_2 DRR Monitors	Required SO_2 NCore Monitors (high sensitivity)	Total Required SO_2 Monitors	Existing Monitors[2]
Texarkana		147,174				47	7	0	0	0	0	0
	Bowie		29	34	15	47						
Sherman-Denison		139,336				44	6	0	0	0	0	0
	Grayson		6	45	7	44						
San Angelo		122,344				268	33	0	0	0	0	0
	Irion		0	237	0	237						
	Sterling		1	10	1	10						
	Tom Green		1	21	2	21						
Victoria		98,127				10,665	1,047	0	0	0	0	0
	Goliad		10,413	12,365	12,202	10,576						
	Victoria		35	85	31	90						
Corsicana[3]		53,591				3,655	196	NA	1	0	1	2
	Navarro		3,635	3,812	3,792	3,655						
Mount Pleasant[3]		43,799				9,902	434	NA	1	0	1	1
	Titus		9,880	43,509	43,487	9,902						
Big Spring[3]		34,128				4,896	167	NA	1	0	1	1
	Howard		4,407	6,835	6,346	4,896						
Borger[3]		34,128				6,080	207	NA	1	0	1	1
	Hutchinson		6,071	11,657	11,648	6,080						
None		not available					NA	NA	NA	0	0	1
	Freestone[4]		13	47,653	47,645	20						
Total Monitors								**6**	**9**	**3**	**18**	**31**

1United States Census Bureau population estimates as of July 1, 2021. Metropolitan and Micropolitan Statistical Areas Totals: 2020-2021 (census.gov)

[2]Monitors may fulfill multiple monitoring requirements and are only counted once.

[3]Micropolitan statistical area

[4]Area not classified as a metropolitan or micropolitan statistical area.

Core Based Statistical Areas are defined by the United States Office of Management and Budget Delineation Files (census.gov)

DRR - Data Requirements Rule

NA - not applicable

NCore - National Core Multipollutant Monitoring Stations

NEI - National Emissions Inventory Air Emissions Inventories | US EPA

PWEI - population weighted emission index (Core Based Statistical Area Population*[2017 NEI non-point source data and 2020 point source data]/1,000,000)

SO_2 - sulfur dioxide

tpy - tons per year

Appendix F

Sulfur Dioxide Ongoing Data Requirements Annual Report

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

Appendix F: Sulfur Dioxide Ongoing Data Requirements Annual Report

As required by 40 Code of Federal Regulations (CFR) Section 51.1205(b), this report provides the Texas Commission on Environmental Quality's (TCEQ) annual assessment of sulfur dioxide (SO_2) emissions changes for areas designated attainment/unclassifiable for the 2010 SO_2 National Ambient Air Quality Standard (NAAQS), where the designations were based on characterization of air quality by modeling actual SO_2 emissions.

Out of all Texas counties (or portions of counties) currently designated attainment/unclassifiable for the 2010 SO_2 NAAQS, only the seven counties shown in Table 1 were designated based on modeled actual SO_2 emissions. The most recent (2021) total estimated SO_2 emissions, based on quality assured data from the relevant sources in each county, are listed in Table 1. The table includes emissions from the previous year (2020) and the change in SO_2 emissions from 2020 to 2021.

The relevant sources in Atascosa and Robertson Counties had emission decreases from the previous year. Since the emissions have decreased for these locations from the previous year, the original designation modeling for each county provides reasonable assurance that the areas continue to meet the 2010 one-hour SO_2 primary NAAQS. The relevant source in Wilbarger County also had an emission decrease from the previous year due to discontinued operation in late 2020.

The relevant sources in Fort Bend, Goliad, Lamb, and Limestone Counties had emission increases from the previous year. Table 2 shows the average county SO_2 emissions data used in the 2012-2014 designation modeling. Table 2 also shows the average emissions data for years 2019-2021, which would likely be used for any new modeling initiated to reevaluate compliance with the 2010 SO_2 NAAQS. This comparison shows that the original designation modeling evaluated higher emissions for each area. Since higher emissions were evaluated, the original designation modeling provides reasonable assurance that the areas continue to meet the 2010 one-hour SO_2 primary NAAQS.

For any area where SO_2 monitoring was conducted to characterize air quality pursuant to 40 CFR Section 51.1203, the TCEQ continues to operate the monitor(s) used to meet those requirements and reports quality assured data pursuant to existing ambient monitoring regulations, unless the monitor(s) have been approved for shut down by the EPA Regional Administrator pursuant to 40 CFR Section 51.1203(c)(3) or 40 CFR Section 58.14.

The TCEQ recommends that no additional SO_2 air quality modeling is needed to determine compliance with the 2010 SO_2 NAAQS for any of the seven Texas counties listed in Table 1.

Appendix F: Sulfur Dioxide Ongoing Data Requirements Annual Report

Table 1: 2020 to 2021 Emissions Comparisons

County	Relevant Source	2020 SO_2 (tpy)	2021 SO_2 (tpy)	Difference 2020 to 2021	Cause for Emission Increase
Atascosa	San Miguel Electric Plant	10,412	7,579	-2,833	NA
Fort Bend	W.A. Parish Electric Generating Station	23,866	33,870	10,004	Increased coal usage
Goliad	Coleto Creek Power Station	7,943	10,402	2,458	Increased coal usage
Lamb	Tolk Station Power Plant	4,660	6,913	2,253	Increased coal usage
Limestone	Limestone Electric Generating Station	4,921	5,104	183	Slight coal usage increase, probable sulfur content increase
Robertson	Twin Oaks Power Station	2,373	2,346	-27	NA
Wilbarger	Oklaunion Power Station (shut down in late 2020)	748	0	-748	NA

NA – not applicable
SO_2 – sulfur dioxide
tpy – tons per year

Table 2: Average Emissions Comparison

County	Relevant Source	2012-2014 SO_2 Average (tpy)	2019-2021 SO_2 Average (tpy)	Three Year Average SO_2 Comparison Change
Fort Bend	W.A. Parish Electric Generating Station	41,520	28,855	-12,666
Goliad	Coleto Creek Power Station	15,832	9,870	-5,962
Lamb	Tolk Station Power Plant	18,457	6,266	-12,191
Limestone	Limestone Electric Generating Station	24,718	5,237	-19,481

SO_2 – sulfur dioxide
tpy – tons per year

Appendix G

Total Suspended Particulate Lead Monitor Requirements and Count Summary

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

Appendix G: Total Suspended Particulate Lead Monitor Requirements and County Summary

Metropolitan Statistical Area	County	Pb Source (Facility Name) or Monitoring Requirement	2019 Pb Source Emissions (tpy)	2020 Pb Source Emissions (tpy)	2021 Pb Source Emissions (tpy)	Site Name	Required Monitors[1]	Existing Monitors[1]
Dallas-Fort Worth-Arlington							3	3
	Collin	Maintenance Area	NA	NA	NA	Frisco Eubanks[1,2]	1	1
	Collin	Maintenance Area	NA	NA	NA	Frisco Stonebrook[2]	1	1
	Kaufman	Conecsus, LLC	0.1804	0.1779	0.2130	Terrell Temtex[1]	1	1
Totals							**3**	**3**

[1]Collocated quality control monitors are not included in totals.

[2]Monitor required to fulfill State Implementation Plan commitments.

LLC - Limited Liability Company

NA - not applicable

Pb - lead

tpy - tons per year

Appendix H

Ozone Monitor Requirements and Count Assessment

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

Appendix H: Ozone Monitor Requirements and Count Assessment

Metropolitan Statistical Area	2021 Population Estimates[1]	2019 2021 8 Hour Design Value (ppm)	Design Value as Percent of NAAQS[2]	Total Required SLAMS Monitors	Total Required NCore/PAMS Monitors	Total Required Monitors[3]	Total Existing Monitors[4]
Dallas-Fort Worth-Arlington	7,759,615	0.076	109%	3	1	4	18
Houston-The Woodlands-Sugar Land	7,206,841	0.075	107%	3	1	4	21
San Antonio-New Braunfels	2,601,788	0.071	101%	2	0	2	3
Austin-Round Rock-Georgetown	2,352,426	0.063	90%	2	0	2	2
McAllen-Edinburg-Mission	880,356	0.056	80%	1	0	1	1
El Paso	871,234	0.075	107%	2	1	3	7
Killeen-Temple	486,101	0.064	91%	2	0	2	2
Brownsville-Harlingen	423,029	0.056	80%	1	0	1	1
Corpus Christi	422,778	0.062	89%	2	0	2	2
Beaumont-Port Arthur	395,419	0.066	94%	2	0	2	7
Lubbock	325,245	NA	NA	0	0	0	0
Longview	287,868	0.062	89%	1	0	1	2
Waco	280,428	0.064	91%	1	0	1	1
College Station-Bryan	272,041	NA	NA	0	0	0	0
Amarillo	269,703	NA	NA	0	0	0	0
Laredo	267,945	0.059	84%	0	0	0	1
Tyler	237,186	0.064	91%	1	0	1	1
Abilene	177,314	NA	NA	0	0	0	0
Midland	173,180	NA	NA	0	0	0	0
Odessa	161,091	NA	NA	0	0	0	0
Wichita Falls	149,013	NA	NA	0	0	0	0
Texarkana	147,174	NA	NA	0	0	0	0
Sherman-Denison	139,336	NA	NA	0	0	0	0
San Angelo	122,344	NA	NA	0	0	0	0
Victoria	98,127	0.061	87%	1	0	1	1
Granbury[5]	64,222	0.064	91%	0	0	0	1
Corsicana[5]	53,591	0.063	90%	0	0	0	1
Totals				**24**	**3**	**27**	**72**

[1]United States Census Bureau population estimates as of July 1, 2021. Metropolitan and Micropolitan Statistical Areas Totals: 2020-2021 (census.gov)

[2]2015 eight-hour ozone National Ambient Air Quality Standard (NAAQS) is 0.070 parts per million (ppm).

[3]Total Required Monitors is a sum of requirements for SLAMS, PAMS, and NCore.

[4]Monitors may fulfill multiple monitoring requirements and are only counted once.

[5]Area is classified as a micropolitan statistical area and is not subject to SLAMS requirements.

NA - not applicable

NCore - National Core Multipollutant Monitoring Stations

PAMS - Photochemical Assessment Monitoring Stations

SLAMS - State or Local Air Monitoring Stations

Metropolitan Statistical Areas are delineated by the United States Office of Management and Budget Delineation Files (census.gov)

Appendix I

Carbon Monoxide Monitor Requirements and Count Summary

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

Appendix I: Carbon Monoxide Monitor Requirements and Count Summary

Core Based Statistical Area[1]	2021 Population Estimates	Site Name	Required CO NCore Monitors	Required CO Near-Road Monitors	Total Required Monitors[3]	Total Existing Monitors[4]
Dallas-Fort Worth-Arlington	7,759,615		1	1	2	2
		Dallas Hinton[5]	1	0	1	1
		Fort Worth California Parkway North	0	1	1	1
Houston-The Woodlands-Sugar Land	7,206,841		1	1	2	3
		Clinton[5]	0	0	0	1
		Houston Deer Park #2[5]	1	0	1	1
		Houston North Loop	0	1	1	1
San Antonio-New Braunfels	2,601,788		0	1	1	1
		San Antonio Interstate 35	0	1	1	1
Austin-Round Rock-Georgetown	2,352,426		0	1	1	1
		Austin North Interstate 35	0	1	1	1
El Paso	871,234		1	0	1	3
		El Paso Chamizal[5]	1	0	1	1
		El Paso UTEP	0	0	0	1
		Ojo De Agua	0	0	0	1
Laredo	267,945		0	0	0	1
		Laredo Vidaurri	0	0	0	1
Waco	280,428		0	0	0	1
		Waco Mazanec	0	0	0	0
Totals			**3**	**4**	**7**	**12**

[1]This list does not include core based statistical areas with zero requirements and zero monitors.
United States Census Bureau population estimates as of July 1, 2021.

Metropolitan and Micropolitan Statistical Areas Totals: 2020-2021 (census.gov)

[3]Total Required Monitors is a sum of requirements for NCore and Near-Road.

[4]Monitors may fulfill multiple monitoring requirements and are only counted once.

[5]High-Sensitivity CO monitor

- number

CO - carbon monoxide

NCore - National Core Multipollutant Monitoring Stations

UTEP – University of Texas at El Paso

Appendix J

Particulate Matter of 10 Micrometers or Less Monitor Requirements and Count Assessment

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

Appendix J: Particulate Matter of 10 Micrometers or Less Monitor Requirements and Count Assessment

Table 1: Particulate Matter of 10 Micrometers or Less Monitoring Requirements Assessment and Monitor Locations[1]

Metropolitan Statistical Area	2021 Population Estimates[2]	Site Name	2019 2021 Maximum Concentration (µg/m^3)	Percent of NAAQS[3] (%)	Required Monitors[4]	Existing Monitors[4]
Dallas-Fort Worth-Arlington	7,759,615		125	83	4-8	4
		Convention Center (planned PM_{10} FEM continuous) (collocated QC manual filter-based pair)	125	83		
		Dallas Bexar Street[5] (monitor deployed September 2021) (planned PM_{10} FEM continuous)	NA	NA		
		Dallas Hinton[5] (NEW! PM_{10} FEM continuous)	NA	NA		
		Earhart	97	65		
Houston-The Woodlands-Sugar Land	7,206,841		165	110	4-8	6
		Clinton (collocated QC manual filter-based pair)	153	102		
		Houston Deer Park #2[5] (NEW!! PM_{10} FEM continuous)	NA	NA		
		Houston Monroe	156	104		
		Houston North Wayside[5] (monitor deployed September 2021, non-NAAQS comparable)	NA	NA		
		Lang	165	110		
		Texas City Fire Station (planned PM_{10} FEM continuous)	149	99		
San Antonio-New Braunfels	2,601,788		117	78	2-4	2
		San Antonio Bulverde Parkway[5] (planned PM_{10} FEM continuous)	98	65		
		Frank Wing Municipal Court	117	78		
Austin-Round Rock-Georgetown	2,352,426		97	65	2-4	2
		Austin Webberville Road (planned PM_{10} FEM continuous)	97	65		
		Austin Audubon Society	90	60		
McAllen-Edinburg-Mission	880,356		97	65	1-2	1
		Mission (planned PM_{10} FEM continuous)	97	65		
El Paso	871,234		194	129	4-8	6
		El Paso Mimosa (previously Riverside)	168	112		

Appendix J: Particulate Matter of 10 Micrometers or Less Monitor Requirements and Count Assessment

Metropolitan Statistical Area	2021 Population Estimates[2]	Site Name	2019 2021 Maximum Concentration ($\mu g/m^3$)	Percent of NAAQS[3] (%)	Required Monitors[4]	Existing Monitors[4]
		El Paso Chamizal (current monitor non-NAAQS comparable, planned PM_{10} FEM continuous)	NA	NA		
		Ivanhoe (planned PM_{10} FEM continuous)	177	118		
		Ojo De Agua (collocated QC manual filter-based pair) (planned PM_{10} FEM continuous)	119	79		
		Socorro Hueco (collocated QC manual filter-based pair) (planned PM_{10} FEM continuous)	194	129		
		Van Buren	135	90		
Killeen-Temple	486,101		NA	0	0-1	0
Brownsville-Harlingen	423,029		NA	0	0-1	0
Corpus Christi	422,778		180	120	1-2	1
		Dona Park	180	120		
Beaumont-Port Arthur	395,419		NA	0	0-1	0
Lubbock	325,245		NA	0	0-1	0
Longview	287,868		NA	0	0-1	0
Waco	280,428		NA	0	0-1	0
College Station-Bryan	272,041		NA	0	0-1	0
Amarillo	269,703		NA	0	0-1	0
Laredo	267,945		88	59	0-1	2
		Laredo Vidaurri	88	59		
		Laredo Bridge	76	51		
Totals					**18-45**	**24**

[1]This list doesn't include metropolitan statistical areas with zero requirements and zero monitors.
[2]United States Census Bureau population estimates as of July 1, 2021. Metropolitan and Micropolitan Statistical Areas Totals: 2020-2021 (census.gov)
[3]Current PM_{10} NAAQS is 150 micrograms per cubic meter ($\mu g/m^3$).
[4]Collocated quality control manual filter-based monitors are not counted.
[5]Monitor deployed 2020-2023, incomplete design values are not used for regulatory compliance.
% - percent
FEM - federal equivalent method
NAAQS - National Ambient Air Quality Standards
PM_{10} - particulate matter of 10 micrometers or less in diameter
QC - quality control
µg/m3 - micrograms per cubic meter
Metropolitan Statistical Areas are delineated by the United States Office of Management and Budget Delineation Files (census.gov)

Appendix J: Particulate Matter of 10 Micrometers or Less Monitor Requirements and Count Assessment

Table 2: Particulate Matter of 10 Micrometers or Less Manual Filter-Based Monitor Concentrations[1]

Site Name	2019 - 2021 Maximum Concentration (µg/m³)	2021 Annual Mean Concentration (µg/m³)	2020 Annual Mean Concentration (µg/m³)[2]	2019 Annual Mean Concentration (µg/m³)
Socorro Hueco (collocated QC pair)[2]	194	39	39	33
Clinton (collocated QC pair)[2]	153	33	30	28
Ivanhoe	177	35	32	27
El Paso Mimosa (previously Riverside)[3]	168	52	45	26
Van Buren	135	31	27	26
Laredo Vidaurri	88	29	25	25
Mission	97	23	25	24
Laredo Bridge	76	24	22	21
Houston Monroe	156	23	22	21
Convention Center (collocated QC pair)	125	21	22	20
Austin Webberville Road	98	24	25	20
Ojo De Agua (collocated QC pair)	119	24	22	20
Frank Wing Municipal Court	87	24	23	19
Lang	165	24	22	19
Earhart	97	21	21	19
Texas City Fire Station	149	21	21	17
Dona Park	180	19	21	17
Austin Audubon Society	89	19	17	12
San Antonio Bulverde Parkway[4] (previously Selma)	98	18	20	8
Dallas Bexar Street[4] (monitor deployed September 2021)	56	21	NA	NA

[1]Particulate matter of 10 micrometers or less continuous methods have no collocated QC requirements and are not evaluated in this table.

[2]Highest annual mean concentrations, confirms at least half of collocated QC monitoring occurs at network sites among the highest.

[3]2020 data effected by road construction

[4]New monitor deployed in 2019-2021, resulting in incomplete design value. Incomplete design values are not used for regulatory compliance.

QC - quality control

NAAQS - National Ambient Air Quality Standard

µg/m³ - micrograms per cubic meter

Appendix K

Particulate Matter of 2.5 Micrometers or Less Monitor Requirements and Count Assessment

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

Appendix K: Particulate Matter of 2.5 Micrometers or Less Monitor Requirements and Count Assessment

Table 1: Particulate Matter of 2.5 Micrometers or Less Monitor Requirement and Count Summary

Metropolitan Statistical Area	2021 Population Estimates[1]	2019 2021 DV (µg/m^3) Annual (for Area)	2019 2021 DV (µg/m^3) 24-Hour (for Area)	Percent of NAAQS Annual[2] (for Area)	Percent of NAAQS 24-Hour[3] (for Area)	Required FRM/ FEM Monitors	Required NCore Monitors	Required Near Road Monitors	Total Required Monitors[4]	Total Existing Monitors[4]
Dallas-Fort Worth-Arlington	7,759,615	9.2	21	77	60	2	4	1	7	14
Houston-The Woodlands-Sugar Land	7,206,841	11.1	26	93	74	3	4	1	8	18
San Antonio-New Braunfels	2,601,788	8.7	22	73	63	2	0	1	3	5
Austin-Round Rock-Georgetown	2,352,426	9.5	22	79	63	2	0	1	3	3
McAllen-Edinburg-Mission	880,356	10.6	28	88	80	2	0	0	2	2
El Paso	871,234	8.9	24	74	69	1	4	0	5	8
Killeen-Temple[5]	486,101	7.8	19	65	54	0	0	0	0	1
Brownsville-Harlingen	423,029	9.7	28	81	80	0	0	0	0	2
Corpus Christi	422,778	8.6	24	72	69	0	0	0	0	4
Beaumont-Port Arthur[5]	395,419	8.3	20	69	57	0	0	0	0	3
Lubbock[5]	325,245	6.0	16	50	46	0	0	0	0	1
Longview	287,868	8.8	20	73	57	0	0	0	0	2
Waco	280,428	NA	NA	NA	NA	0	0	0	0	1
College Station-Bryan[5]	272,041	NA	NA	NA	NA	0	0	0	0	1
Amarillo[5]	269,703	5.6	14	47	40	0	0	0	0	1
Laredo[5]	267,945	10.4	27	87	77	0	0	0	0	1
Odessa[5]	161,091	7.4	18	62	51	0	0	0	0	1
Texarkana	147,174	9.6	21	80	60	0	0	0	0	1
Eagle Pass[5,6]	58,056	7.8	22	65	63	0	0	0	0	1
Corsicana[6]	53,591	NA	NA	NA	NA	0	0	0	0	1
Kingsville[5,6]	30,975	9.6	27	80	77	0	0	0	0	1
Big Bend National Park[5,7]	NA	5.4	16	45	46	0	0	0	0	1
Totals*						**12**	**12**	**4**	**28**	**73**

[1]United States Census Bureau population estimates as of July 1, 2021. Metropolitan and Micropolitan Statistical Areas Totals: 2020-2021 (census.gov)
[2]Current $PM_{2.5}$ Annual NAAQS is 12.0 micrograms per cubic meter (µg/m^3).
[3]Current $PM_{2.5}$ 24-hour NAAQS is 35 µg/m^3.
[4]Individual monitors may fulfill multiple requirements and are only counted once. Collocated quality control monitors are not included in totals.
[5]Annual values do not meet completeness criteria; monitors deployed in 2019 to 2021. Incomplete design value information is not used for the purposes of regulatory compliance.
[6]Area is classified as a micropolitan statistical area and is not subject to SLAMS (State or Local Ambient Monitoring Stations) requirements.
[7]Area not classified as a metropolitan or micropolitan statistical area.
This list does not include metropolitan statistical areas with no requirement and no monitors.
DV - design value
FEM - federal equivalent method
FRM - federal reference method
NA - not applicable
NAAQS - National Ambient Air Quality Standards
NCore - National Core Multipollutant Monitoring Stations
µg/m^3 - micrograms per cubic meter

Appendix K: Particulate Matter of 2.5 Micrometers or Less Monitor Requirements and Count Assessment

Table 2: Particulate Matter of 2.5 Micrometers or Less Monitor Design Value, Location, Monitor Type[1], and Requirements Assessment

Metropolitan Statistical Area	2021 Population Estimates[2]	Site Name	Monitor Type(s)	2019-2021 Annual DV (µg/m³)	2019-2021 24-Hour DV (µg/m³)	Percent of NAAQS (Annual[3])	Percent of NAAQS (24-Hour[4])	Required SLAMS FRM/FEM Monitor[5]	Continuous Monitor[6]	Continuous Requirement Met[6]	Required NCore Monitor	Required Near-Road Monitor	Total Required Monitors[5]	Total Existing Monitors[5]
Dallas-Fort Worth-Arlington	7,759,615			9.2	21	77	60	2	9	Y	4	1	7	14
		Convention Center	BAM 1022	9.1	19	76	54	1	1		0	0	1	1
		Dallas Hinton (collocated QC pair)	Partisol 2025, BAM1020 PM2.5, BAM1020 PM10-2.5, SASS/URG Speciation[7] (Partisol 2025 QC)	8.4	19	70	54	0	1		4	0	4	4
		Dallas Bexar	TEOM[8] (planned PM2.5 FEM continuous)	NA	NA	NA	NA	0	1		0	0	0	1
		Denton Airport South[9]	BAM 1022	7.5	17	63	49	0	1		0	0	0	1
		Fort Worth California Parkway North (collocated QC pair)	BAM 1022 (BAM 1022 QC)	8.5	21	71	60	0	1		0	1	1	1
		Fort Worth Northwest	BAM 1022	9.2	21	77	60	1	1		0	0	1	1
		Haws Athletic Center	BAM 1022	8.9	21	74	60	0	1		0	0	0	1
		Kaufman[9]	BAM 1022 (NEW in 2022)	NA	NA	NA	NA	0	1		0	0	0	1
		Midlothian OFW (site temporarily inactive due to relocation)	Partisol 2025[9], TEOM[8] (planned PM2.5 FEM continuous), URG/2025 Speciation	8.0	16	67	46	0	1		0	0	0	3
Houston-The Woodlands-Sugar Land	7,206,841			11.1	26	93	74	3	12	Y	4	1	8	18
		Baytown	BAM 1022	9.5	20	79	57	1	1		0	0	1	1
		Clinton (collocated QC pair)	Partisol 2025, TEOM[8] (planned PM2.5 FEM continuous), Partisol 2025 Speciation (Partisol 2025 QC)	10.4	22	87	63	1	1		0	0	1	3

Appendix K: Particulate Matter of 2.5 Micrometers or Less Monitor Requirements and Count Assessment

Metropolitan Statistical Area	2021 Population Estimates[2]	Site Name	Monitor Type(s)	2019-2021 Annual DV (µg/m^3)	2019-2021 24-Hour DV (µg/m^3)	Percent of NAAQS (Annual[3])	Percent of NAAQS (24-Hour[4])	Required SLAMS FRM/FEM Monitor[5]	Continuous Monitor[6]	Continuous Requirement Met[6]	Required NCore Monitor	Required Near-Road Monitor	Total Required Monitors[5]	Total Existing Monitors[5]
		Conroe Relocated[9]	BAM 1022	9.9	25	83	71	0	1		0	0	0	1
		Galveston 99th Street	BAM 1022	7.7	21	64	60	0	1		0	0	0	1
		Freeport South Avenue I[9]	Partisol 2025 with speciation (New in 2023)	NA	NA	NA	NA	0	0		0	0	0	1
		Houston Aldine (collocated QC pair)	BAM 1022 (Partisol 2025 QC)	9.9	23	83	66	1	1		0	0	1	1
		Houston Bayland Park	BAM 1022[9] (NEW in 2022)	NA	NA	NA	NA	0	1		0	0	0	1
		Houston Deer Park #2 (speciation collocated QC pair[7])	Partisol 2025, T640X PM2.5, T640X PM10-2.5, SASS/URG Speciation[7] (SASS/URG Speciation QC[7])	8.4	21	70	60	0	1		4	0	4	4
		Houston East	BAM 1022	10.2	22	85	63	0	1		0	0	0	1
		Houston North Loop	BAM 1022	11.1	26	93	74	0	1		0	1	1	1
		Houston North Wayside[9]	BAM 1022 (NEW in 2021)	12.5	27	104	77	0	1		0	0	0	1
		Houston Westhollow[9]	BAM 1022 (NEW in 2021)	8.2	18	68	51	0	1		0	0	0	1
		Seabrook Friendship Park[9]	BAM 1022	6.7	16	56	46	0	1		0	0	0	1
San Antonio-New Braunfels	2,601,788			8.7	22	73	63	2	5	Y	0	1	3	5
		Calaveras Lake	BAM 1022	7.6	21	63	60	1	1		0	0	1	1
		Old Highway 90	TEOM 1405[8] (planned PM2.5 FEM continuous)	NA	NA	NA	NA	0	1		0	0	0	1
		San Antonio Interstate 35	BAM 1022	8.7	20	73	57	0	1		0	1	1	1
		San Antonio Northwest (collocated QC pair)	BAM 1022 (Partisol 2025 QC)	8.7	22	73	63	1	1		0	0	1	1
		Von Ormy Highway 16 (previously Palo Alto)[9]	BAM 1022	9.1	23	76	66	0	1		0	0	0	1

Appendix K: Particulate Matter of 2.5 Micrometers or Less Monitor Requirements and Count Assessment

Metropolitan Statistical Area	2021 Population Estimates[2]	Site Name	Monitor Type(s)	2019-2021 Annual DV (µg/m^3)	2019-2021 24-Hour DV (µg/m^3)	Percent of NAAQS (Annual[3])	Percent of NAAQS (24-Hour[4])	Required SLAMS FRM/FEM Monitor[5]	Continuous Monitor[6]	Continuous Requirement Met[6]	Required NCore Monitor	Required Near-Road Monitor	Total Required Monitors[5]	Total Existing Monitors[5]
Austin-Round Rock-Georgetown	2,352,426			9.5	22	79	63	2	3	Y	0	1	3	3
		Austin North Interstate 35	BAM 1022	9.2	21	77	60	1	1		0	1	2	1
		Austin North Hills Drive (previously Austin Northwest)[9]	BAM 1022	7.1	16	59	46	0	1		0	0	0	1
		Austin Webberville Road (collocated QC pair)	BAM 1022 (Partisol 2025 QC)	9.5	22	79	63	1	1		0	0	1	1
McAllen-Edinburg-Mission	880,356			10.6	28	88	80	2	2	Y	0	0	2	2
		Edinburg East Freddy Gonzalez Drive	BAM 1022 (NEW!)	10.4	30	87	86	1	1		0	0	1	1
		Mission (site temporarily inactive due to relocation)	BAM 1022	10.6	28	88	80	1	1		0	0	1	1
El Paso	871,234			8.9	24	74	69	1	4	Y	4	0	5	8
		Ascarate Park SE	TEOM[8] (planned PM2.5 FEM continuous)	NA	NA	NA	NA	0	1		0	0	0	1
		El Paso Chamizal	Partisol 2025, BAM 1020 PM2.5, BAM 1020 PM10-2.5, URG/SASS Speciation[7]	8.9	24	74	69	0	1		4	0	4	4
		El Paso UTEP (site temporarily inactive due to relocation)	Partisol 2025, TEOM[8] (planned PM2.5 FEM continuous)	7.5	26	63	74	1	1		0	0	1	2
		Socorro Hueco	TEOM[8] (planned PM2.5 FEM continuous)	NA	NA	NA	NA	0	1		0	0	0	1
Killeen-Temple[9]	486,101			7.8	19	65	54	0	1	NA	0	0	0	1
		Temple Georgia[9]	BAM 1022	7.8	19	65	54	0	1		0	0	0	1

Appendix K: Particulate Matter of 2.5 Micrometers or Less Monitor Requirements and Count Assessment

Metropolitan Statistical Area	2021 Population Estimates[2]	Site Name	Monitor Type(s)	2019-2021 Annual DV (µg/m^3)	2019-2021 24-Hour DV (µg/m^3)	Percent of NAAQS (Annual[3])	Percent of NAAQS (24-Hour[4])	Required SLAMS FRM/FEM Monitor[5]	Continuous Monitor[6]	Continuous Requirement Met[6]	Required NCore Monitor	Required Near-Road Monitor	Total Required Monitors[5]	Total Existing Monitors[5]
Brownsville-Harlingen	423,029			9.7	28	81	80	0	2	NA	0	0	0	2
		Brownsville	BAM 1022	9.7	28	81	80	0	1		0	0	0	1
		Isla Blanca State Park Road[9]	BAM 1022	10.6	27	88	77	0	1		0	0	0	1
Corpus Christi	422,778			8.6	24	72	69	0	2	NA	0	0	0	4
		Corpus Christi Huisache (collocated QC pair)	BAM 1022 (BAM 1022 QC)	8.2	23	68	66	0	1		0	0	0	1
		Dona Park[9] (collocated QC pair)	BAM 1022 (NEW!), (Partisol 2025 QC and speciation), URG/2025 Speciation	8.6	24	72	69	0	1		0	0	0	3
Beaumont-Port Arthur[9]	395,419			8.3	20	69	57	0	3	NA	0	0	0	3
		Hamshire[9]	BAM 1022	7.8	18	65	51	0	1		0	0	0	1
		Port Arthur Memorial School (collocated QC pair)	BAM 1022, (BAM 1022 QC)	8.3	20	69	57	0	1		0	0	0	1
		SETRPC 42 Mauriceville	BAM 1022	8.2	19	68	54	0	1		0	0	0	1
Lubbock[9]	325,245			6.0	16	50	46	0	1	NA	0	0	0	1
		Lubbock 12th Street[9]	BAM 1022	6.0	16	50	46	0	1		0	0	0	1
Longview	287,868			8.8	20	73	57	0	1	NA	0	0	0	2
		Karnack	BAM 1022, URG/SASS Speciation[7]	8.8	20	73	57	0	1		0	0	0	2

Appendix K: Particulate Matter of 2.5 Micrometers or Less Monitor Requirements and Count Assessment

Metropolitan Statistical Area	2021 Population Estimates[2]	Site Name	Monitor Type(s)	2019-2021 Annual DV (µg/m^3)	2019-2021 24-Hour DV (µg/m^3)	Percent of NAAQS (Annual[3])	Percent of NAAQS (24-Hour[4])	Required SLAMS FRM/FEM Monitor[5]	Continuous Monitor[6]	Continuous Requirement Met[6]	Required NCore Monitor	Required Near-Road Monitor	Total Required Monitors[5]	Total Existing Monitors[5]
Waco	280,428			NA	NA	NA	NA	0	1	NA	0	0	0	1
		Waco Mazanec	TEOM 1405[8]	NA	NA	NA	NA	0	1		0	0	0	1
College Station-Bryan[9]	272,041			8.0	21	67	60	0	1	NA	0	0	0	1
		Bryan Finfeather Road[9]	BAM 1022	8.0	21	67	60	0	1		0	0	0	1
Amarillo[9]	269,703			5.6	14	47	40	0	1	NA	0	0	0	1
		Amarillo A&M[9]	BAM 1022	5.6	14	47	40	0	1		0	0	0	1
Laredo[9]	267,945			10.4	27	87	77	0	1	NA	0	0	0	1
		World Trade Bridge[9]	BAM 1022	10.4	27	87	77	0	1		0	0	0	1
Odessa[9]	161,091			7.4	18	62	51	0	1	NA	0	0	0	1
		Odessa Gonzales[9]	BAM 1022	7.4	18	62	51	0	1		0	0	0	1
Texarkana	147,174			9.6	21	80	60	0	1	NA	0	0	0	1
		Texarkana New Boston	BAM 1022	9.6	21	80	60	0	1		0	0	0	1
Eagle Pass[9,10]	58,056			7.8	22	65	63	0	1	NA	0	0	0	1
		Eagle Pass[9]	BAM 1022	7.8	22	65	63	0	1		0	0	0	1
Corsicana[10]	53,591			NA	NA	NA	NA	0	1	NA	0	0	0	1
		Corsicana Airport[9]	BAM 1022 (NEW in 2022)	NA	NA	NA	NA	0	1		0	0	0	1
Kingsville[9,10]	30,975			9.6	27	80	77	0	1	NA	0	0	0	1
		National Seashore[9]	BAM 1022	9.6	27	80	77	0	1		0	0	0	1

Appendix K: Particulate Matter of 2.5 Micrometers or Less Monitor Requirements and Count Assessment

Metropolitan Statistical Area	2021 Population Estimates[2]	Site Name	Monitor Type(s)	2019-2021 Annual DV (µg/m^3)	2019-2021 24-Hour DV (µg/m^3)	Percent of NAAQS (Annual[3])	Percent of NAAQS (24-Hour[4])	Required SLAMS FRM/FEM Monitor[5]	Continuous Monitor[6]	Continuous Requirement Met[6]	Required NCore Monitor	Required Near-Road Monitor	Total Required Monitors[5]	Total Existing Monitors[5]
Big Bend National Park[9,11]	NA			5.4	16	45	46	0	1	NA	0	0	0	1
		Bravo Big Bend[9]	BAM 1022	5.4	16	45	46	0	1		0	0	0	1
Totals								**12**	**55**	**Y**	**12**	**4**	**28**	**73**

[1]This list does not include metropolitan statistical areas with no requirements and no monitors.
[2]United States Census Bureau population estimates as of July 1, 2021. Metropolitan and Micropolitan Statistical Areas Totals: 2020-2021 (census.gov)
[3]Current $PM_{2.5}$ Annual NAAQS is 12.0 µg/m^3.
[4]Current $PM_{2.5}$ 24-hour NAAQS is 35 µg/m^3.
[5]Individual monitors may fulfill multiple requirements and are only counted once. Collocated quality control monitors are not included in totals.
[6]Continuous $PM_{2.5}$ monitor total by MSA must equal at least one-half the number of SLAMS-required sites and each MSA with SLAMS-required sites must have at least one.
[7]Speciation monitor for NCore or Chemical Speciation Network (CSN)
[8]$PM_{2.5}$ TEOM monitors are non-FEM/FRM (non-NAAQS comparable)
[9]Annual values do not meet completeness criteria; monitors deployed in 2019 - 2023. Incomplete design value (gray font) information is not used for regulatory compliance.
[10]Area is classified as a micropolitan statistical area and is not subject to SLAMS requirements.
[11]Area not classified as a metropolitan or micropolitan statistical area.
- number
DV - design value
FEM - federal equivalent method
FRM - federal reference method
MSA - metropolitan statistical area
NA - not applicable
NAAQS - National Ambient Air Quality Standards
NCore - National Core Multipollutant Monitoring Stations require $PM_{2.5}$ FRM mass, $PM_{2.5}$ FEM continuous mass, $PM_{10-2.5}$ and $PM_{2.5}$ CSN speciation
N - no
OFW - Old Fort Worth
$PM_{2.5}$ FRM mass method code 145 by Partisol 2025 or 2025i
$PM_{2.5}$ FEM mass method codes 170 and 209 by beta attenuation method (BAM)1020 or 1022
$PM_{2.5}$ FEM mass method code 238 by broadband spectroscopy T640X
$PM_{2.5}$ non-regulatory mass method code 702 by tapered element oscillating microbalance (TEOM)
$PM_{2.5}$ speciation method codes 810, 811, 812, 826, 831, 838, 839, 840, 841, 842, 846, and 849
$PM_{10-2.5}$ method code 185 by BAM1020
QC - quality control
SASS - second generation speciation sampling system (for Chemical Speciation Network [CSN] only)
SETRPC - Southeast Texas Regional Planning Commission
SE - southeast
SLAMS - State or Local Air Monitoring Stations
URG - University Research Glassware speciation sampler
UTEP - University of Texas at El Paso
Y - yes
µg/m^3 - micrograms per cubic meter
Delineation Files (census.gov)
Metropolitan Statistical Areas are delineated by the United States Office of Management and Budget
Monitors marked "NEW!" were recently deployed continuous FEM. If the FEM replaced a FRM, then a design value will still be applicable for regulatory compliance.

Appendix L

Volatile Organic Compound and Carbonyl Monitor Requirements and Count Summary

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

Appendix L: Volatile Organic Compound and Carbonyl Monitor Requirement and Count Summary

Table 1: Volatile Organic Compound Monitor Requirement and Count Summary

Core Based Statistical Area[1]	Required PAMS VOC AutoGC Monitors	Existing VOC Canister Monitors	Existing VOC AutoGC Monitors	Total Existing VOC Monitors
Dallas-Fort Worth-Arlington	1	3	2	5
Houston-The Woodlands-Sugar Land	1	0	3	3
El Paso	0	0	1	1
Beaumont-Port Arthur	0	0	2	2
Laredo	0	1	0	1
Totals	**2**	**4**	**8**	**12**

[1]This list does not include core based statistical areas with zero requirements and zero monitors.
AutoGC – automated gas chromatograph
PAMS – Photochemical Assessment Monitoring Stations
VOC – volatile organic compound

Table 2: Carbonyl Monitor Requirement and Count Summary

Core Based Statistical Area[1]	Required PAMS Carbonyl Samplers	Total Existing Carbonyl Samplers
Dallas-Fort Worth-Arlington	1	2
Houston-The Woodlands-Sugar Land	1	2
Totals	**2**	**4**

[1]This list does not include core based statistical areas with zero requirements and zero monitors.
PAMS – Photochemical Assessment Monitoring Stations

Appendix M

TCEQ Response to Comments Received on the draft 2023 Annual Monitoring Network Plan

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

Appendix M: TCEQ Response to Comments Received on the draft 2023 Annual Monitoring Network Plan

Introduction

As required under Title 40 Code of Federal Regulations (40 CFR) Section (§) 58.10, the Texas Commission on Environmental Quality (TCEQ) posted the draft *2023 Annual Monitoring Network Plan* (AMNP or Plan) for public inspection for 30 days prior to submittal to the United States Environmental Protection Agency (EPA). The draft 2023 AMNP provided information on the current TCEQ ambient air monitoring network established to determine compliance with federal monitoring requirements specified in 40 CFR Part 58 and its appendices. This document presented the current federal network established for use in evaluations to determine compliance with the National Ambient Air Quality Standards (NAAQS) and to meet federal monitoring requirements and objectives. This Plan is limited to the portion of the TCEQ air monitoring network designed to comply with federal monitoring requirements and supported by federal funding. This document includes the recommended federal monitoring network changes from July 1, 2022, through December 31, 2024.The TCEQ also operates a robust network of state-initiative monitors that support a variety of purposes, including potential health effects evaluation; however, these monitors are outside the scope of this document and are not included.

The TCEQ continues to evaluate additional ambient air monitoring requested during previous AMNP public inspection and comment periods. Details regarding the potential monitors under consideration were included in the Additional Monitoring Considerations section of the Plan to solicit further public comment. Any future implementation of these monitoring considerations may be included as part of the TCEQ federal ambient air monitoring network or as state-initiative monitors. The monitoring proposal under consideration (see AMNP section Additional Monitoring Considerations), and implementation of said proposal are subject to change.

During the public comment period from April 18, 2023, to May 17, 2023, the TCEQ received comments from the University of Texas Health Center Southwest Center for Occupational & Environmental Health (UT Southwest Center for Occupational & Environmental Health), the Sunnyside Community Redevelopment Organization (SCRO), the Environmental Defense Fund (EDF), Midlothian Breathe, Air Alliance Houston, One Breath Partnership, the Coalition of Community Organizations (COCO), Environmental Community Advocates for Galena Park, the Kashmere Gardens Super Neighborhood Council #52, and one individual. Comments received by the TCEQ relating to the TCEQ federal ambient air quality network, as described in the Plan, are addressed in this appendix. The TCEQ received positive comment and support regarding the proposed additional monitoring consideration to add a state-initiative non-regulatory volatile organic compounds (VOC) canister monitor to the new Houston Pleasantville Elementary site during the draft 2023 AMNP comment period. Therefore, the TCEQ incorporated this recommendation in the final plan and its appendices. No further changes were made to the 2023 AMNP based on the comments summarized below.

Appendix M: TCEQ Response to Comments Received on the draft 2023 Annual Monitoring Network Plan

Comment Summaries and TCEQ Responses

Comment 1: Air Alliance Houston (AAH) submitted a letter containing comments identified by the numerals 1, 2, and 4. The TCEQ summarized AAH comments and responded accordingly in Comment and Response number 1-6 below. AAH appreciated the opportunity to comment on the TCEQ draft 2023 AMNP. AAH recognized that the draft AMNP met, and in some cases, exceeded the federal requirements outlined in 40 CFR §58.10 and corresponding appendices. AAH was pleased and looked forward to the addition of the three new regulatory monitors in environmental justice communities in the Houston-Woodlands-Sugar Land core based statistical area (Houston CBSA). AAH applauded the TCEQ's efforts to monitor ambient air quality above federal requirements and in adding increased monitoring capacity in Houston's environmental justice communities. AAH commented that the draft AMNP stated that no substantive network changes were indicated by current data or regulation. AAH requested that the TCEQ reconsider this statement in the AMNP. AAH noted a proliferation of air pollution sources and multiple known impending stationary and mobile emissions source expansions in the Houston CBSA. AAH stated that many of these pollution source expansions would be in Houston environmental justice communities. AAH noted the need for continued expansion of Houston air monitoring due to these air pollution source expansions. AAH believed that the continued focus and attention on collecting the most comprehensive air monitoring data for the Houston CBSA remained a high priority. AAH requested the TCEQ engage with community members to locate additional regulatory air monitors in or near specific environmental justice communities.

Response 1: The TCEQ appreciates the comments and support from AAH regarding the addition of new Houston monitors. The TCEQ AMNP addresses federally required monitoring and demonstrates the TCEQ's compliance with requirements under 40 CFR Part 58. As AAH noted, the TCEQ meets, and in many cases, exceeds federal requirements. The TCEQ also operates a robust network of state-initiative monitors that support a variety of purposes. Though the TCEQ state-initiative monitors are outside of the scope of this document, this state-initiative air monitoring network provides valuable information for assessing public health. The TCEQ also notes that Houston CBSA ambient air monitoring capacity has been expanded considerably since 2021. The ambient air monitoring expansion included several areas in or near the communities AAH listed in the comment.

The TCEQ significantly enhanced its state-initiative air monitoring capabilities along the Houston Ship Channel with three new automated gas chromatographs (autoGC) sites capable of continuous measurement of 46 volatile organic compounds (VOCs) in 2021 and 2022. The TCEQ has plans to add a state-initiative VOC canister monitor to an existing site downwind of the Houston Ship Channel in 2023. The TCEQ enhanced its Houston CBSA federal network in 2021 and 2022 by adding continuous particulate matter monitors to three existing sites. TCEQ further expanded the Houston CBSA air monitoring spatial coverage with plans to add two new air monitoring sites in the Houston Fifth Ward and Pleasantville neighborhoods in 2023. The TCEQ engaged members of several community groups on the location of the new air monitoring sites in these neighborhoods. Details on the TCEQ air monitoring expansion in the Houston CBSA are detailed in Table 1 below.

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As stated in the introduction, the 2023 AMNP is intended to demonstrate the TCEQ's compliance with federal air monitoring requirements under 40 CFR Part 58. Air monitoring sites are generally placed to be representative of regional air quality, rather than monitoring emissions (pollution) from specific sources.

Table 1: Houston Area New Air Monitoring Sites and Monitors (2021-2023)

TCEQ Site Name	Action	Monitors	Date
Houston Finnigan Park	Pending new site	Continuous particulate matter of 2.5 micrometers or less ($PM_{2.5}$), continuous particulate matter of 10 micrometers or less (PM_{10}), state-initiative volatile organic compounds (VOCs) by canister, and meteorological sensors for wind and temperature (met)	Expected Fall 2023
Houston Pleasantville Elementary	Pending new site	Continuous $PM_{2.5}$, newly recommended state-initiative VOCs by canister, and met	Expected Fall 2023
Houston East	Existing site, pending monitor addition	State-initiative VOCs by canister	Expected Fall 2023
Pasadena Richey Elementary School	New site	State-initiative continuous VOCs by automated gas chromatograph (autoGC)	Deployed May 2022
Houston Bayland Park	Existing site, monitor addition	Continuous $PM_{2.5}$	Deployed April 2022
Manchester East Avenue N	New site	State-initiative continuous VOCs by autoGC and met	Deployed November 2021
Houston North Wayside	Existing site, monitor addition	Continuous $PM_{2.5}$ and continuous PM_{10} and met	Deployed May 2021 and September 2021
Channelview Drive Water Tower	New site	State-initiative continuous VOCs by autoGC and met	Deployed February 2021
Houston Westhollow	Existing site, monitor addition	Continuous $PM_{2.5}$	Deployed January 2021

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Comment 2: AAH recommended the TCEQ begin a process to engage community members to locate additional regulatory monitors near specific environmental justice communities, including the Near Northside community of Houston due to increased mobile emissions from planned highway expansion projects adding to existing air pollution from concrete batch plants, metal recyclers, superfund sites, and railyards. AAH also recommended community engagement and additional monitoring for potential pollution impacts along the north shore of the Houston Ship Channel (cities of Baytown, Channelview, and Cloverleaf) due to significant refinery expansion projects. AAH also recommended community engagement and additional monitoring for potential air pollution impacts in south Houston (communities of Sunnyside, Minnetex, South Park, South Acres/Crestmont Park) due to a large cluster of concrete batch plants, concrete crushers, and other aggregate production operations and a significant presence of EPA Toxic Release Inventory (TRI) facilities and multiple Superfund and municipal solid waste sites with no effective buffers for neighborhood residents. The AAH noted these cumulative south Houston areas had little or no TCEQ air monitor coverage.

Response 2: The TCEQ appreciates the recommendations for expanded Houston air monitoring. As stated in the introduction, the 2023 AMNP is intended to demonstrate the TCEQ's compliance with federal air monitoring requirements under 40 CFR Part 58. Air monitoring sites are generally placed to be representative of regional air quality, rather than monitoring emissions (pollution) from specific sources. The Near Northside community in Houston is located slightly northwest of the Houston Fifth Ward. The new monitoring site planned for that area, Houston Finnigan Park, will provide valuable regional air quality data for this quadrant of Houston, including the Near Northside community. The AAH recommended the TCEQ monitor the potential pollution impacts along the north shore of the Houston Ship Channel. The TCEQ notes that there are existing state-initiative, non-regulatory monitors at several locations along the north shore of the Houston Ship Channel (including the cities of Baytown, Channelview, and near Cloverleaf). The TCEQ active ambient air monitoring sites and monitors along the north shore of the Houston Ship Channel are shown on the TCEQ interactive monitoring map GeoTAM and below in Figure 1.

As shown in the 2023 AMNP Appendix C, the TCEQ exceeds the Houston CBSA federal air monitoring requirements for all criteria pollutants required under 40 CFR Part 58. The TCEQ strives to strategically balance meeting federal monitoring requirements and state and local needs with available funding and staffing resources, and for those reasons, cannot always satisfy every monitoring request. However, the TCEQ will continue to evaluate air monitoring needs in the Houston CBSA, including the areas in south Houston, as recommended by the AAH, against existing federal monitoring requirements and available resources.

Appendix M: TCEQ Response to Comments Received on the draft 2023 Annual Monitoring Network Plan

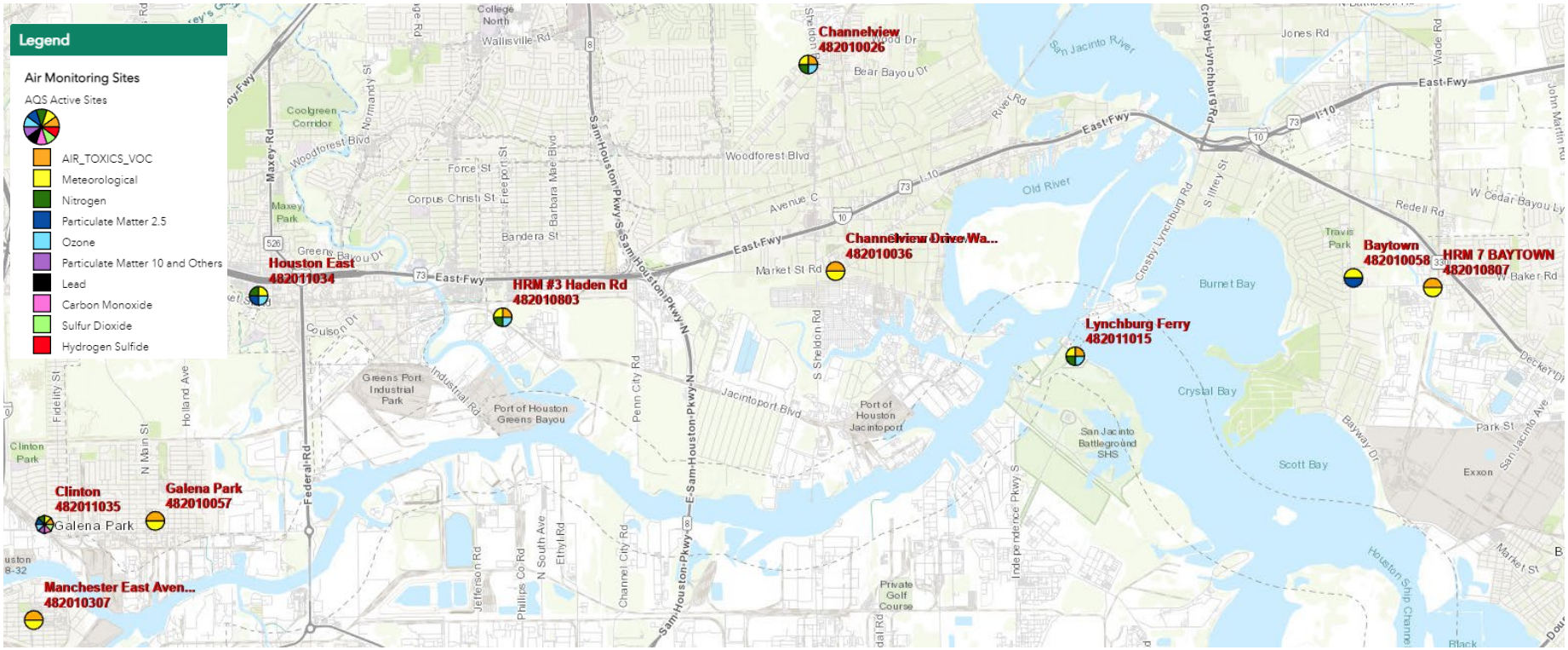

Figure 1: Houston Ship Channel North Shore Active Sites and Monitors

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Comment 3: AAH noted a large gap in the TCEQ air monitoring network in the Aldine and East Aldine neighborhoods (unincorporated Harris County) and stated these neighborhoods contained a number of air pollution sources located close to residential areas, schools, and other sensitive uses, with the numbers and size of some facilities (concrete batch plants) continuing to increase. AAH further noted TCEQ only maintained one air monitor in the area, which was inadequate for the number of air pollution sources.

Response 3: The intent of the TCEQ's federal ambient air monitoring network is to characterize regional air quality over periods of time. It is not designed for the purpose of measuring emissions from specific sources or industries. The TCEQ owns/operates 83 pollutant monitors across 28 air monitoring sites in Harris County alone (including the Aldine neighborhoods), with additional sites and monitors planned for the Fifth Ward and Pleasantville neighborhoods in 2023. The TCEQ federal ambient air monitoring network currently exceeds the Houston CBSA federal requirements in terms of number of monitors (shown in AMNP Appendix C). In addition to the TCEQ federal air monitoring network, the TCEQ hosts non-regulatory air monitoring data from additional entities in the Texas Air Monitoring Information System (TAMIS) database (TAMISWeb). In Harris County, there are 21 additional non-TCEQ air monitoring sites operating and an additional 37 non-TCEQ monitors at those sites with data available in TAMIS. The TCEQ strives to strategically balance meeting federal monitoring requirements and state and local needs with available funding and staffing resources and for those reasons, cannot always satisfy every monitoring request. However, the TCEQ will continue to evaluate air monitoring requests in the Houston CBSA and Harris County against federal requirements and available resources.

Comment 4: AAH stated that its low-cost sensor network data from seven sensors located in Galena Park, Texas, showed consistent exceedances of multiple NAAQS. AAH recognized that the Clinton monitor collects data around Galena Park, but the volume of Galena Park pollution sources necessitated a second regulatory station. The Environmental Defense Fund (EDF) requested that the TCEQ deploy a new continuous $PM_{2.5}$ monitor and a speciated VOC monitor in Galena Park.

Response 4: The TCEQ does not agree that additional monitors are needed in Galena Park due to the volume of pollution sources. The TCEQ's federal air monitoring network is designed to measure pollutant concentrations that are representative of regional areas and are generally not sited to assess impacts from specific industrial sources. The TCEQ operates two air monitoring sites in the Galena Park area including the Clinton site mentioned in the comment and a state-initiative site one mile to the east (Galena Park). A third site, (Houston East), is located less than three miles north of Galena Park in Jacinto City. Additionally, the TCEQ receives data from a site owned by Houston Regional Monitoring (HRM) Corporation, (HRM #3 Haden Road), located approximately five miles northeast of Galena Park, and the data are publicly available in TAMISWeb. Table 2 details the Galena Park area air monitoring sites and monitors. Figure 2 shows a map of the Galena Park area air monitoring sites.

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Table 2: Galena Park Area Air Monitoring Sites and Monitors

TCEQ Site Name	Monitors
Clinton	Volatile organic compounds (VOCs) by automated gas chromatograph Carbon monoxide (high sensitivity) Carbonyl Oxides of nitrogen Ozone Particulate matter of 10 micrometers or less in diameter (PM_{10}) Particulate matter of 2.5 micrometers or less in diameter ($PM_{2.5}$) $PM_{2.5}$ speciation Sulfur dioxide Meteorological parameters of wind and temperature (Met)
Galena Park	VOCs by automated gas chromatograph VOCs by canister Met
Houston East	Oxides of nitrogen Ozone $PM_{2.5}$ Met Planned VOCs by canister in 2023
Houston Regional Monitoring (HRM) Number 3 Haden Road*	VOCs by automated gas chromatograph VOCs by canister Oxides of nitrogen Ozone Met

***owned by Houston Regional Monitoring Corporation; data made publicly available via TAMIS.**

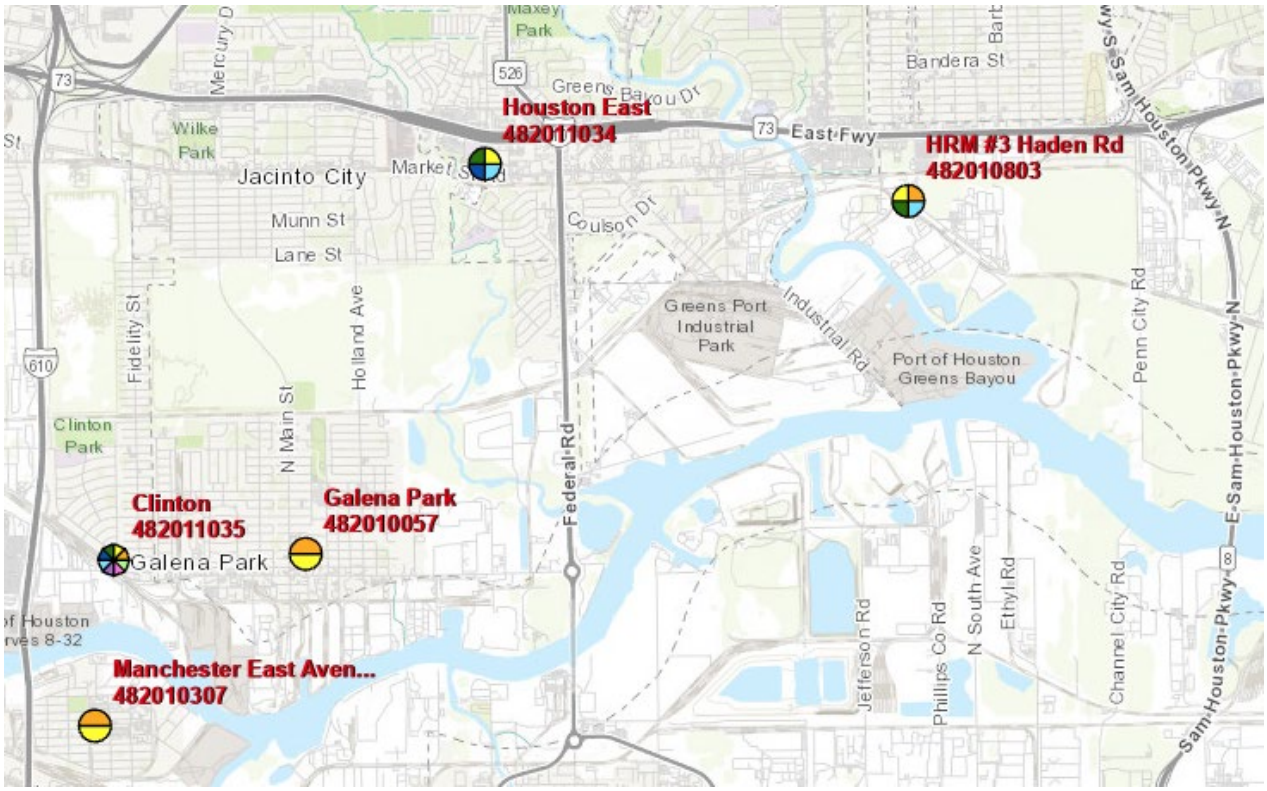

Figure 2: Galena Park Area Active Sites and Monitors

Appendix M: TCEQ Response to Comments Received on the draft 2023 Annual Monitoring Network Plan

The TCEQ acknowledges the data collected through the low-cost sensor network in Galena Park, Texas may be useful in understanding the general picture of air quality in an area. However, these sensors are not federal reference or equivalent methods, and the data obtained from these sensors are not suitable for comparison to federal standards. Sensors may not produce data that are consistent with data from regulatory-grade monitors due to various limitations including but not limited to quality control checks of the sensors. Additionally, low-cost sensors collect and report instantaneous readings and/or short-term spikes that are not appropriate for comparison to federal standards which are based on long-term data, rather than instantaneous values.

The purpose of the 2023 AMNP is to demonstrate how the TCEQ air monitoring network complies with federal monitoring requirements specified in 40 CFR Part 58 and its appendices. The TCEQ exceeds the Houston CBSA federal air monitoring requirements, and no additional changes are recommended at this time.

Comment 5: AAH commented that rigorous air monitoring would be needed to monitor improvement plans in response to the Houston area's recent designation to severe nonattainment for ozone (O_3) and the proposed reduction in the $PM_{2.5}$ NAAQS.

Response 5: As stated in the introduction, the 2023 AMNP is intended to demonstrate the TCEQ's compliance with federal air monitoring requirements under 40 CFR Part 58 as they exist today. The Houston CBSA meets or exceeds federal monitoring requirements as detailed in the 2023 AMNP and in AMNP Appendix C. Comments related to O_3 and $PM_{2.5}$ monitoring improvement plans, as well as any increased monitoring that may be needed in response to potentially lowered NAAQS, are beyond the scope of this Plan.

Comment 6: AAH commented that local low-cost and citizen-science community air monitoring networks filled data gaps in regulatory monitoring and that the EPA was considering frameworks and methods to utilize the results of the community monitoring to inform regulatory monitoring. AAH noted that they operated the largest community air monitoring network in the Houston and Harris County area. AAH stated their sensor network was slated to grow in the next year to include the Northeast Houston/Settegast, Channelview, and Baytown areas. The AAH noted that other community-based organizations also installed low-cost sensor networks throughout Harris and Fort Bend Counties. AAH commented that they believed it was in the TCEQ's (and the AMNP's) best interest to develop a framework to utilize low-cost sensor network data to inform regulatory monitoring.

Response 6: The TCEQ commends AAH in the development and support of local low-cost sensor community-based networks in the Houston and Harris County area. While the collected data may be useful in understanding the general picture of air quality in an area, these sensors are not federal reference or equivalent methods and the data obtained from these sensors are not suitable for comparison to federal standards. Sensors may not produce data consistent with those from regulatory-grade monitors due to various limitations. Additionally, low-cost sensors collect and report instantaneous readings and/or short-term spikes that are not appropriate for comparison to federal standards which are based on long-term, rather than instantaneous values.

The purpose of the AMNP is to demonstrate how the TCEQ air monitoring network

complies with federal monitoring requirements specified in 40 CFR Part 58 and its appendices. The TCEQ looks forward to the EPA guidance and/or requirements that will support how the results of community-based air monitoring sensor data could inform regulatory monitoring. However, comments related to community-based sensors, which are not required and are not comparable to federal standards, are beyond the scope of this document.

Comment 7: One Breath Partnership submitted a letter that included petition language stated to be from The Action Network (a website for community organization campaigns). The letter included typewritten names, zip codes, and some additional comments from specific individuals in support of deploying a special purpose VOC canister monitor alongside the planned particulate matter monitor to the new Houston Pleasantville Elementary site. One Breath Partnership noted that 197<sic> individuals had signed a petition to request enhanced air monitoring in Houston's historically Black Pleasantville neighborhood. The submission included 181 typewritten names of individuals and two individuals on behalf of the Environmental Integrity Project with zip codes, including 170 individuals from zip codes within the state of Texas and 13 individuals from zip codes outside of Texas. The submitted petition language noted that the signers supported the deployment of a special purpose VOC canister monitor at the new Houston Pleasantville Elementary site and that Pleasantville residents and nearby communities have a right to know what they are breathing and a right to clean air. Some individuals noted that the Pleasantville community was vulnerable to poor air quality from a range of sources emitting hazardous air pollutants including the Houston Ship Channel, Interstate 610, major rail yards, and nearby industrial facilities.

In the One Breath Partnership letter, some individuals also noted that deploying a VOC canister monitor in the Pleasantville community would provide actionable data communities could use alongside public health and government agencies to inform and prioritize environmental justice concerns in Pleasantville. Some individuals specifically appreciated the steps taken by the TCEQ in deploying a VOC canister monitor at the planned Pleasantville site. One individual also requested enhanced monitoring in Galena Park and Fidelity.

AAH, Coalition of Community Organizations (COCO), Environmental Community Advocates of Galena Park, EDF, Kashmere Gardens Super Neighborhood council #52, Sunnyside Community Redevelopment Organization (SCRO) and UT Southwest Center for Occupational and Environmental Health also supported the additional VOC canister monitor for the Pleasantville neighborhood. AAH noted that the Pleasantville community in Houston had been plagued by multiple sources of industry (e.g., refineries, petrochemicals) and tailpipe emissions for decades. AAH commented that without this VOC canister monitor, neither TCEQ nor residents would have a complete understanding of the extent of potential exposure. COCO commented similarly that the deployment of a canister monitor would represent a tool needed to fill critical gaps in understanding VOC levels in the region and would provide actionable data communities can use alongside public health and government agencies. The EDF and SCRO commented that the residents of Pleasantville and nearby areas had a right to know if they were breathing air toxics.

Response 7: The TCEQ appreciates the support for deploying a state-initiative, non-regulatory VOC canister to the new Houston Pleasantville Elementary site. Due to the

outpouring of positive comments and support received, the TCEQ has incorporated this proposal to deploy a state-initiative, non-regulatory VOC canister monitor to the new Houston Pleasantville Elementary site as part of the final 2023 AMNP. The TCEQ agrees that the data from this monitor will be useful for assessing air quality in this area. The TCEQ appreciates the continued support and collaboration from community groups to monitor daily ambient air quality conditions in the Houston Ship Channel and surrounding areas.

Comment 8: The SCRO and the EDF commented that since the closure of the continuous $PM_{2.5}$ monitor at Houston Park Place, there was a blind spot in monitoring particulate matter and nitrogen dioxide (NO_2) around the metal recycling facilities, concrete batch/crushing facilities, transportation, and substantial industrial activity in the Sunnyside neighborhood in Houston. The SCRO and EDF recommended that a continuous $PM_{2.5}$ regulatory monitor with a speciated VOC canister monitor be placed in Sunnyside, Houston as the nearest TCEQ $PM_{2.5}$ monitors are located at Houston Bayland Park and Clinton, each more than seven miles away.

SCRO acknowledged developing and deploying a low-cost community-owned air monitoring network in 2021 to observe $PM_{2.5}$. SCRO additionally noted they co-located an air sensor with the Clinton regulatory monitor. SCRO noted observing different patterns of peak concentrations and higher $PM_{2.5}$ concentrations at some SCRO monitoring sites compared to the collocation at the Clinton monitor.

Both the SCRO and EDF also noted that several large industrial fires along Holmes Road were observed on the SCRO community air monitoring network. SCRO commented that the lack of a federal reference method monitor limited the ability to document these events so investigations and enforcement actions could be taken. It was noted that multiple sources of air pollution and hazardous waste were identified within the borders of Sunnyside. Concerns that all three of Sunnyside's zip codes were identified as asthma high burden zip codes were also noted. SCRO commented that it is critical for Sunnyside residents to have more information on $PM_{2.5}$ and VOCs to make the best decisions to protect public health.

The SCRO commented that the TCEQ should view the 2023 AMNP as an opportunity to prioritize equity and take a step toward identifying the pollution disparities that have burdened the Sunnyside community for decades.

Response 8: The TCEQ appreciates the SCRO and EDF comments. As demonstrated in the Plan, TCEQ $PM_{2.5}$ federal monitoring network in the Houston CBSA includes 18 active $PM_{2.5}$ monitors at 13 sites, with two more $PM_{2.5}$ monitors planned at two new sites in 2023, to measure ambient $PM_{2.5}$ concentration data. The TCEQ exceeds the federal requirement for a minimum of eight $PM_{2.5}$ monitors in the Houston CBSA. Houston area air monitoring sites are shown in Figure 3 below with $PM_{2.5}$ monitors indicated by a dark blue section.

The Park Place $PM_{2.5}$ monitor was not associated with the TCEQ federal or state-initiative air monitoring network. The monitor was independently owned and operated by the City of Houston, and the historical data are available in TAMIS. The monitor failed, and there were no parts to repair the unit as it was no longer supported by the manufacturer. The City of Houston was not able to identify funds to support the purchase of a replacement $PM_{2.5}$ monitor; therefore, the monitor was discontinued. The City of Houston currently operates four other pollutant monitors

at the Park Place air monitoring site under the TCEQ federal network. The Park Place active air monitors and year of activation are listed in Table 3. The TCEQ disagrees with the comment that there is no NO_2 monitoring in the southeast quadrant of Houston. An oxides of nitrogen monitor measuring NO_2 has been operational at the Park Place air monitoring site since 2006 (see Table 3).

Table 3: TCEQ Park Place Air Monitors

TCEQ Site Name	Current Monitors and Year of Activation
Park Place	Carbon monoxide, 2014 Oxides of nitrogen, 2006 Ozone, 2006 Sulfur dioxide, 2006 Meteorological parameters of wind and temperature, 2006

The TCEQ acknowledges the data collected through citizen installed $PM_{2.5}$ sensors in the community-owned air monitoring network. While the data collected may be useful in understanding an overall picture of air quality in an area, these sensors are not federal reference or equivalent methods and the data obtained from these sensors are not suitable for comparison to federal standards. Sensors may not produce data consistent with those from regulatory-grade monitors due to various limitations. Additionally, low-cost sensors collect and report instantaneous readings and/or short-term spikes that are not appropriate for comparison to federal standards which are based on long-term data, rather than instantaneous values.

As stated in the introduction, the 2023 AMNP is intended to demonstrate the TCEQ's compliance with federal air monitoring requirements under 40 CFR Part 58. Air monitoring sites are generally placed to be representative of regional air quality, rather than monitoring emissions (pollution) from specific sources. Stationary monitors are not intended to assess the emissions from individual sources or to document events for investigations or enforcement actions. Data from the TCEQ's air monitoring network are used to determine compliance with the federal air quality standards, evaluate pollutant trends, forecast daily air quality conditions, perform air quality and human health impact studies, and inform regulatory decisions. The TCEQ strives to strategically balance meeting federal monitoring requirements and state and local needs with available funding and staffing resources and for those reasons, cannot satisfy every request for monitoring. The TCEQ will continue to evaluate air monitoring needs in the Houston CBSA, including in the Houston Sunnyside neighborhoods, against federal air monitoring requirements and available resources.

Appendix M: TCEQ Response to Comments Received on the draft 2023 Annual Monitoring Network Plan

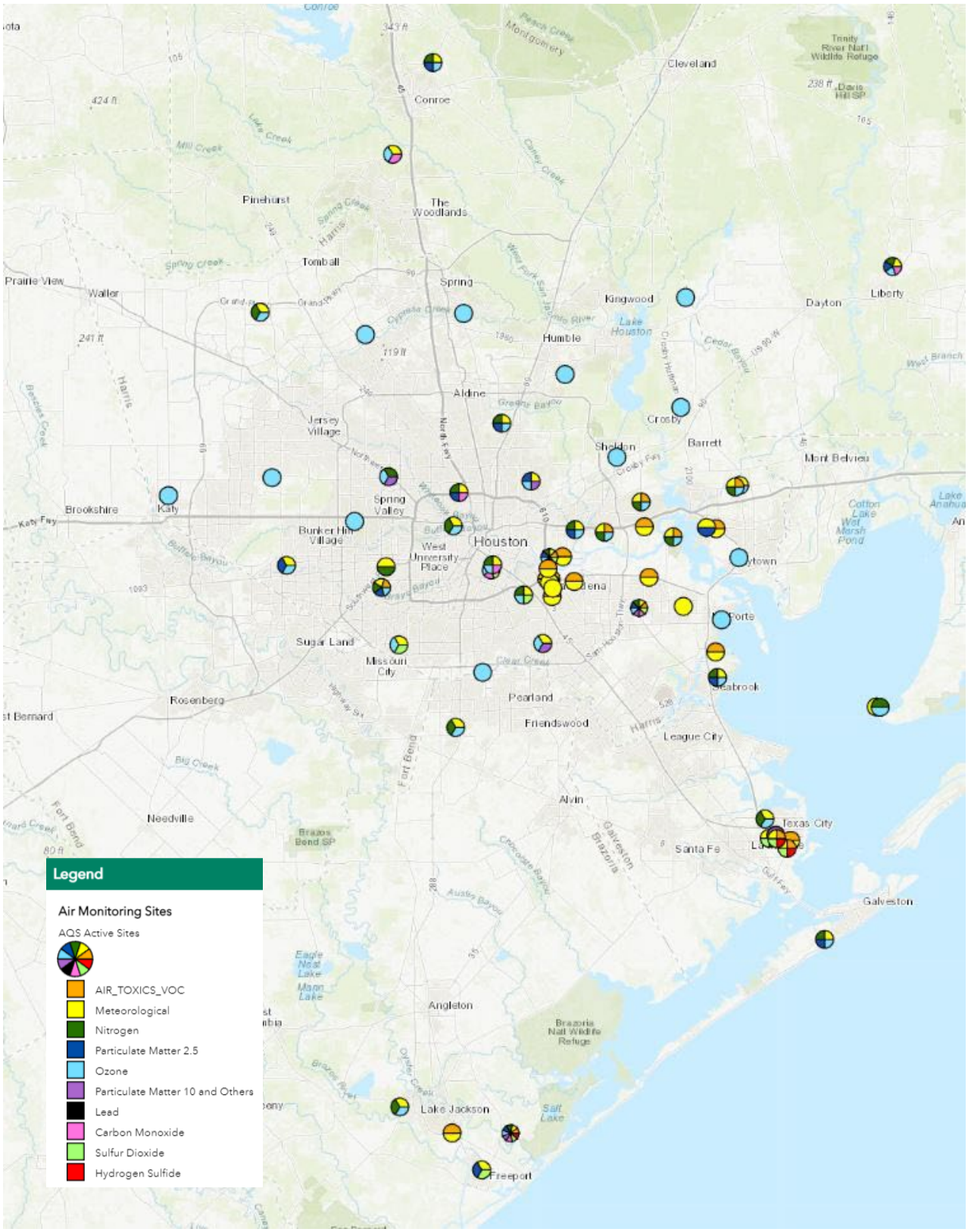

Figure 3: Houston CBSA Active Sites and Monitors

Appendix M: TCEQ Response to Comments Received on the draft 2023 Annual Monitoring Network Plan

Comment 9: One individual commented that the 2023 draft Plan did not include monitoring in Corpus Christi where many people live, work and shop. The individual noted submitting previous comments and proposed siting a $PM_{2.5}$ monitor within a tenth of a mile from the La Palmera Mall. The citizen commented that the mall was located roughly in the center of the city population where many people work and shop and would be able to monitor pollutants downwind during winter events when the wind blows from the northwest. The individual also noted that current monitors were not in areas where most people live, but rather around the refineries, the airport, and on the island. The individual also commented that the area had a larger than normal percentage of polluters caused by aging vehicles in poor repair, lack of charging for zero-emissions vehicles, no vehicle emissions testing, and a lack of air quality public outreach and education.

Response 9: The TCEQ disagrees with these comments. The 2023 AMNP includes ambient air monitoring in Corpus Christi where many people live, work, and shop as shown in Figure 4 below. For example, the TCEQ Corpus Christi West air monitoring site is located in an area where people live, work, and shop. An aerial overview of the land use within one mile surrounding the air monitoring site shows multiple residences, schools, parks, and businesses frequented by members of the public. Figure 4 shows an aerial overview of the Corpus Christi West site with a one-mile radius circle in purple. The TCEQ previously monitored for $PM_{2.5}$ at Corpus Christi West from 2000 to 2013, and due to low annual concentration data, the resource was reallocated. The wind rose in Figure 5 shows that the current placement of TCEQ sites will monitor air pollution downwind of the Corpus Christi industrial sector along the ship channel during winter events when the wind blows from the northwest. Comments related to pollution caused by aging vehicles, lack of zero-emissions vehicle charging and vehicle emissions testing, and the impact to the city's pollution from a perceived lack of air quality public outreach and education are outside of the AMNP scope.

Appendix M: TCEQ Response to Comments Received on the draft 2023 Annual Monitoring Network Plan

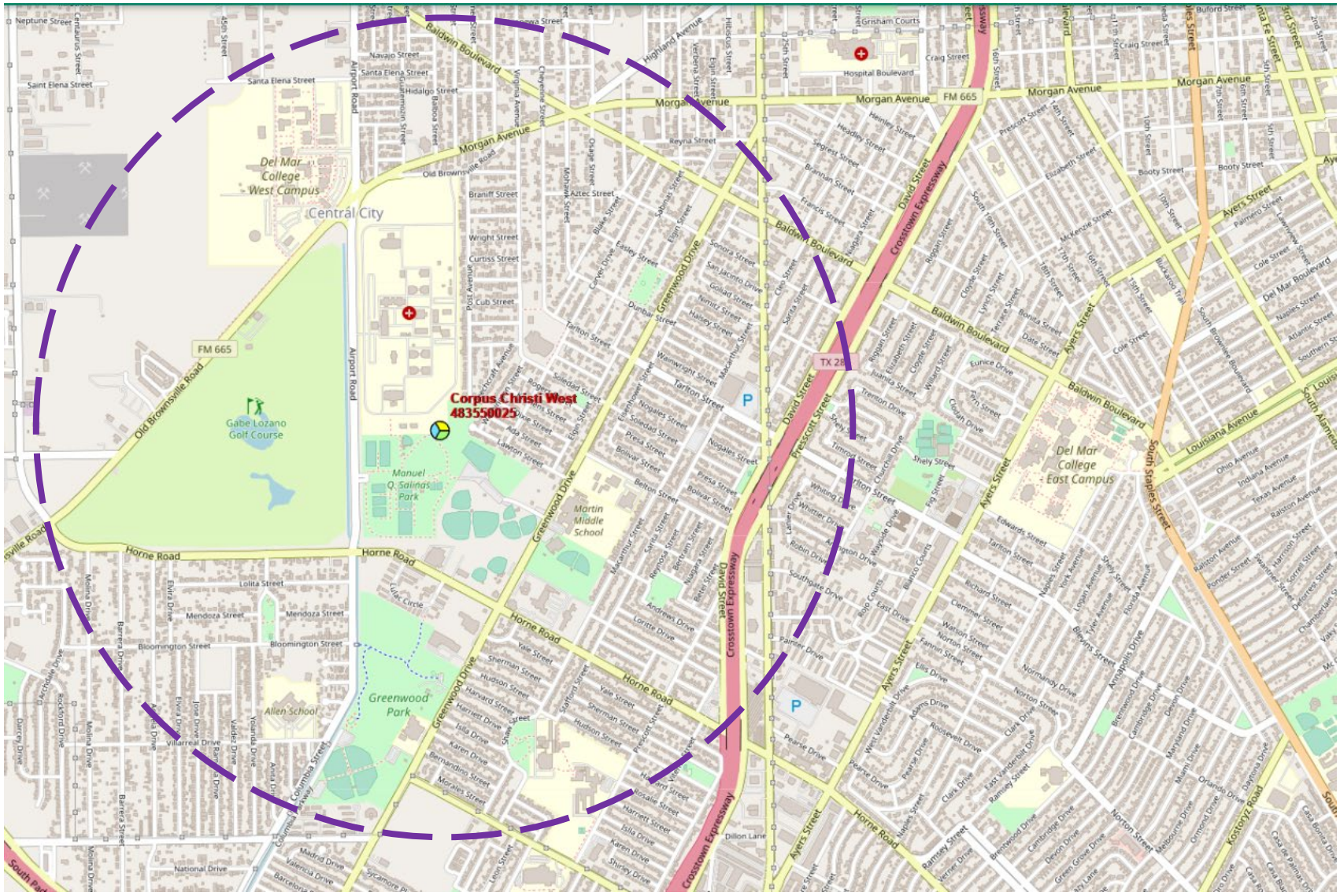

Figure 4: Aerial Overview Around the Corpus Christi West Site

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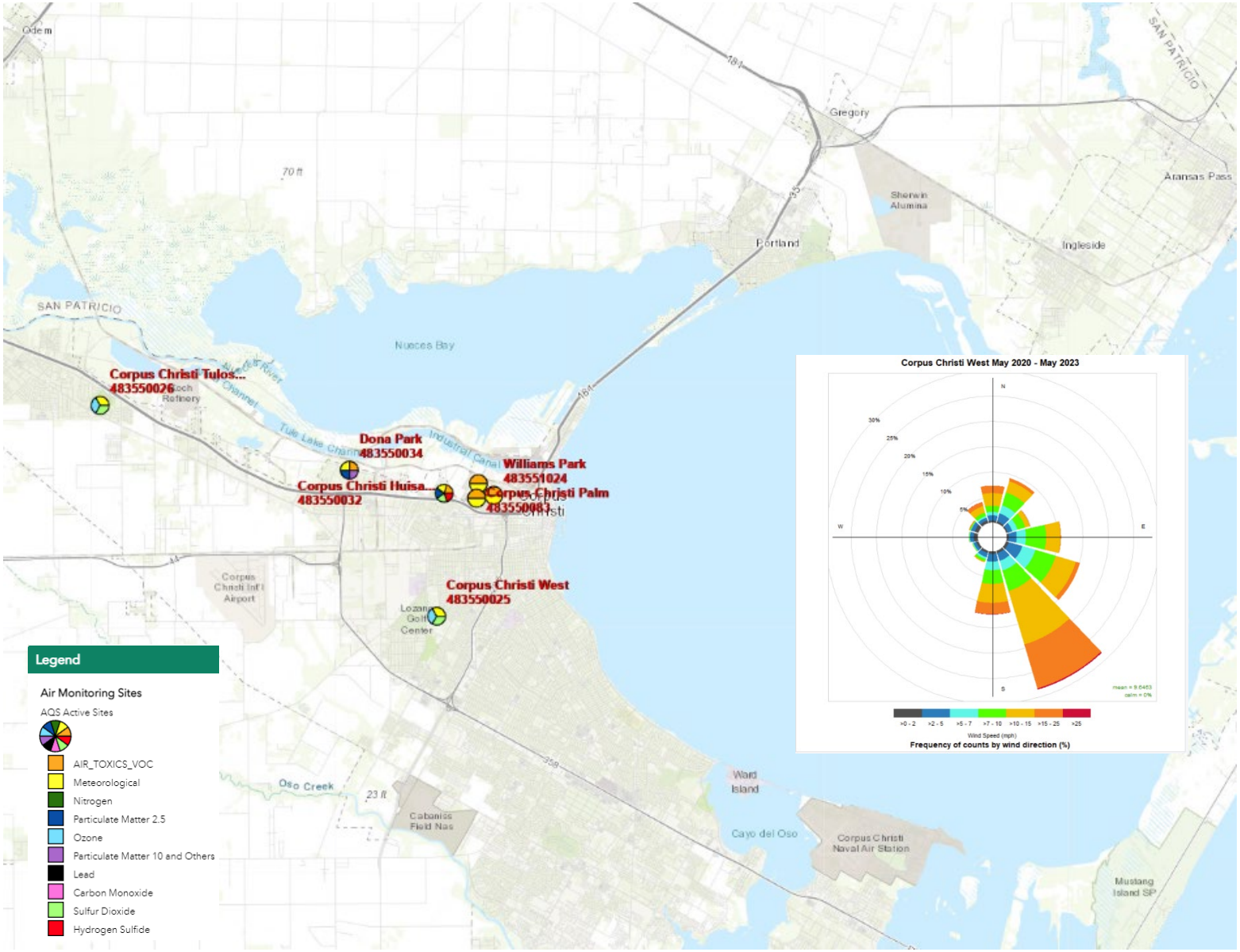


Figure 5: Corpus Christi Active Sites and Monitors

Appendix M: TCEQ Response to Comments Received on the draft 2023 Annual Monitoring Network Plan

Comment 10: Midlothian Breathe commented that local industry continued to crank out pollutants that could be released at any level the industry desired since the sole TCEQ air monitor was decommissioned over a year ago. Midlothian Breathe recommended that ambient air monitors should not be allowed to be down for more than 90 days at a time, since that seemed a sufficient time-period for a monitor to be replaced or removed. Midlothian Breathe commented that Midlothian and other similar areas with multiple prevention of significant deterioration (PSD) sites generating air pollution needed more than a single ambient air monitor located upwind of the point sources. Midlothian Breathe proposed that the Midlothian (Old Fort Worth) OFW continuous air monitoring site (CAMS) 52 be located downwind of the LaFarge Holcim facility. Midlothian Breathe indicated that the city offered for the air monitoring site to be located at the Tayman Water Treatment Plant.

Midlothian Breathe commented that a more up-to-date analysis needed to be done since no toxicological studies have been completed since 2010 and that study included flaws. Midlothian Breathe further recommended that additional studies should include comparative evaluations of $PM_{2.5}$ nanoparticles and PM_{4}, the current standard for crystalline silica measurement. Midlothian Breathe commented that once the evaluations were completed properly, the total number and optimal location could be determined for all of the air monitoring needed to capture pollutants from all major point sources, in all seasons, wind directions and conditions.

Midlothian Breathe stated that one in six days data collection by CAMS was unacceptable and that ambient air data should be shared with the general public in easy-to understand terms on the TCEQ website, not only with numbers but to also include interpretations. Midlothian Breathe noted that they would be happy to partner with the TCEQ and the EPA to bridge the gap of inadequate monitoring and share data from their sensors.

Response 10: The TCEQ appreciates the comments regarding air monitoring in Midlothian and relocating the Midlothian OFW air monitoring site. Comments related to potential air permit violations are outside of the scope of this document. Environmental complaints under the TCEQ's jurisdiction can be submitted 24-hours every day on the TCEQ's website Make an Environmental Complaint - Texas Commission on Environmental Quality - www.tceq.texas.gov.

As stated in the introduction, the 2023 AMNP is intended to demonstrate the TCEQ's compliance with federal air monitoring requirements under 40 CFR Part 58. The TCEQ's air monitoring network is designed to measure pollutant concentrations for assessing regional air quality representative of areas frequented by the public. Air monitoring objectives determine site locations and sites are generally placed to be representative of regional air quality, rather than monitoring emissions from specific sources.

The TCEQ was required to temporarily deactivate the Midlothian air monitoring site due to the property owner revoking the TCEQ's access to the site. The TCEQ evaluated monitoring site locations that would appropriately and sufficiently characterize regional air quality in an area with multiple sources. The TCEQ collectively considered predominant wind flow, property owner agreement, and logistical constraints, such as space, power availability, terrain, grade, and drainage. The TCEQ ensured the potential site locations complied with the federal

requirements listed in 40 CFR Part 58, Appendix E regarding siting criteria. In addition, the TCEQ considered the comprehensive toxicological *Evaluation of the Midlothian, Texas Ambient Air Collection and Analytical Chemical Analysis Data (Midlothian Evaluation)*, available on the TCEQ webpage.

The *Midlothian Evaluation* was based on a comprehensive 12-month ambient air monitoring study performed at eight Midlothian sites. One of the study's eight monitoring sites was the water treatment plant on Tayman Drive. A map of the *Midlothian Evaluation* area ambient air monitoring locations and sampling sites is included in Figure 6 below. The *Midlothian Evaluation* data suggested the Midlothian OFW monitoring site was a good indicator of air quality regarding VOCs across Midlothian. The *Midlothian Evaluation* noted that the site measured potentially worst-case concentrations regarding metals in particulate matter, but was a good indicator of air quality around Midlothian, including schools and parks.

Relocating an air monitoring station is a complex process requiring many independent steps. Finding a suitable location that meets federal siting requirements and logistical constraints (listed above) with an agreeable property owner presents a significant challenge. To ensure data continuity and availability to the public, the TCEQ seeks locations that are viable for an extended timeframe due to the extensive amount of time and cost associated with relocating an air monitoring site. Once a viable site is identified with an amenable property owner, the TCEQ must obtain EPA concurrence, procure the site preparation construction, obtain construction permits, and finally construct the site. Each individual step can take between two and six months to complete, and even longer in some cases. The TCEQ clarifies that the complex site deployment process requires many months and frequently extends beyond one year.

The TCEQ notes that the water treatment plant property on Tayman Drive, along with several other locations, were considered as potential air monitoring sites for the relocation of Midlothian OFW. The property owner of all these locations denied the request due to future plans. The TCEQ is evaluating property under construction in the vicinity of the Midlothian OFW air monitoring site and expects to redeploy the site once the construction has been completed.

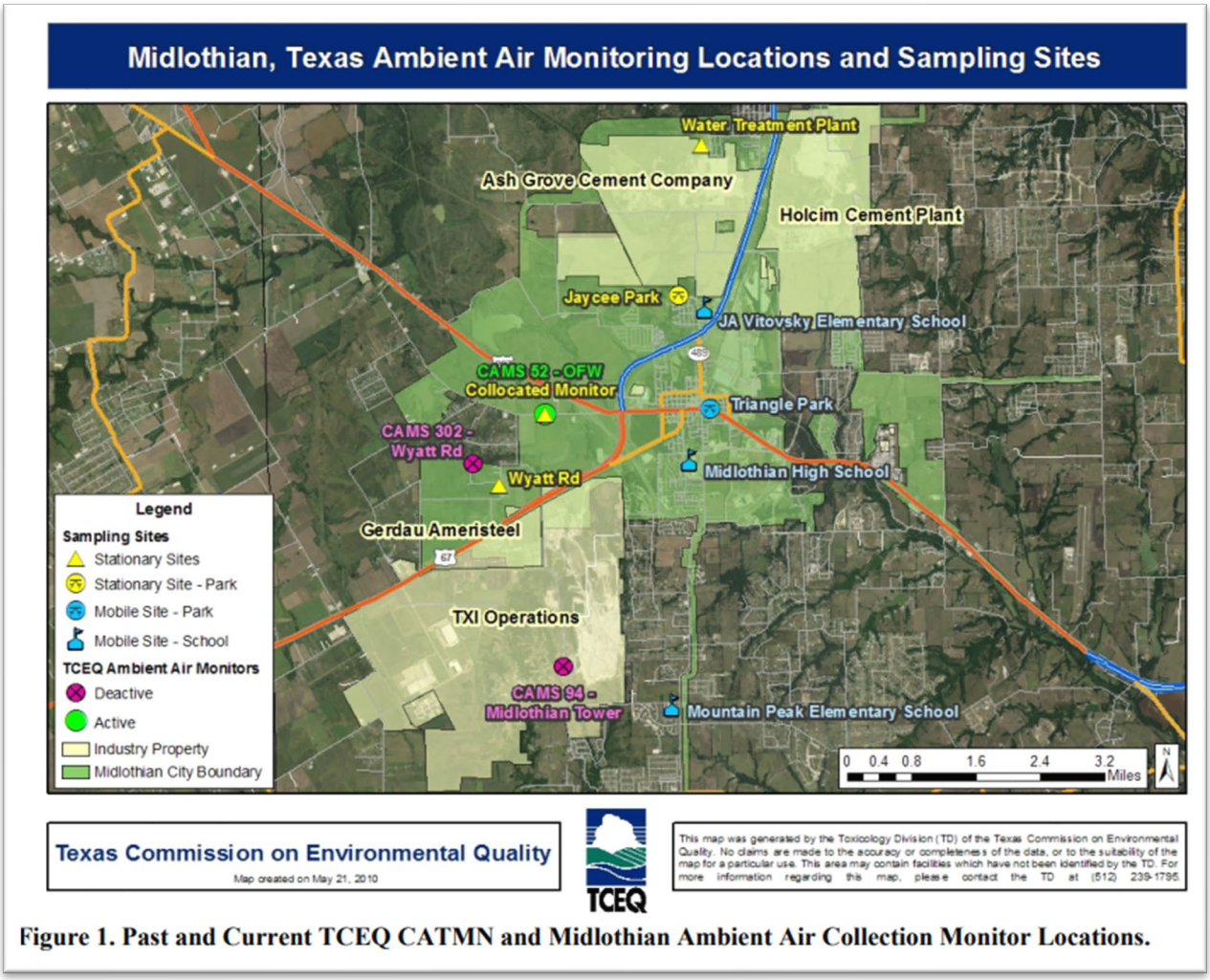


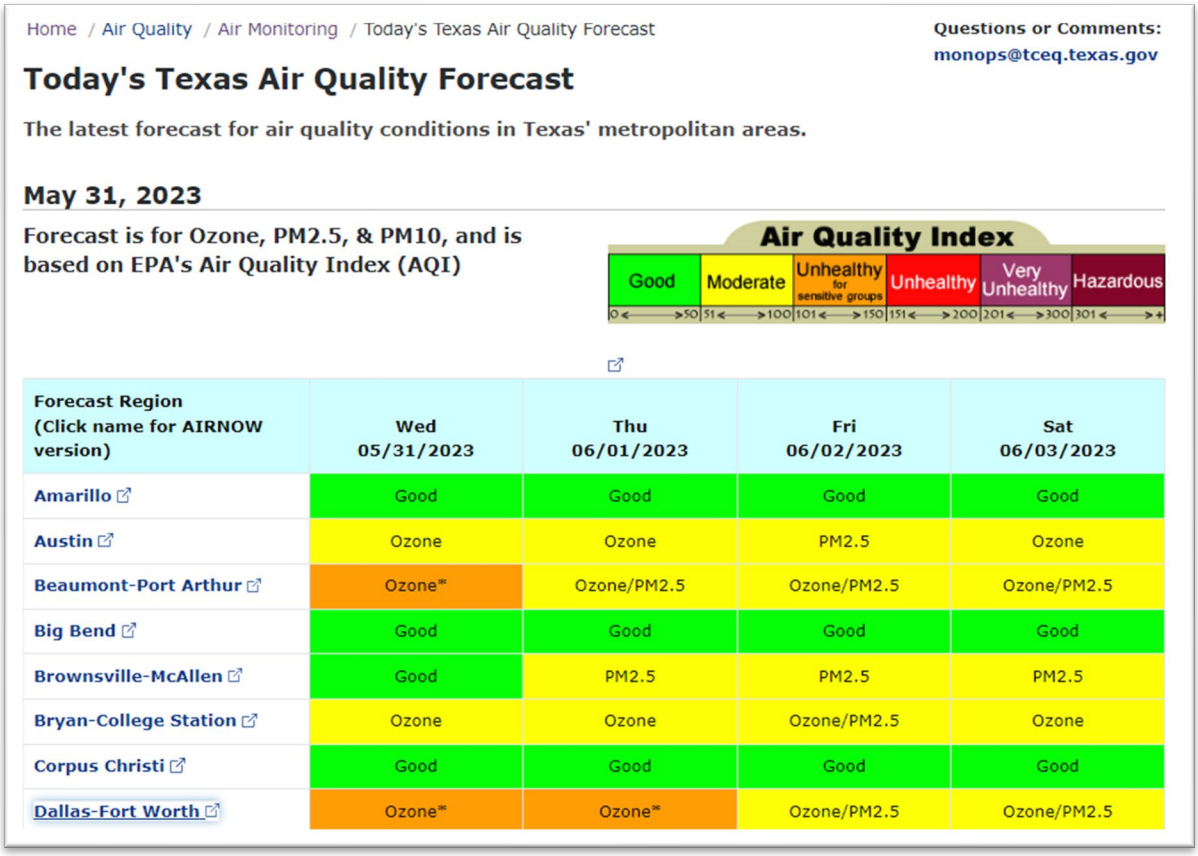
Figure 1. Past and Current TCEQ CATMN and Midlothian Ambient Air Collection Monitor Locations.

Figure 6: *Midlothian Evaluation,* Project Ambient Air Monitoring Locations and Sampling Sites, 2010

Comments related to previous air monitoring toxicological special studies or future special studies are outside of the scope of this document. The TCEQ Toxicology, Risk Assessment, and Research Division recently completed an interim report on *Ambient Monitoring of Particulates, Including Crystalline Silica, Near Aggregate Production Operation (APO) Facilities.* While outside the scope of this document, the referenced report provides valuable information regarding aggregate production operations, particulate matter, and crystalline silica. The intent of the AMNP is to demonstrate the TCEQ's compliance with federal air monitoring requirements in 40 CFR Part 58. There are no federal or state monitoring requirements for PM_4 or crystalline silica. Comments unrelated to federally required monitoring are beyond the scope of the AMNP.

Ambient air monitoring is the systematic, long-term assessment of pollutant levels by measuring the quantity and types of certain pollutants in the surrounding, outdoor air. The EPA sets the annual ambient air monitoring sampling schedule to ensure nation-wide data consistency. The EPA-established, non-continuous monitoring

protocol includes one 24-hour sample every six days. This protocol supports nation-wide long-term assessments of air quality. The TCEQ follows this nation-wide schedule and monitoring protocol as required under 40 CFR 58.12. The public can access information on the TCEQ Air Quality and Monitoring webpage Air Quality and Monitoring - Texas Commission on Environmental Quality - www.tceq.texas.gov covering a variety of topics, answers to common questions, and videos about the program. The public can view the day's air quality forecast in an easy to understand color-coded format, Today's Texas Air Quality Forecast - Texas Commission on Environmental Quality www.tceq.texas.gov (see Figure 7).



Home / Air Quality / Air Monitoring / Today's Texas Air Quality Forecast

Questions or Comments: monops@tceq.texas.gov

Today's Texas Air Quality Forecast

The latest forecast for air quality conditions in Texas' metropolitan areas.

May 31, 2023

Forecast is for Ozone, PM2.5, & PM10, and is based on EPA's Air Quality Index (AQI)

Air Quality Index: Good (0–50) | Moderate (51–100) | Unhealthy for sensitive groups (101–150) | Unhealthy (151–200) | Very Unhealthy (201–300) | Hazardous (301+)

Forecast Region (Click name for AIRNOW version)	Wed 05/31/2023	Thu 06/01/2023	Fri 06/02/2023	Sat 06/03/2023
Amarillo	Good	Good	Good	Good
Austin	Ozone	Ozone	PM2.5	Ozone
Beaumont-Port Arthur	Ozone*	Ozone/PM2.5	Ozone/PM2.5	Ozone/PM2.5
Big Bend	Good	Good	Good	Good
Brownsville-McAllen	Good	PM2.5	PM2.5	PM2.5
Bryan-College Station	Ozone	Ozone	Ozone/PM2.5	Ozone
Corpus Christi	Good	Good	Good	Good
Dallas-Fort Worth	Ozone*	Ozone*	Ozone/PM2.5	Ozone/PM2.5

Figure 7: Texas's Air Quality Forecast with the Air Quality Index

The public can also view the air quality index (AQI) report Air Quality Index Report (www.tceq.texas.gov). More information on the AQI can be found on the EPA's AirNow website.

The purpose of the AMNP is to demonstrate how the TCEQ air monitoring network complies with federal monitoring requirements specified in 40 CFR Part 58 and its appendices. The TCEQ looks forward to the EPA guidance and/or requirements that will support how the results of community-based air monitoring sensor data could inform regulatory monitoring. Comments related to community-based sensors, which are not required and are not comparable to federal standards, are beyond the scope of this document.

Appendix N

Comments Received on the Draft 2023 Annual Monitoring Network Plan

Texas Commission on Environmental Quality
2023 Annual Monitoring Network Plan

May 17, 2023

Texas Commission on Environmental Quality (TCEQ)

P.O Box 13087

Attention: Holly Landuyt, MC-165

Austin, Texas 78711-3087

Sent via: tceqamnp@tceq.texas.gov

RE: 2023 Draft Air Monitoring Network Plan (AMNP)

Dear Ms. Landuyt:

Air Alliance Houston (AAH) appreciates the opportunity to comment on the Texas Commission on Environmental Quality's (TCEQ) 2023 Draft Air Monitoring Network Plan (AMNP). AAH recognizes that the draft AMNP meets and, in some cases, exceeds the federal regulatory requirements outlined at 40 CFR 58.10 and corresponding Appendices. We also remain pleased at the addition of the three (3) new regulatory monitors in environmental justice communities in the Houston-Woodlands-Sugar Land CBSA (Houston CBSA) and look forward to their full deployment.

Below, we share our comments on and recommendations for the AMNP regarding current and future opportunities that we believe will continue to strengthen regulatory air monitoring in the Houston CBSA and across the state:

1. Need for Continued Expansion of Air Monitoring in Houston Due to Local Context Changes

Throughout the draft AMNP, it is stated that no substantive changes to the current monitor network, including for the Houston CBSA, are indicated by current data or regulation. We respectfully request a reconsideration of these statements for the AMNP as explained below:

There is a continued proliferation of air pollution sources in the Houston CBSA and multiple known impending expansions of both stationary and mobile emissions sources, including the North Houston Highway Improvement Project (NHHIP), the Hardy Toll Road Downtown Connector, Carbon Capture and Sequestration (CCUS) and Hydrogen "hubs," and the "advanced"

recycling sites outlined in the Houston Recycling Collaboration, many of which will be located in environmental justice communities throughout the Houston CBSA including Independence Heights, Near Northside, Fifth Ward, and the North Shore of the Houston Ship Channel (Baytown, Channelview, Cloverleaf, etc.).

Given this local context, we believe that continued focus and attention on collecting the most comprehensive air monitoring data for the Houston CBSA remains of the highest priority. To that end, we would like to respectfully request that TCEQ begin the process of engaging with community members to locate additional regulatory air monitors in or near the following environmental justice communities:

- Near Northside (Houston): to monitor the potential air pollution impacts of mobile emissions from the double expansion of the North Houston Highway Improvement Project (NHHIP) and the new Hardy Toll Road Downtown Connector, and their addition to the cumulative existing air pollution burden in the area from concrete batch plants, metal recyclers, Superfund sites, and railyards.
- The North Shore of the Houston Ship Channel (e.g., cities of Baytown, Channelview, and Cloverleaf): to monitor the potential air pollution impacts of Exxon Mobil's quadruple-expansions of its Olefins Unit, new CCUS "hub," new Hydrogen "hub," and "advanced" recycling plant.
- South Houston (e.g. Sunnyside, Minnetex, South Park, South Acres/Crestmont Park): to monitor the potential air pollution impacts of one of the largest concrete batch plant clusters in the county with close to 25 concrete batch plants, concrete crushers, and other aggregate production operations within the approximately 50 square miles that comprise these neighborhoods. The area also already possesses a significant presence of U.S. Environmental Protection Agency (EPA) Toxic Release Inventory (TRI) facilities and multiple Superfund and municipal solid waste sites that maintain no effective buffers from nearby sensitive land uses, thus exposing residents to harm. This cumulative area currently possesses little to no TCEQ air monitor coverage.
- Aldine and East Aldine (unincorporated Harris County): these neighborhoods also constitute a large gap in the TCEQ's current air monitoring network, due to the number of air pollution sources present: eight (8) concrete batch plants, 12 TRI facilities, six (6) MSW sites, and one (1) Superfund site - all located close to residential areas,

schools, parks, churches, and other sensitive use. Moreover, the number of concrete batch plants continues to increase there as more companies seek new or expansion permits. The TCEQ only maintains one (1) air monitor in the area, which is extremely inadequate for the number of air pollution sources present in these communities.

- Galena Park, Texas: of all communities in the AAH low-cost sensor network (described in more detail below), Galena Park is the most concerning. The data from our seven (7) monitors in Galena Park show consistent exceedances of multiple NAAQS. This is not surprising since Galena Park is inundated with multiple sources of air pollution. We recognize that the Clinton Drive monitor is currently collecting data from Galena Park. However, we believe the sheer volume of pollution sources, including those on the west side of the city, necessitate a second regulatory station.

Furthermore, rigorous air monitoring will be needed to monitor improvement plans in response to the Houston area's recent designation as "severe nonattainment" for Ozone and the proposed reduction in the NAAQS for PM2.5, which would place at least four (4) of the current Houston CBSA regulatory air monitors in exceedance of the standard.

2. Consideration of Community Air Monitoring Networks Alongside Regulatory Monitoring

Local low-cost and citizen-scientist community air monitoring networks are filling data gaps in regulatory air monitoring, contextualizing the causes of air quality concerns, and engaging impacted community members in the air quality issues in their neighborhoods. In recognition of their value, the EPA has made significant investments in these low-cost sensor networks; most recently, in November 2022, with an award of $53.4 million to support 132 air monitoring projects including eight (8) in Texas. More such funding and projects are expected because of the Inflation Reduction Act (IRA). In addition, the EPA is actively considering frameworks and methods for how the results of community air monitoring can inform regulatory monitoring in a formal manner.

AAH currently operates the largest community air monitoring network in the Houston and Harris County area with a total of 53 sensors all located on sensitive land uses (residences, churches, community centers, and schools). Of these, we have five (5) networked monitor communities with at least six (6) sensors in strategically placed locations and a real-time data dashboard accessible by community members. These five (5) networked communities are the cities

of Galena Park/Jacinto City and Pasadena, the Houston neighborhoods of Gulfton, Kashmere Gardens/Fifth Ward, and Northline/Near Northside. All environmental justice communities (see Figure 1). With the data from these monitors, we have worked with residents to develop written Community Action Plans outlining the steps they will take to improve air quality in their neighborhoods. These plans would not have been possible without the hyper-local air quality data collected by our low-cost sensor networks.

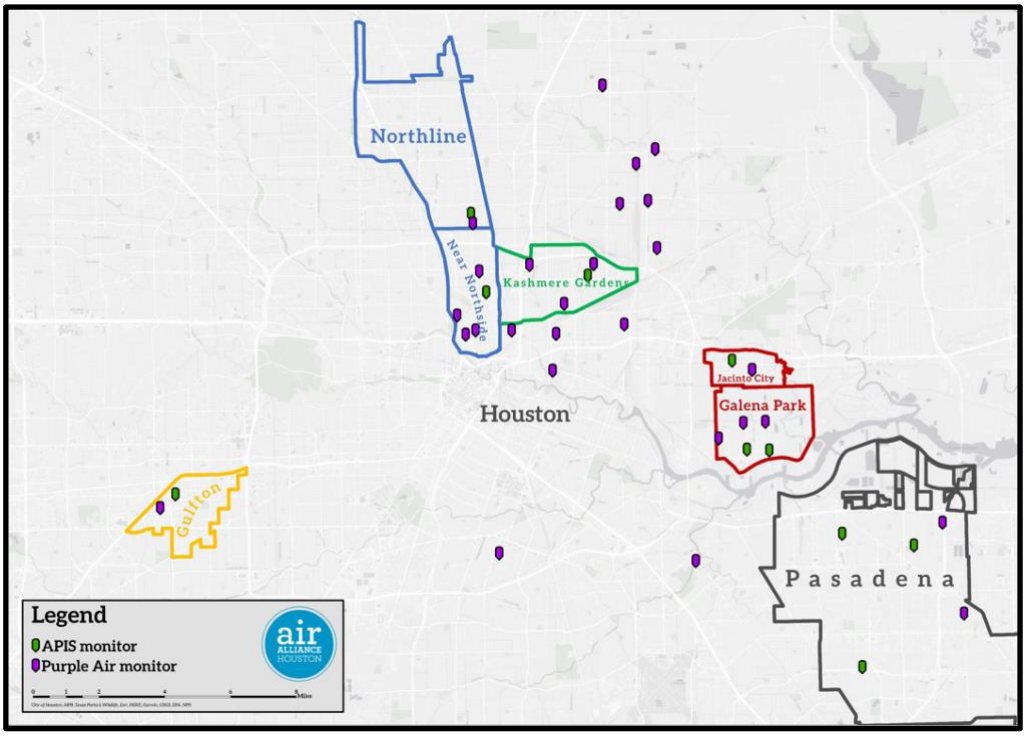
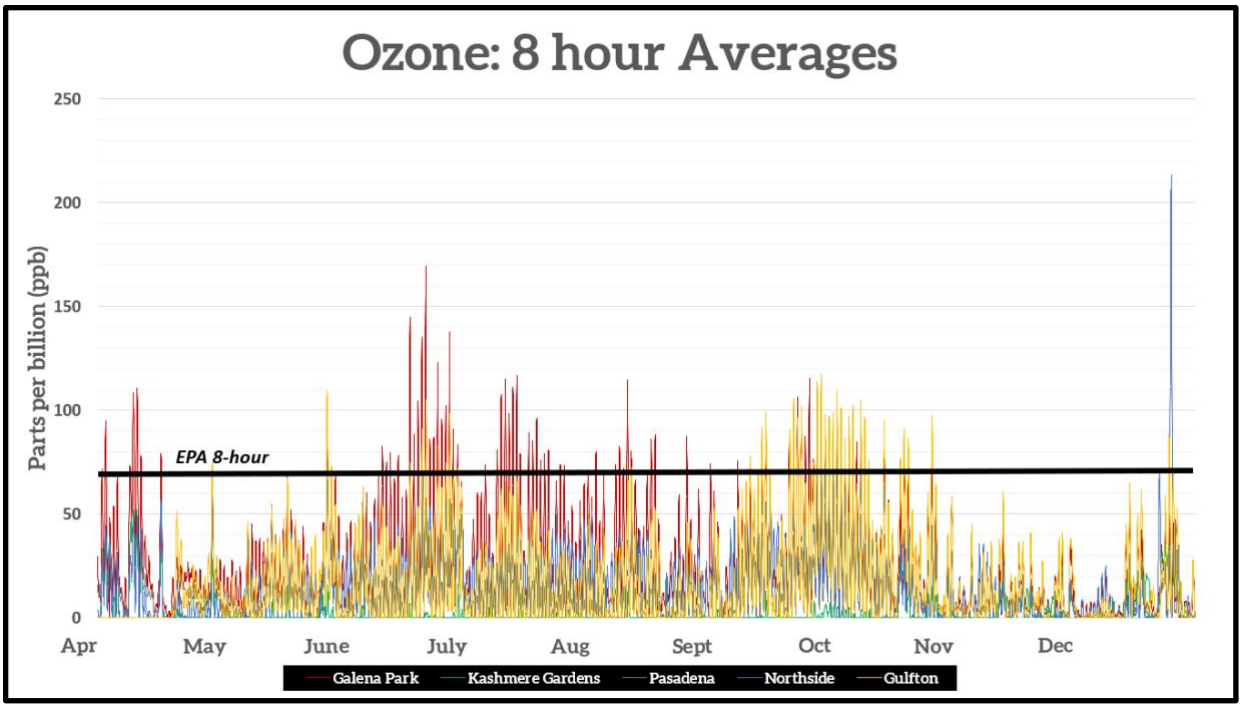
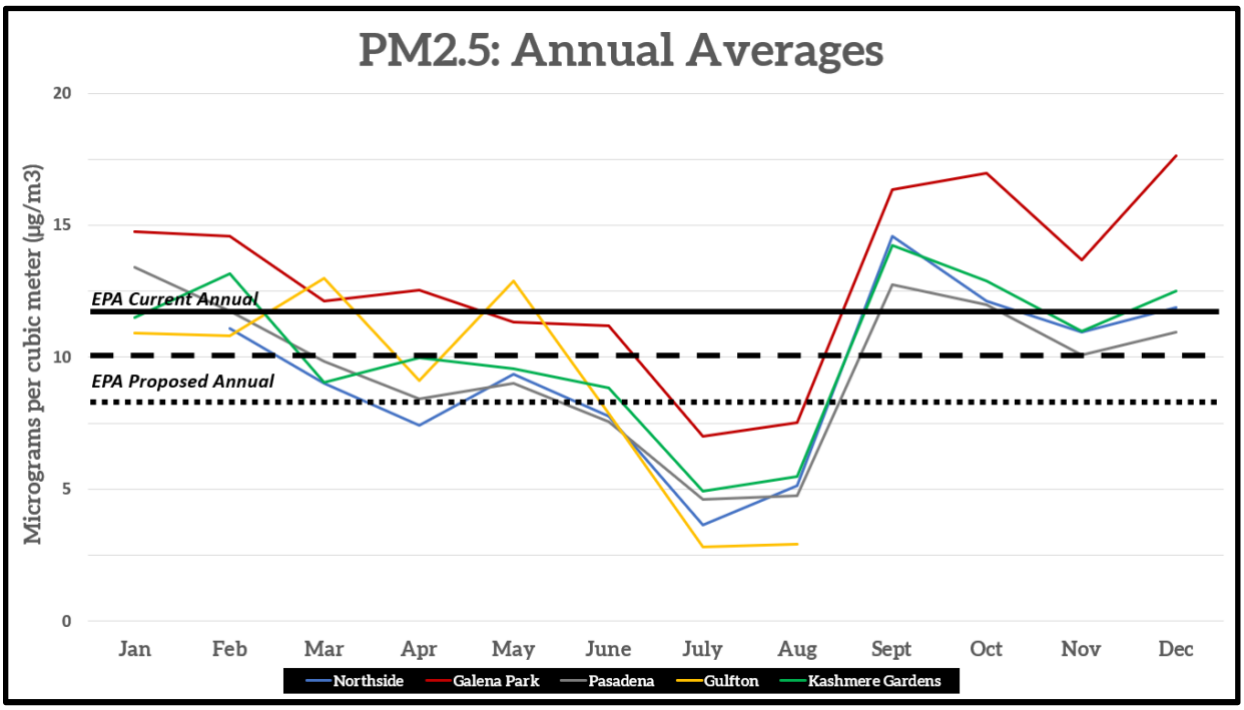


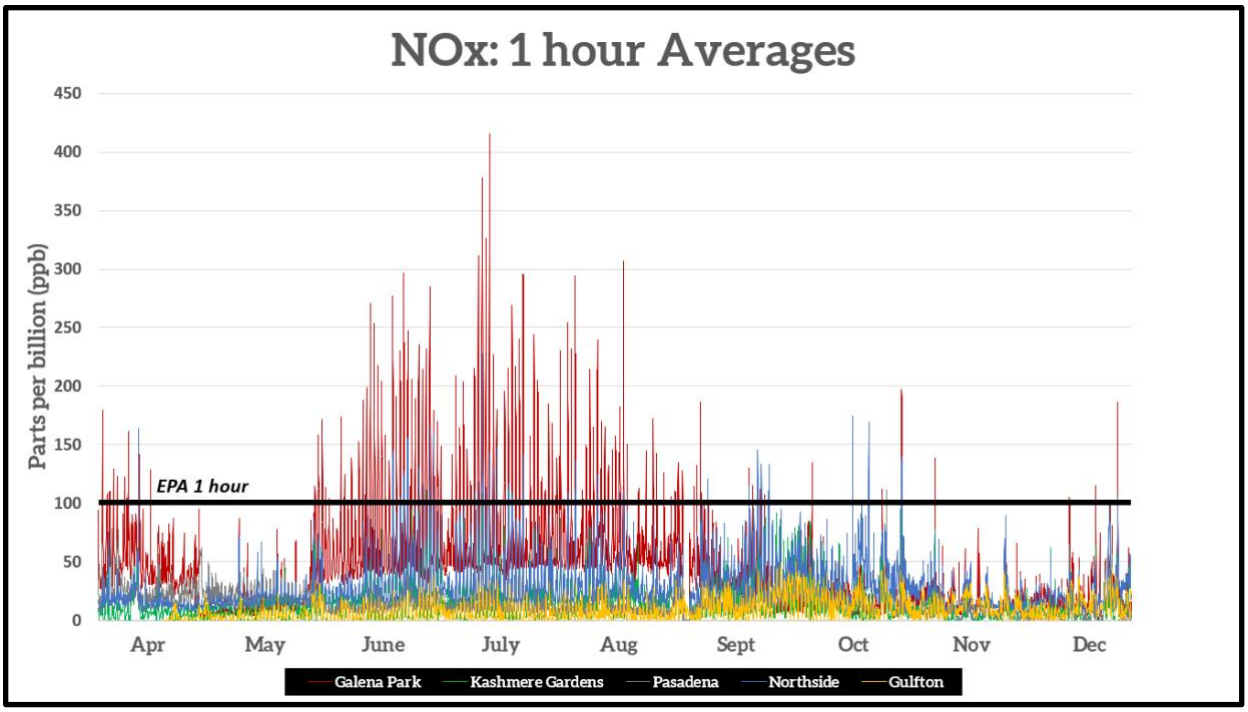
Figure 1: Map of AAH Community Air Monitoring Program (CAMP) Locations

In addition, data from our sensor network routinely documents air pollutant levels exceeding multiple NAAQS for extended periods of time (see Figures 2-5 below).

Our low-cost sensor network is slated to grow in the next year to include Northeast Houston/Settegast, Channelview, and Baytown. Other community-based organizations like ours have also installed low-cost sensor networks throughout Harris County and in neighboring Fort Bend County. As the footprint of these networks grows and as their data are increasingly used to drive local community action, we believe it is in the best interest of TCEQ and the AMNP to develop a framework for how data collected by low-cost sensor networks can inform regulatory monitoring. AAH would gladly participate in a process to develop a workable framework.


Ozone: 8 hour Averages
Parts per billion (ppb)
250
200
150
100
50
0
EPA 8-hour
Apr
May
June
July
Aug
Sept
Oct
Nov
Dec
Galena Park
Kashmere Gardens
Pasadena
Northside
Gulfton


PM2.5: Annual Averages
Micrograms per cubic meter (µg/m3)
20
15
10
5
0
EPA Current Annual
EPA Proposed Annual
Jan
Feb
Mar
Apr
May
June
July
Aug
Sept
Oct
Nov
Dec
Northside
Galena Park
Pasadena
Gulfton
Kashmere Gardens



Figures 2 - 4: Aggregated Data from the AAH Community Air Monitors in 5 EJ Communities with NAAQS Comparisons

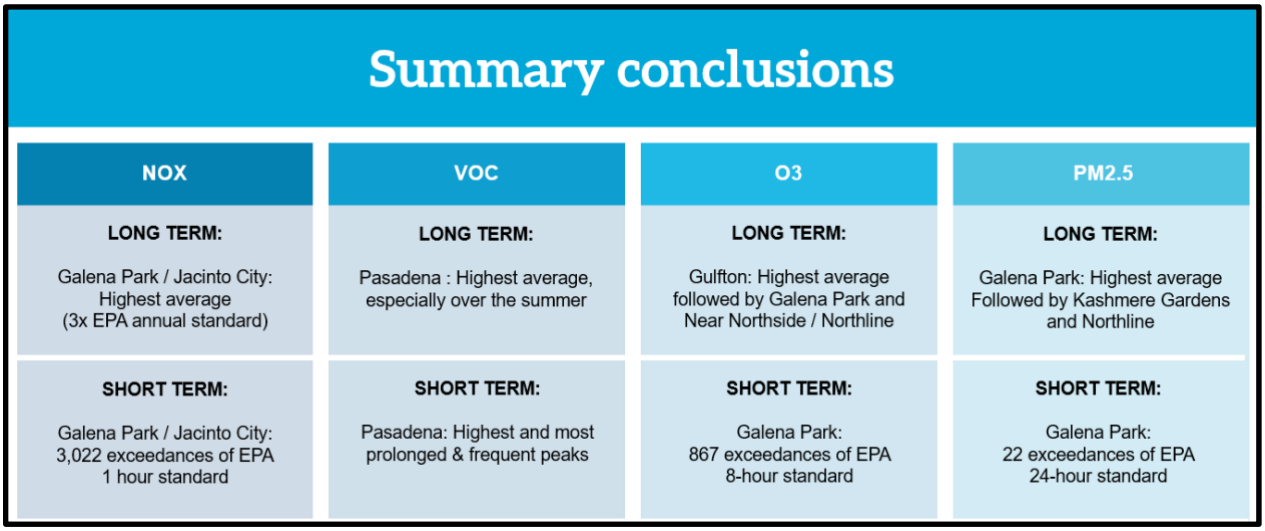


Figure 5: Overall Findings from 1 Year of AAH Community Air Monitoring in 5 EJ Communities

4. Support for Canister Monitoring for the Pleasantville Community

Lastly, we join with community members and other environmental justice organizations in supporting the deployment of a state-initiative special purpose VOC canister to the new Houston Pleasantville Elementary School monitoring site in 2023. The Pleasantville community in Houston has been plagued by multiple sources of industry (e.g., refineries, petrochemicals) and tailpipe emissions for decades, including known carcinogens. Without this secondary VOC canister, neither TCEQ nor residents will have a complete understanding of the extent of their exposure.

We appreciate the opportunity to comment on the 2023 Draft AMNP. Overall, we applaud TCEQ's efforts to monitor ambient air quality at levels that exceed federal requirements and to continue to add increased air monitoring capacity in Houston's environmental justice communities. We hope to continue to collaborate with the TCEQ on our common goal of ensuring all people have the right to breathe clean air. If there are any questions about this letter, please feel free to contact me at any time either by telephone at (713) 539-1894 or by email at jennifer@airalliancehouston.org.

Respectfully submitted,

Jennifer Hadayia

Jennifer M. Hadayia, MPA
Executive Director
Air Alliance Houston
2520 Caroline St.
Houston, TX 77004
(713) 539-1894
jennifer@airalliancehouston.org

From:	Allyn West via ActionNetwork.org
To:	tceqamnp
Subject:	Texas Commission on Environmental Quality, Tell TCEQ: Enhance air monitoring in Houston"s historically Black Pleasantville
Date:	Wednesday, May 17, 2023 8:31:24 PM
Attachments:	tell-tceq-enhance-air-monitoring-in-houstons-historically-black-pleasantville_signatures_202305180131.pdf

Texas Commission on Environmental Quality,

197 people have signed a petition on Action Network telling you to Tell TCEQ: Enhance air monitoring in Houston's historically Black Pleasantville.

Here is the petition they signed:

> RE: 2023 Annual Monitoring Network Plan
>
> I support the deployment of a special purpose volatile organic compounds (VOC) canister to the new Houston Pleasantville Elementary site, as indicated on page 30 of the draft plan.
>
> Pleasantville residents and those living in nearby communities have a right to know what they are breathing. They have a right to breathe clean air.
>
> The addition of the canister for VOCs to the federal regulatory monitor soon to be installed for PM2.5 will provide a fuller picture to residents and regulators of the air quality in the area.

You can view each petition signer and the comments they left you in the attached PDF.

Thank you,

One Breath Partnership

Texas Commission on Environmental Quality,

197 people have signed a petition on Action Network telling you to Tell TCEQ: Enhance air monitoring in Houston's historically Black Pleasantville.

Here is the petition they signed:

> RE: 2023 Annual Monitoring Network Plan
>
> I support the deployment of a special purpose volatile organic compounds (VOC) canister to the new Houston Pleasantville Elementary site, as indicated on page 30 of the draft plan.
>
> Pleasantville residents and those living in nearby communities have a right to know what they are breathing. They have a right to breathe clean air.
>
> The addition of the canister for VOCs to the federal regulatory monitor soon to be installed for PM2.5 will provide a fuller picture to residents and regulators of the air quality in the area.

You can view each petition signer and the comments they left you below.

Thank you,

One Breath Partnership

---

1. Patricia White (*ZIP code: 77029)*

2. Aimee Woodall (*ZIP code: 77007-2512)*

3. Ashley Cole (*ZIP code: 75043)*

4. Angel Akins (*ZIP code: 77077)*

5. Abra charles (*ZIP code: 77584)*

6. Alese Pickering (*ZIP code: 77027)*

7. Aljeretti Whitehead (*ZIP code: 77029)*

8. AL Tigh (*ZIP code: 77098)*
As the TCEQ, I appreciate that you state your commitment to "protecting our state's human and natural resources consistent with sustainable economic development," and as many community orgs(listed below) have demonstrated, Texans living in Pleasantville suffer exposure to higher carcinogenic particulate matter. In addition to these cancer-beaconing conditions in Pleasantville, the Texas Cancer Registry reflects higher mortality from lung and respiratory cancers among minority

populations, and this places an even greater urgency on *thorough* air monitoring in Pleasantville. The economic impact of sickness for these Texans is high--in terms of treatment, missed work, childcare, etc. The human cost is devastating and obvious.

The TCEQ should urgently include a canister suitable for measuring VOC concentrations as they install the PM2.5 air monitors in Pleasantville. As a last note in support of this urgent need, I am including an excerpt from a helpful March 2021 email sent to the EPA's Todd Robert by a coalition of community's orgs including Achieving Community Tasks Successfully [Bridgette Murray], Coalition of Community Organizations [Reverend James Caldwell]) , and
Fenceline Watch [Yvette Arellano])--

"Pleasantville is located north of the Houston Ship Channel which is fifty-miles long and consists of over 200 industrial faculties. As of 2015 Pleasantville is located in the Pleasantville Area Super Neighborhood which is 51% Hispanic and 47% Black.
Pleasantville is bordered by the Port of
Houston, Interstate 610, and four major rail yards. Found behind the Anheuser-Busch brewery, the community of Pleasantville has borne the brunt of polluted air for decades caused by the Port...Twenty-one different types of Hazardous Air Pollutants were present at sites located in the Pleasantville area; facilities located in Pleasantville emitted over 7,000 tons of Hazardous Air Pollutants into the air in 2011..."

I want to thank you in advance for swiftly acting on behalf of these Texans and installing the correct monitoring devices. It is so important to install both methods of air sampling and to insure a more complete picture about the air quality in this community. I really appreciate your work in installing the VOC canister alongside the fine particle monitor.

Sincerely,
Aliah Lavonne Tigh

9. Juan Sorto (*ZIP code: 77028)*
Thank you for your ongoing support. As a member of the community, we humbly request for TCEQ to consider adding VOC canister to the monitor to provide data on concentrations of benzene and butadiene, emitted by nearby oil refineries

10. Treasa Antony (*ZIP code: 77047)*

11. Ada Bolden (*ZIP code: 77033)*
Please enhance air quality monitoring in Pleasantville and Galena Park and Fidelity.

12. Katherine Atkiss (*ZIP code: 77077)*

13. Allyn West (*ZIP code: 77021)*

14. Michelle Curry (*ZIP code: 77346)*

15. Birdie Kelley (*ZIP code: 77489)*

16. Robin Cashaw (*ZIP code: 77459)*
Please install a regulatory monitor in Pleasantville.

17. Brittni Metoyer (*ZIP code: 77029)*

18. Becky Smith (*ZIP code: 77098)*

19. Allen White (*ZIP code: 77021)*
Do what needs to be done!

20. Paula Johnson (*ZIP code: 77051)*

21. Carl Davis (*ZIP code: 77005)*

22. Carolyn Beckham (*ZIP code: 77035)*

23. catherine Flowers (*ZIP code: 77021)*

24. Cynthia Carter (*ZIP code: 77583)*

25. Claudette Edwards (*ZIP code: 77459)*

26. Chuck Jackson (*ZIP code: 77011)*

27. Charleen Jones (*ZIP code: 77004)*
Pleasantville residents have the right to breathe clean air. Please put VOC, Volatile Organic Compounds Canisters to measure air quality in their neighborhood.

28. Cherlicx Ivory (*ZIP code: 77029)*

29. West Christine (*ZIP code: 46741)*

30. Chris Oliver (*ZIP code: 77008)*

31. Charles Clark (*ZIP code: 77029)*

32. James Caldwell (*ZIP code: 77020)*
I support the deployment of a special purpose volatile organic compounds (VOC) canister to the new Houston Pleasantville Elementary site, as indicated on page 30 of the draft plan.

The addition of the canister for VOCs to the federal regulatory monitor soon to be installed for PM2.5 will provide a fuller picture to residents and regulators of the air quality in the area.

Our friends, family, and fellow Environmental Justice Hub Leaders from the Texas Southern University Bullard Center for Environmental and Climate Justice leverage data to inform and to prioritize EJ concerns in Pleasantville.

Through citizen science and academic studies, the residents and those living in nearby communities know their air is not clean. However, to make that actionable they need this monitor, a canister that can measure volatile organic compounds (VOCs) — would provide residents and regulators with the information they need to take action.

Their leadership also helped us in Fifth Ward install our own air monitoring network; and begin the work on the installation of a regulated TCEQ Air Monitor in Fifth Ward. We are very grateful for Harris County Precinct 1 Commissioner Ellis' and TCEQ's support for the placement of the monitor at Finnigan Park in Fifth Ward.

E V E R Y Texan has the right to clean air for themselves and their families.

33. Colleen Carriere (*ZIP code: 77459)*

34. Beatrice Copeland (*ZIP code: 77489)*

35. Craig White (*ZIP code: 77459)*

36. Clifford Hall (*ZIP code: 77346)*

37. Neandra Boyd (*ZIP code: 77033)*
Help the community with their environmental , and air quality.

38. Debbie Edwards Kyles (*ZIP code: 77004)*

39. Denise Guillory (*ZIP code: 77584)*

40. Dana Wiltz-Beckham (*ZIP code: 77004)*

41. Darlene Edgerson (*ZIP code: 70131)*

42. Deborah Brown (*ZIP code: 77029)*

43. Denise Purdie (*ZIP code: 77003)*

44. David Miller (*ZIP code: 02140)*

45. David Pedersen (*ZIP code: V8M 1W6)*

46. Denae King (*ZIP code: 77071)*

47. Donna Wolf (*ZIP code: 77082)*

48. Donald Manning (*ZIP code: 77029)*

49. Alcena Mouton (*ZIP code: 77583)*

50. Devin Roy (*ZIP code: 77016)*

51. Earnest Hill (*ZIP code: 77068-3814)*

52. Elena Craft (*ZIP code: 78704)*

53. Elba Duque Hicks (*ZIP code: 77015)*

54. Emily Hynds (*ZIP code: 77021)*

55. Erin Bainbridge (*ZIP code: 77070)*

56. Erin Plunkett (*ZIP code: 23805)*

57. Ethel Robertson (*ZIP code: 77584)*

58. Inge Ford (*ZIP code: 77054)*

59. Ferrel Bonner (*ZIP code: 77058)*

60. Frank Blake (*ZIP code: 77006)*

61. Galea Johnson (*ZIP code: 77020)*

62. Gabe Cazares (*ZIP code: 77011)*

63. Gabriel Clark-Leach (*ZIP code: 78701)*
Signing on for Environmental Integrity Project

64. Geneva Stewart (*ZIP code: 77029)*

65. Linda Gilbert (*ZIP code: 77029)*

66. Gloria Jolivette (*ZIP code: 77047)*

67. Gayle Mitchell (*ZIP code: 77015)*

68. Grace Tee Lewis (*ZIP code: 77007)*

69. Greg Shelley (*ZIP code: 77009)*

70. Dexter HANDY (*ZIP code: 77007)*

71. Heiko Stang (*ZIP code: 78676)*

72. Laurel Hays (*ZIP code: 77008)*

73. Kathy Gunter (*ZIP code: 77028)*
Do not leave us out.

74. Huey Beckham (*ZIP code: 77004)*

75. Helen Wiltz (*ZIP code: 77047)*

76. ILETA JOHNSON (*ZIP code: 77029)*

77. Ilan Levin (*ZIP code: 78701)*
The Environmental Integrity Project supports Pleasantville residents' sensible requests for air monitoring.

78. Iva Jean-Jacques (*ZIP code: 77051)*

79. Janet Perrin (*ZIP code: 77034)*
Clean up Houston’s air.
Regulations make life safer and more pleasant for everyone.

80. Deborah J. Davis (*ZIP code: 77489)*

81. Jessica Craft (*ZIP code: 77433)*

82. Jeff Reichman (*ZIP code: 77004)*

83. Jennifer Hadayia (*ZIP code: 77004)*

84. Jennifer Jones (*ZIP code: 77004)*

85. Jaye McAfee (*ZIP code: 77004)*

86. Julia Orduna (*ZIP code: 77003)*
People deserve to live in a neighborhood free from pollutants and hazards that diminish their quality

of life!

87. Jackie Medcalf (*ZIP code: 77098)*

88. Karen Thomas (*ZIP code: 77071)*

89. Katarzyna Suchodolska (*ZIP code: 77008)*

90. Keisha Pete (*ZIP code: 77347)*

91. Ken Rodriguez (*ZIP code: 85282)*

92. Kimberly Satterwhite (*ZIP code: 77020)*

93. Keara Scott (*ZIP code: 77340)*

94. Katie Moore (*ZIP code: 27573)*
I have worked with the Pleasantville community on their community-led air monitoring program for over four years. The community suffers from lack of information about toxic air pollution. I strongly encourage TCEQ to add VOC sampling to the Pleasantville reference site.

95. Kristel Rietesel (*ZIP code: 94708)*

96. Kristen Schlemmer Schlemmer (*ZIP code: 77007)*

97. Karyn Wiseman (*ZIP code: 77004)*

98. Lexi Ambrogi (*ZIP code: 19119)*

99. Lauren Salomon (*ZIP code: 77005)*

100. Lee Alice Pablo (*ZIP code: 78757)*

101. Denise Moran Lee (*ZIP code: 77346)*

102. Leticia Gutierrez Gutierrez (*ZIP code: 77061)*

103. Linda Flanagan (*ZIP code: 77459)*

104. Patricia Lindsey (*ZIP code: 77029)*

105. Liz Allen (*ZIP code: 77479)*

106. Lance Hallberg (*ZIP code: 77555)*

107. Lesa Walker (*ZIP code: 78703)*
I am involved with this community and they work diligently at the grassroots level to try to assess and address the impacts of poor air quality. Pls enhance the air monitoring in Pleasantville by adding a VOC monitor. This is an important step for the health of the community.

108. bryan parras (*ZIP code: 77087)*

109. Madeleine Pelzel (*ZIP code: 77006)*

110. Katy Manning (*ZIP code: 77023)*
This is a no-brainer step to take care of this community

111. Marisa Hilliard (*ZIP code: 77009)*

112. Mark Kosiara (*ZIP code: 77007)*

113. Mashal Awais (*ZIP code: 77018)*

114. Morris Coleman (*ZIP code: 77025-4542)*

115. Marilyn Hines (*ZIP code: 77015)*

116. Melodee Jordan (*ZIP code: 77029)*
My home is at 1522 Teanaway Ln.

117. Monica Hatcher (*ZIP code: 77023)*

118. Michael Hanks (*ZIP code: 77583)*

119. michael moritz (*ZIP code: 77011)*

120. Michael Parks (*ZIP code: 77029)*
Thank you Bridget for all you do for the community pleasantville let's stand together and sign this petition and get this petition signed

121. Miesha Brown (*ZIP code: 77546)*

122. pastor deb bonario-martin (*ZIP code: 77076)*
Pleasantville residents Cleophus Sharp and others fighting for kids to have clean air today understandably still suffer from adverse childhood experiences and deserve health equity and climate justice!

123. Molly Cook (*ZIP code: 77019)*

124. Kashaf Momin (*ZIP code: 77479)*

125. Elaine Williams (*ZIP code: 77029)*

126. Michele Dundas (*ZIP code: 77584)*

127. Miriam Schoenfield (*ZIP code: 78722)*

128. Ivory Harrison (*ZIP code: 77029)*

129. Michele McMillan (*ZIP code: 77429)*

130. Sherice White (*ZIP code: 77048)*

131. Nancy Jackson (*ZIP code: 77041)*

132. Neal Ehardt (*ZIP code: 77019)*
We deserve to know what's in the air we're breathing!

133. Nick Panzarella (*ZIP code: 77339)*

134. Norma West-Green (*ZIP code: 77035)*

135. Obiageli Onuba (*ZIP code: 77051)*

136. Yahya Muldrow (*ZIP code: 77029)*

137. Pamela Dotson (*ZIP code: 45417)*
How would you like to breathe the air from this neighborhood in your community?

138. Pamela Kelly (*ZIP code: 77071)*
Thank you

139. Pamela Davis (*ZIP code: 77051)*

140. Alex Morales (*ZIP code: 77081)*

141. Philomena D. Lawson (*ZIP code: 77407)*

142. YOLANDE POKAM (*ZIP code: 20712)*

143. Rachel Roy (*ZIP code: 77578)*

144. Rita Daniels (*ZIP code: 77477)*

145. Mable Harris (*ZIP code: 77029)*

146. Rita Robles (*ZIP code: 77020)*
We deserve to have clean water, clean land and clean air.

147. Robinette Hudson (*ZIP code: 77396)*

148. Vera Robinson (*ZIP code: 77545-7069)*

149. Robbie Phillips (*ZIP code: 77489)*
Dear TCEQ as someone who spent my formative years in the Pleasantville neighborhood, I have believed it to be a safe, nurturing community for families. In order for this to continue, residents must have quality air to breathe. I completely support the installation of equipment to monitor the air quality in this neighborhood.

150. Amaryllis Lee (*ZIP code: 77016)*

151. Delores Saddler (*ZIP code: 77945)*

152. Cassandra Walton (*ZIP code: 77029)*

153. Sarah Brazil (*ZIP code: 77069)*

154. Sean Cowan (*ZIP code: 77098)*

155. Cleophus Sharp (*ZIP code: 77095)*
Cancer, asthma, bronchitis, emphysema result in high incidents of death of residents in Port Communities in East Houston!

156. Sadie Cooper (*ZIP code: 37206)*

157. Shawn Owens Lemons (*ZIP code: 77004)*

158. Stefania Tomaskovic (*ZIP code: 77018)*
TCEQ, we need monitors to better understand how VOCs are impacting the Pleasantville community. Please support them by deploying a special purpose VOC canister to Pleasantville!

159. Stephanie Coates (*ZIP code: 77008)*
The people in Pleasantville and the wider Houston community deserve to know how VOCs impact their air quality so they can make decisions to protect their health.

160. Steven Lopez (*ZIP code: 77061)*

161. Lawrence Brown (*ZIP code: 77029)*
We deserve cleaner air, not more contaminants in our air.

162. Susan Graham (*ZIP code: 77009)*
Yes!

163. Saswati Upadhyay (*ZIP code: 77025)*

164. Felicia Thibodeaux (*ZIP code: 77029)*

165. CRUZ HINOJOSA (*ZIP code: 77547)*

166. Kyle Maronie (*ZIP code: 77028)*
Pleasantville deserves a regulatory monitor!

167. Torie Ludwin (*ZIP code: 77006)*

168. Traci Bocock (*ZIP code: 77004)*

169. Traci Donatto (*ZIP code: 77401)*

170. Alleina Gagne (*ZIP code: 77020)*

171. Thelma Wallace (*ZIP code: 77047)*

172. JC Davis (*ZIP code: 77014)*

173. Allen Batro (*ZIP code: 77029-3341)*
None

174. Una Topps (*ZIP code: 77547)*

175. Valerie Grant (*ZIP code: 77045-4038)*
We definitely need a change for clean air in Pleasantville??

176. Carol Miles (*ZIP code: 77026)*

177. Debra Walker (*ZIP code: 77033)*
to support getting a regulatory VOC monitor in Enhance air monitoring in Houston's: Pleasantville.

178. Willard Taylor (*ZIP code: 77029)*

Please install an air regulatory monitor in Pleasantville !

179. William Perkison (*ZIP code: 77030)*
This is a an area of Harris County that it is critical to understand the degree of air pollution that is affecting this community.

180. Huey German Wilson (*ZIP code: 77016-4124)*
Please add a VOC cannister to the TCEQ Regulatory monitor that you are installing in Pleasantville.

181. Wright (*ZIP code: 77085)*
Help protect the health of Pleasantville residents!!!

182. Cheryl Willis Willis (*ZIP code: 77029)*

183. Youlette McCullough (*ZIP code: 77020)*
It is important that Pleasantville receive an updated VOC regulatory monitor in this historically Black community. It is important that TCEQ take the steps necessary to add the VOCs technology to capture more data about harmful air pollutants; so, data can be used by state, regional, and federal agencies to hold health polluters accountable and community residents will be aware of the quality of air circulating in their community.

COCO
Coalition of Community Organizations
a 501(c)(3) organization

Rev. James L. Caldwell
5901 Market St.
Suite 15310
Houston, TX 77020
(832) 231-9176
cocohoustonnow@gmail.com

coalitionofcommunityorganizations.org

May 4, 2023

Texas Commission on Environmental Quality
P.O. Box 13087
Attention: Holly Landuyt, MC-165
Austin, Texas 78711-3087

RE: 2023 Annual Monitoring Network Plan

Dear Ms. Landuyt:

I write in response to the draft of the 2023 Annual Monitoring Network Plan.

I support the deployment of a special purpose volatile organic compounds (VOC) canister to the new Houston Pleasantville Elementary site, as indicated in page 30 of the draft 2023 AMNP. This canister will provide needed data to understand hazardous air pollutant levels, which can have short term and long-term impacts on the health of residents. The addition of the proposed canister will ensure residents and local officials have needed air pollution data in a timely manner, which can inform public health policy decisions.

Deploying a canister in the Pleasantville community will provide actionable data communities can use alongside public health and government agencies. Pleasantville is a port community vulnerable to poor air quality from a range of sources including chemical and petroleum facilities that report to the US EPA Toxic Release Inventory, businesses and warehouses that use and or store hazardous chemicals on site, large quantity generators of hazardous waste, fabricators, and current and former Resource Conservation and Recovery Act sites.

It is an issue of environmental justice. The proposed VOC canister represents a tool needed to be able to fill critical gaps in understanding VOC levels throughout the region, particularly in overburdened black and brown port communities. Harris County has the highest concentration of facilities emitting urban air toxics in the nation and not enough

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5901 Market St.
Suite 15310
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coalitionofcommunityorganizations.org

air monitors to measure the most hazardous air pollutants. Pleasantville residents have a right to know if they are breathing air toxics. They have a right to breathe clean air every day.

We need to be able to protect ourselves. The best tool is better information. Deploying a VOC canister in the new Pleasantville site alongside a particulate matter monitor would help provide it.

Sincerely,

Reverend James L Caldwell
Founder/Director
Coalition of Community Organizations COCO
Regional Hub Leader, National Black Environmental Justice Network
Email: cocohoustonnow@gmail.com | Social: @cochoustonnow
Phone: 832-231-9176

From: Cruz Hinojosa
To: tceqamnp
Subject: ACTS Support Letter
Date: Monday, May 8, 2023 1:28:09 PM
Attachments: ACTS Support Letter.jpeg

Attached please find my support letter for the ACTS community.

Cruz Hinojosa
President
Environmental Community Advocates of Galena Park

1217 15Th St. Galena Park, Texas 7754

May 8, 2023

Texas Commission on Environmental Quality
P.O. Box 13087
Attention: Holly Landuyt, MC-165
Austin, Texas 78711-3087

Dear Ms. Landuyt,

I write in response to the draft of the 2023 Annual Monitoring Network Plan.

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It is an issue of environmental justice. The proposed VOC canister represents a tool needed to be able to fill critical gaps in understanding VOC levels throughout the region, particularly in overburdened black and brown port communities. Harris County has the highest concentration of facilities emitting urban air toxics in the nation and not enough air monitors to measure the most hazardous air pollutants. Pleasantville residents have a right to know if they are breathing air toxics. They have a right to breathe clean air every day.

We need to be able to protect ourselves. The best tool is better information. Deploying a VOC canister in the new Pleasantville site alongside a particulate matter monitor would help provide it.

Sincerely,

Cruz R. Hinojosa Jr

President

From: Keith Downey
To: tceqamnp
Subject: On behalf of the Pleasantville Community Please Install A Regulatory Monitor
Date: Monday, May 15, 2023 11:55:25 AM

Greetings,

It is important to The health and wellness of the Pleasantville community that technology such as a regulatory monitor VOC be installed in the Pleasantville community for its residents to know the quality of air that they breathe on a daily basis. Many of their residents suffer from respiratory illnesses and it's imperative that they have the knowledge and data to help improve their quality of life.

Keith Downey
Kashmere Gardens Super Neighborhood Council #52 - President
City of Houston Super Neighborhood Alliance - Vice Chair
P.O. Box 15592
Houston Texas 77220
(718) 869-3473

From: White, Rachel C
To: tceqamnp
Subject: Letter of support
Date: Tuesday, May 16, 2023 12:28:19 PM
Attachments: Letter of Support for Pleasantville.pdf

Hello,

Please see attached the letter of support to deploy the proposed new monitoring sites in Houston's Fifth Ward and Pleasantville areas, as indicated in Appendix M in the AMNP.

Regards,

Rachel White Roy, Ph.D., MPH
The University of Texas School of Public Health
1200 Pressler Dr.
Houston, TX 77030
(e): rachel.c.white@uth.tmc.edu

UTHealth | School of Public Health | Southwest Center for Occupational and Environmental Health
The University of Texas Health Science Center at Houston

William B. Perkison MD,
MPH Assistant Professor
Southwest Center for Occupational and Environmental Health
1200 Pressler St, Suite W1040
Houston, TX. 77030
713-500-9468

Texas Commission on Environmental Quality
P.O. Box 13087
Attention: Holly Landuyt, MC-165
Austin, Texas 78711-3087

Re: Letter of support placement of new air monitoring station in Pleasantville community

Dear Ms. Landuyt,

I write in response to the draft of the 2023 Annual Monitoring Network Plan.

I support the deployment of a special purpose volatile organic compounds (VOC) canister to the new Houston Pleasantville Elementary site, as indicated in page 30 of the draft 2023 AMNP. This canister will provide needed data to understand hazardous air pollutant levels, which can have short term and long-term impacts on the health of residents. The addition of the proposed canister will ensure residents and local officials have needed air pollution data in a timely manner, which can inform public health policy decisions.

Deploying a canister in the Pleasantville community will provide actionable data communities can use alongside public health and government agencies. Pleasantville is a port community vulnerable to poor air quality from a range of sources including chemical and petroleum facilities that report to the US EPA Toxic Release Inventory, businesses and warehouses that use and or store hazardous chemicals on site, large quantity generators of hazardous waste, fabricators, and current and former Resource Conservation and Recovery Act sites.

It is an issue of environmental justice. The proposed VOC canister represents a tool needed to be able to fill critical gaps in understanding VOC levels throughout the region, particularly in overburdened black and brown port communities. Harris County has the highest concentration of facilities emitting urban air toxics in the nation and not enough air monitors to measure the most hazardous air pollutants. Pleasantville residents have a right to know if they are breathing air toxics and their close proximity to large manufacturing sites makes them particularly vulnerable to air quality.

Deploying a VOC canister in the new Pleasantville site alongside a particulate matter monitor is an excellent step towards providing a cleaner, healthier environment for our Houston citizens live in.

Sincerely,

William Perkison

William Brett Perkison MD, MPH

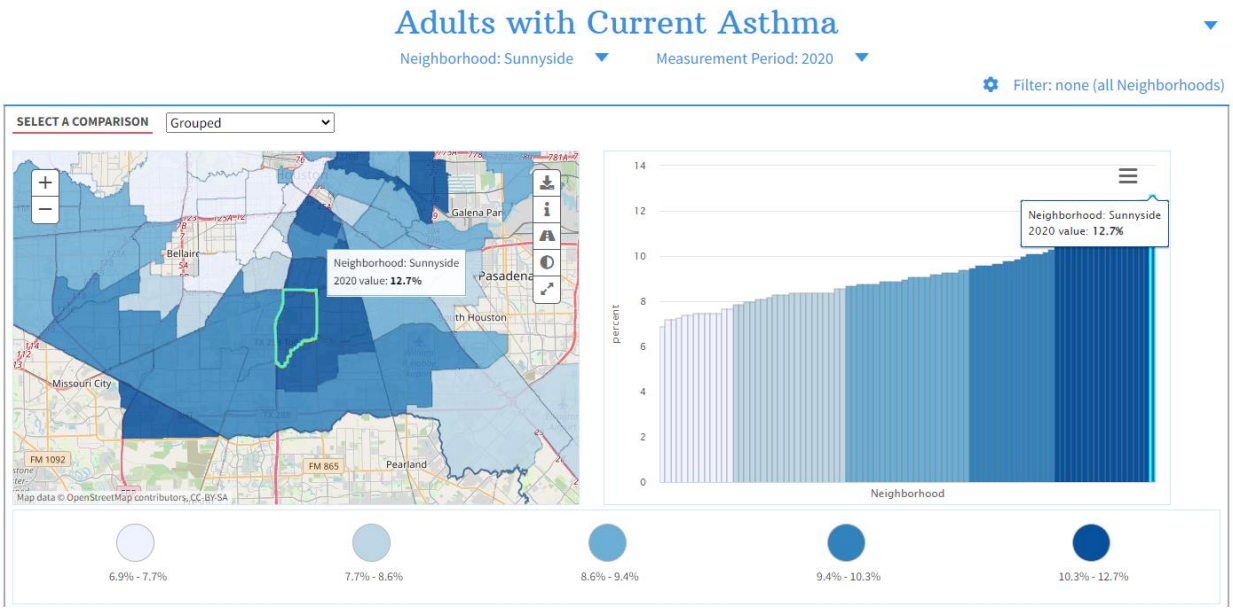
—----------

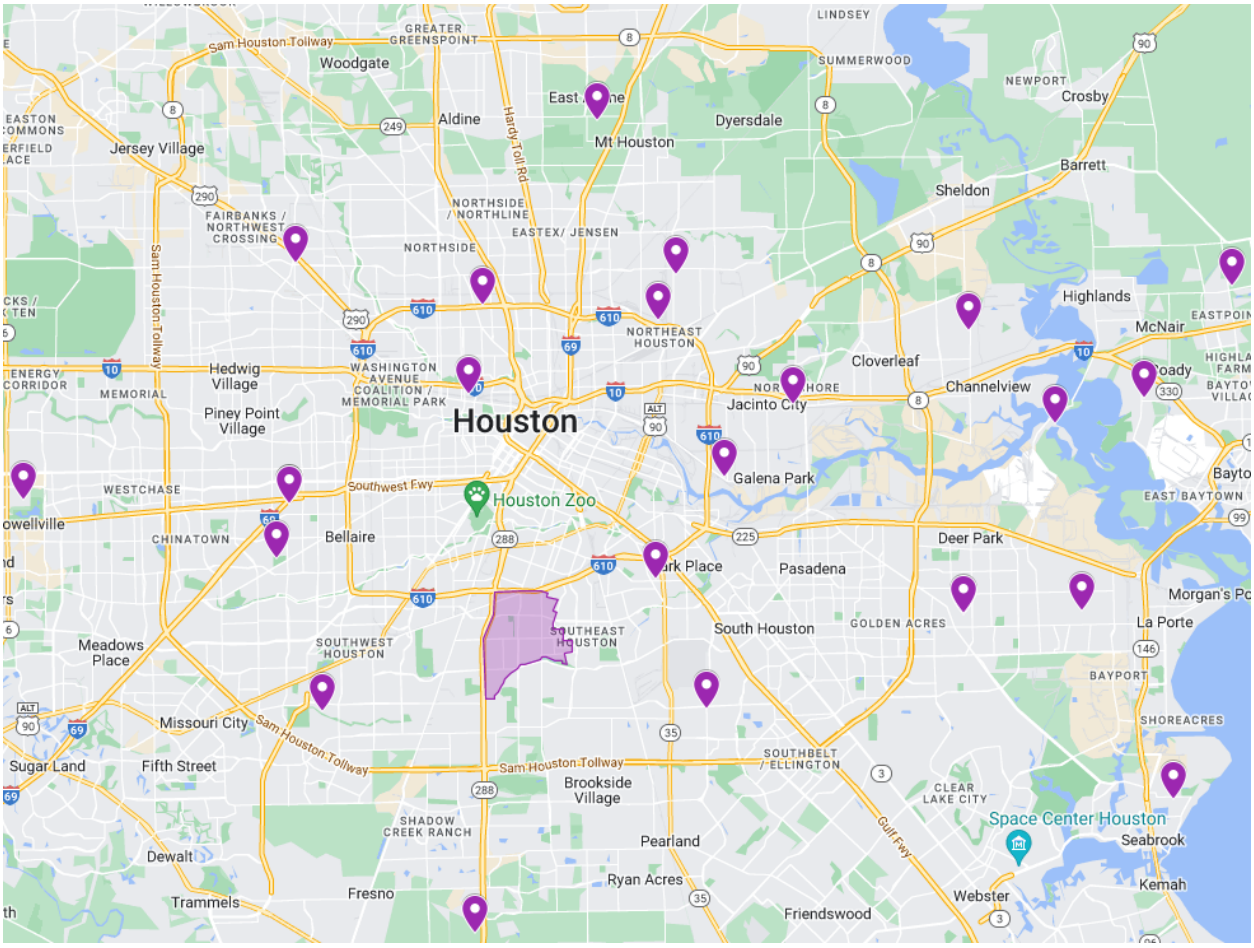
Texas Commission on Environmental Quality
P.O. Box 13087
Attention: Holly Landuyt, MC-165
Austin, Texas 78711-3087
Or sent via email to: tceqamnp@tceq.texas.gov

RE: Draft TCEQ 2023 Draft Air Monitoring Network Plan

Dear Ms. Landuyt,

Sunnyside Community Redevelopment Organization (SCRO), non-profit status, seeks to create a healthy and sustainable community by advocating, educating, and empowering community residents of Sunnyside in Houston, TX (zip code 77021, 77033, 77051). We are writing to urge you to deploy a continuous reference grade PM2.5 regulatory air monitor with a speciated VOC canister in Sunnyside, Houston, Texas to be included in the TCEQ Air Monitoring network. Since the closure of the reference grade monitor at the City of Houston Park Place, there is no regulatory monitor to understand particulate matter and nitrogen dioxide criteria pollutants despite the concentration of metal recycling facilities, concrete batch/crushing facilities, transportation and substantial industrial activity in and around our community. The nearest TCEQ PM2.5 monitors are at Bayland Park and Clinton Park, each more than seven miles away. We are a glaring blind spot to understand the air pollution impacting the health of our residents. In the past year, there have been several large industrial fires at Holmes Road which we observed on our low-cost community air monitoring network. The lack of a reference grade monitor limits the ability to document these types of events so investigations and enforcement actions can be taken to protect our most vulnerable residents. Studies have shown that levels of air pollution can vary by up to eight times within one city block. One analysis estimates that exposure to particle pollution in the nine-county metropolitan Houston area contributed to more than 5,000 premature deaths in 2015 and nearly $50 billion in economic damages. Exposure to air pollution has multiple adverse health effects, including heart disease, lung cancer and respiratory diseases. All three of Sunnyside's zip codes were identified by the City of Houston Public Health department to be asthma high burden zip codes defined as "high rates of ambulance utilization to treat asthma attacks." Based on the Houston Health Department's asthma data dashboard, Sunnyside has had the highest rates of asthma in the Houston area for the last two years. It is critical that residents have more information on PM2.5 and VOCs which can be potent respiratory irritants to make the best decisions to protect their health.





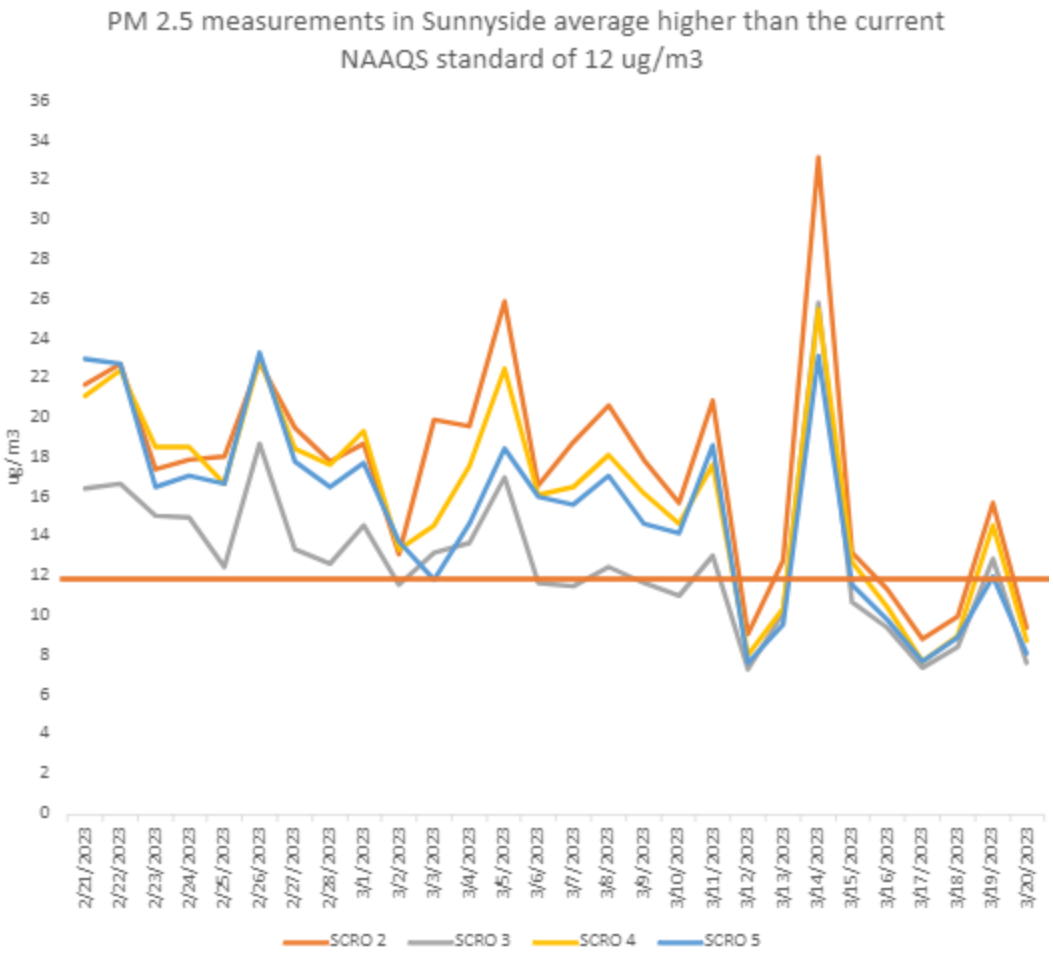
https://www.google.com/maps/d/u/0/edit?mid=1jBCffShaSOWaEhRvW6aO5vLlSTSkCN4&usp=sharing

Communities of color and communities experiencing poverty, like Sunnyside, have borne an inequitable pollution burden for too long. This burden, a result of economic and systemic racial oppression, negatively impacts health and contributes to higher rates of chronic diseases and cancer.

- Within the borders of Sunnyside, the EPA regulates three brownfields, three facilities for air pollution and twelve facilities for hazardous waste.
- A report from the University of Texas School of Environmental Law Clinic identified 187 toxic air pollutants from these sources including particulate matter.
- According to EPA's EJScreen, parts of Sunnyside are in the 90th percentile or above for lower life expectancy with some of the highest rates of heart disease and asthma compared to the rest of the country.

Communities like Sunnyside where there are highest levels of pollution were hardest hit by COVID-19. Chronic levels of air pollution like PM2.5 clearly play a role in the disease that puts our families at greater risk of death from COVD infection bringing the devastation we experienced as a community. Sadly, the potential for this to continue remains. Recent reports highlights how companies, from petrochemical refineries on the Gulf Coast to oil and gas, have devised creative ways to bypass Clean Air Act regulations. These emissions which companies claim are unavoidal – inhabit a legal gray area and polluters are rarely penalized. For those living close to polluting facilities and fence-lined communities, however, the emissions, which contain a slew of carcinogens and respiratory irritants, take a toll. Which has given Texas to Louisiana name as known as "Cancer Alley".

SCRO developed and deployed a community-owned air monitoring network in 2021 to observe PM2.5 in the neighborhood since the nearest regulatory monitors are more than seven miles away. SCRO has co-located an air sensor at the Clinton park regulatory monitor since the community air monitoring network began and has observed 1) different patterns of peak concentrations and 2) some sites in Sunnyside have experienced higher PM2.5 concentrations compared to the co-location at the regulatory monitor.



TCEQ has an opportunity to prioritize equity and take a step toward identifying the pollution disparities that have burdened our communities for decades by deploying a regulatory monitor in the Sunnyside community.

Additionally, SCRO supports the deployment of a special purpose volatile organic compounds (VOC) canister to the new Houston Pleasantville Elementary site, as indicated on page 30 of the draft plan. Pleasantville residents and those living in nearby communities have a right to know about all of the air toxics they are breathing.

Sincerely,

Jo Ann Burbridge,Vice -President
Sunnyside Community Redevelopment Organization

Texas Commission on Environmental Quality
P.O. Box 13087
Attention: Holly Landuyt, MC-165
Austin, Texas 78711-3087
Or sent via email to: tceqamnp@tceq.texas.gov

RE: TCEQ 2023 Air Monitoring Network Plan

Dear Ms. Landuyt,

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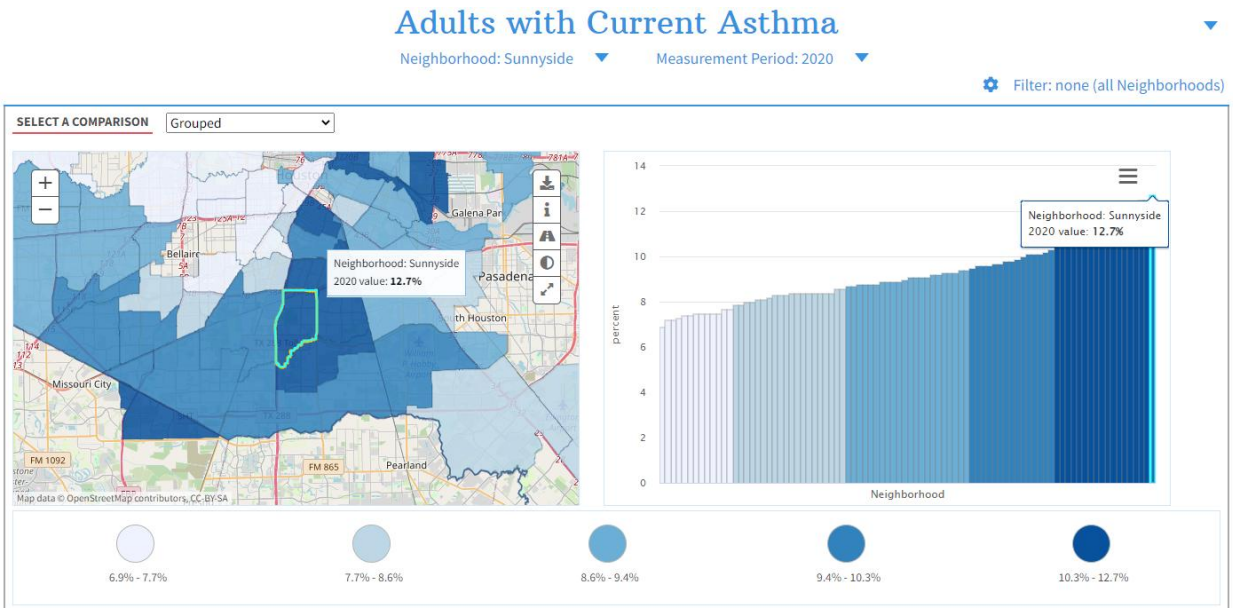
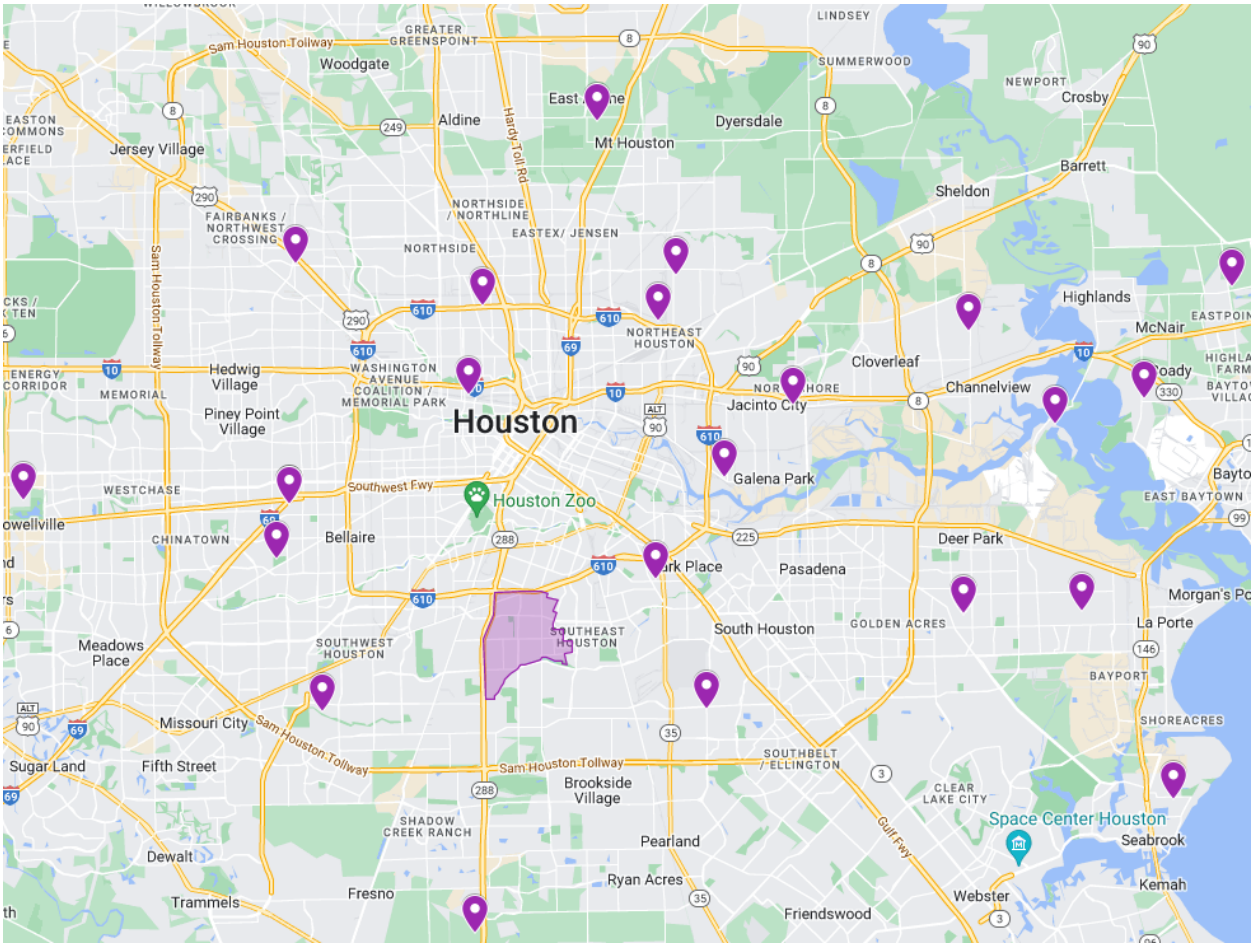


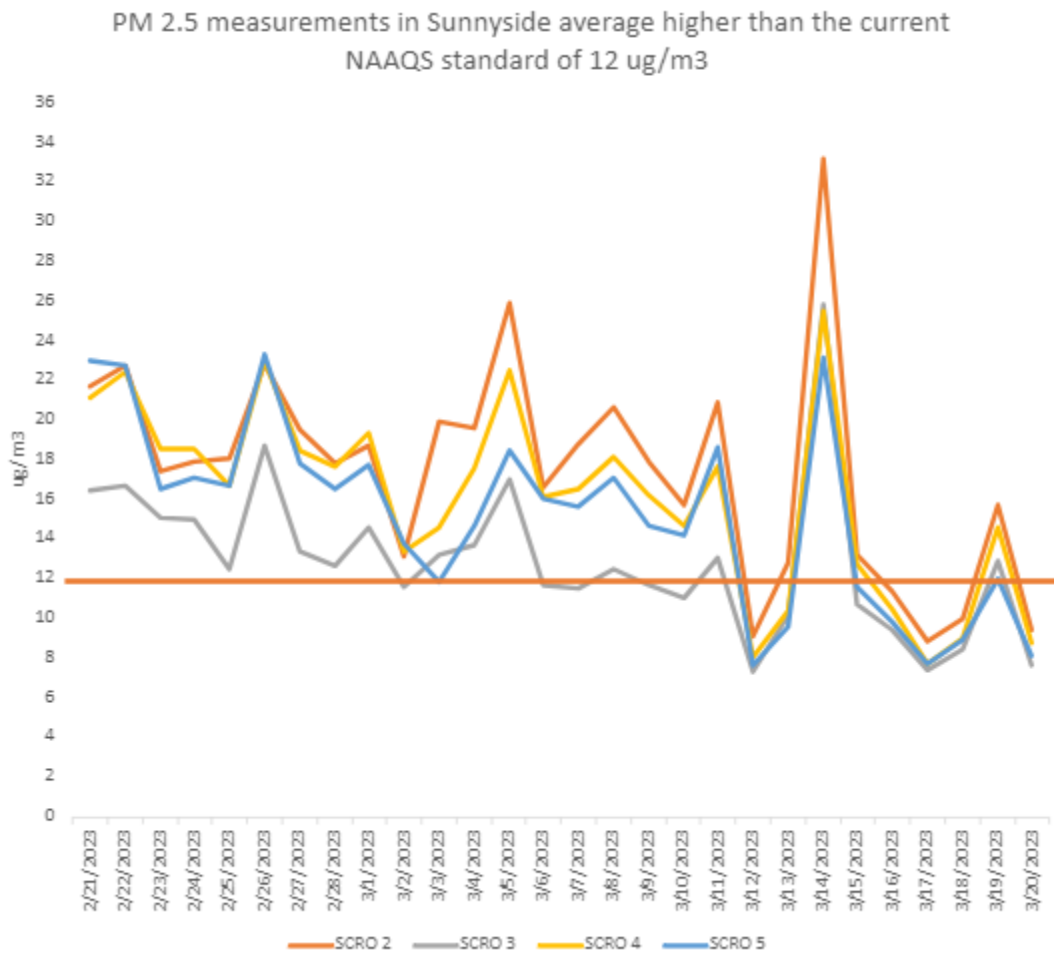


https://www.google.com/maps/d/u/0/edit?mid=1jBCffShaSOWaEhRvW6aO5vLlSTSkCN4&usp=sharing

Communities of color and communities experiencing poverty, like Sunnyside, have borne an inequitable pollution burden for too long. This burden, a result of economic and systemic racial oppression, negatively impacts health and contributes to higher rates of chronic diseases and cancer.

- Within the borders of Sunnyside, the EPA regulates three brownfields, three facilities for air pollution and twelve facilities for hazardous waste.
- A report from the University of Texas School of Environmental Law Clinic identified 187 toxic air pollutants from these sources including particulate matter.
- According to EPA's EJScreen, parts of Sunnyside are in the 90th percentile or above for lower life expectancy with some of the highest rates of heart disease and asthma compared to the rest of the country.
- Communities like Sunnyside where there are highest levels of pollution were hardest hit by COVID-19. Chronic levels of air pollution like PM2.5 clearly play a role in the disease that puts our families at greater risk of death from COVD infection bringing the devastation we experienced as a community. Sadly, the potential for this to continue remains.

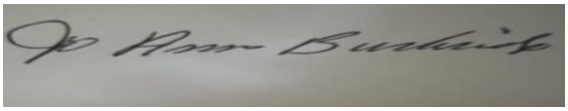
SCRO developed and deployed a community-owned air monitoring network in 2021 to observe PM2.5 in the neighborhood since the nearest regulatory monitors are more than seven miles away. SCRO has co-located an air sensor at the Clinton Park regulatory monitor since the community air monitoring network began and has observed 1) different patterns of peak concentrations and 2) some sites in Sunnyside have experienced higher PM2.5 concentrations compared to the co-location at the regulatory monitor.



TCEQ has an opportunity to prioritize equity in this environmental justice community, and take a step toward identifying the pollution disparities that have burdened our communities for decades by deploying a regulatory monitor in the Sunnyside community.

Additionally, SCRO supports the deployment of a special purpose volatile organic compounds (VOC) canister to the new Houston Pleasantville Elementary site, as indicated on page 30 of the draft plan. Pleasantville residents and those living in nearby communities have a right to know about all of the air toxins they are breathing.

Sincerely,



Jo Ann Burbridge, Vice -President
Sunnyside Community Redevelopment Organization

Environmental Defense Fund

May 15, 2023

Texas Commission on Environmental Quality
P.O. Box 13087
Attention: Holly Landuyt, MC-165
Austin, Texas 78711-3087
Or sent via email to: tceqamnp@tceq.texas.gov

RE: Draft TCEQ 2023 Draft Air Monitoring Network Plan

Dear Ms. Landuyt,

The Environmental Defense Fund (EDF), working in Houston, Texas, writes in response to the draft of the 2023 Annual Monitoring Network Plan. First, EDF supports the deployment of a special purpose volatile organic compounds (VOC) canister to the new Houston Pleasantville Elementary site, as indicated in page 30 of the draft 2023 AMNP. Second, EDF requests that TCEQ deploy new continuous regulatory PM2.5 monitors with speciated VOC monitors in the Sunnyside neighborhoods of Houston.

The addition of a VOC canister in Pleasantville will provide needed data to understand hazardous air pollutant levels, which can have short term and long-term impacts on the health of residents, and ensure residents and local officials have needed air pollution data in a timely manner, which can inform public health policy decisions.

Pleasantville is an environmental justice port community vulnerable to poor air quality from a range of sources including chemical and petroleum facilities that report to the US EPA Toxic Release Inventory, businesses and warehouses that use and or store hazardous chemicals on site, large quantity generators of hazardous waste, fabricators, and current and former Resource Conservation and Recovery Act sites. The proposed VOC canister represents a tool needed to be able to fill critical gaps in understanding VOC levels throughout the region, particularly in overburdened black and brown port communities.

Harris County has the highest concentration of facilities emitting urban air toxics in the nation and residents would benefit from speciated VOC data to understand levels of hazardous air pollutants. This assists in public health responsiveness to emergency response to industrial events which occur with consistent frequency in Harris County. It will also provide needed background pollutant information to strengthen public health protections.

Sunnyside, on the south side of Houston, TX (zip code 77021, 77033, 77051) is an environmental justice community with a population of about 20,000 as of 2015. Eighty-eight percent of the population there is non-Hispanic Black and 10% is Hispanic. Sunnyside has borne an inequitable pollution burden for too long. This burden, a result of economic and systemic racial oppression, negatively impacts health and contributes to higher rates of chronic diseases and cancer.

301 Congress Avenue
Austin, TX 78701

T 512 478 5161
F 512 478 8140
EDF.org

Within the borders of Sunnyside, the EPA regulates three brownfields, three facilities for air pollution and twelve facilities for hazardous waste. A report from the University of Texas School of Environmental Law Clinic identified 187 toxic air pollutants from these sources including particulate matter. According to EPA's EJScreen, parts of Sunnyside are in the 90th percentile or above for lower life expectancy with some of the highest rates of heart disease and asthma compared to the rest of the country. Communities like Sunnyside where there are highest levels of pollution were hardest hit by COVID-19. All three of Sunnyside's zip codes were identified by the City of Houston Public Health department to be asthma high burden zip codes defined as "high rates of ambulance utilization to treat asthma attacks."

Since the closure of the reference grade monitor at the City of Houston Park Place, there is no reference grade regulatory monitor to understand particulate matter and nitrogen dioxide criteria pollutants despite the concentration of metal recycling facilities, concrete batch/crushing facilities, transportation and substantial industrial activity in and around our community. The nearest TCEQ PM2.5 monitors are at Bayland Park and Clinton Park, each more than seven miles away. Sunnyside is an air quality blind spot and there is a serious need to address the contribution of criteria and hazardous air pollutants to existing health disparities in this community. In the past year, there have been at least two large industrial fires at Holmes Road which were observed on Sunnyside Community Redevelopment Organization's low-cost community air monitoring network. The lack of reference grade monitoring in this part of Houston limits the ability to document these types of events so investigations and enforcement actions can be taken to protect vulnerable residents particularly sensitive populations like seniors and children. It is critical for both residents and local government agencies to have more information to make the best decisions to protect the health of Houston residents.

The residents of Pleasantville, Sunnyside and nearby areas have a right to know if they are breathing air toxics. They have a right to breathe clean air every day. EDF supports the deployment of a special purpose volatile organic compounds (VOC) canister to the new Houston Pleasantville Elementary site, and requests that TCEQ deploy new continuous regulatory PM2.5 monitors with speciated VOC monitors in the neighborhoods of Galena Park and Sunnyside.

Sincerely,

Stephanie Coates, Community Air Quality Tom Graff Fellow
scoates@edf.org

Grace Tee Lewis, Senior Health Scientist
Environmental Defense Fund
glewis@edf.org

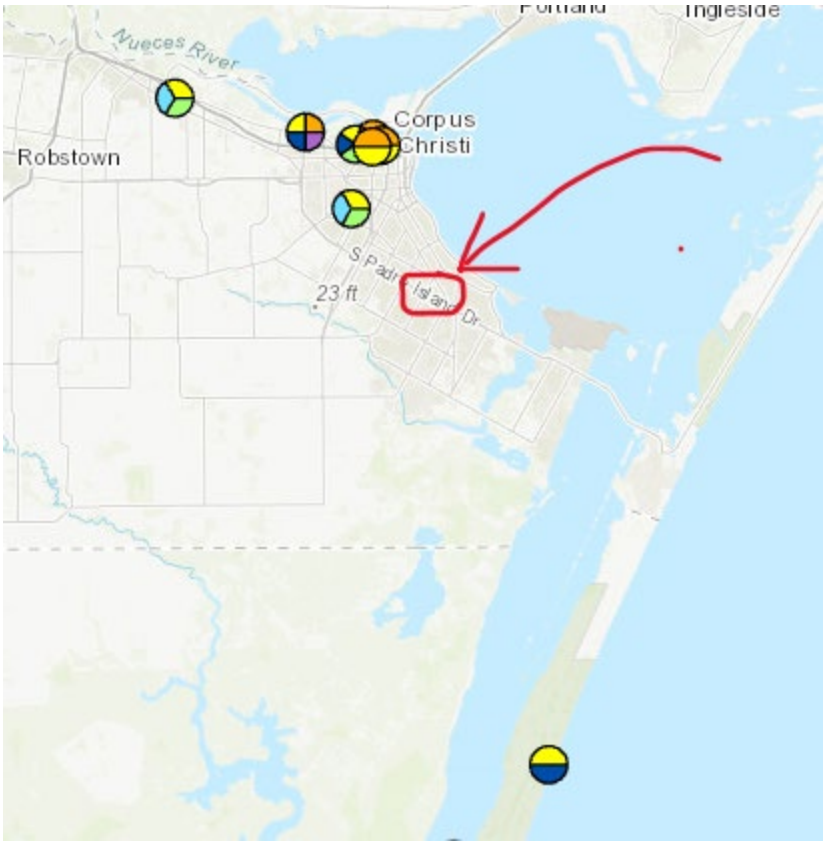
From:	John W
To:	tceqamnp
Subject:	Written comments about the draft 2023 Annual Monitoring Network Plan
Date:	Wednesday, April 19, 2023 8:59:46 AM
Attachments:	image.png image.png

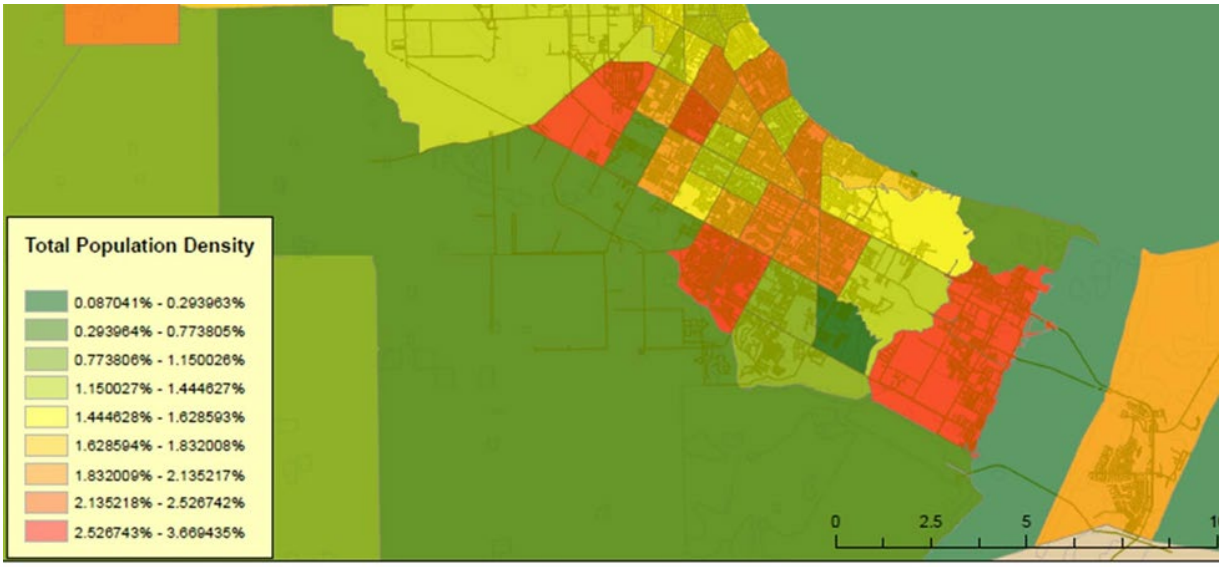
Dear TCEQ,

On reviewing the 2023 Draft Plan I am still not seeing any monitoring in Corpus Christi in the area where many people live, work and shop. See below population density map and current monitoring maps. I have commented on this in past draft plans. I propose at least a PM 2.5 monitor be placed within a tenth of a mile from the La Palmera Mall. My reasoning is as follows: it is roughly in the center of the population of the city, many people work next to S.P.I.D., many people shop in this area, all of these people are being exposed to air pollution, during winter events when the wind blows from the northwest pollutants from downwind will be monitored. The current monitors are mostly grouped around the refineries and there is one by the airport and one out of town on the island. None of these current monitors are monitoring where most of the people, live, work, and shop so we don't have any good data regarding the air quality that most people breathe. The city also likely has a larger than normal percentage of gross polluters. This is caused in part by our aging fleet of vehicles that are in poor repair, lack of charging for zero-emissions vehicles, no vehicle emissions testing, and a lack of public outreach and education regarding air quality in the city.

Thank you for allowing me to comment,

John Weber 361-739-5691


Ingleside
Nueces River
Corpus Christi
Robstown
23 ft
S Padre Island Dr


Total Population Density
0.087041% - 0.293963%
0.293964% - 0.773805%
0.773806% - 1.150026%
1.150027% - 1.444627%
1.444628% - 1.628593%
1.628594% - 1.832008%
1.832009% - 2.135217%
2.135218% - 2.526742%
2.526743% - 3.669435%
0
2.5
5

From: Laura Hunt
To: tceqamnp
Subject: public comment on TCEQ air monitoring network plan
Date: Wednesday, May 17, 2023 4:59:51 PM

- My name is Laura Hunt. I am the director of Midlothian Breathe, a physician, and resident of Midlothian, TX, where our sole air monitor from TCEQ was de-commissioned over a year ago and has yet-to-be replaced, as is mentioned in the air monitoring network plan. I would like to highlight the significance of the air monitoring network for local residents, such as myself. Midlothian residents are living in an area with the highest concentration of cement kilns of any place in the country (and perhaps the world!) as well as a steel mill. The only way to know how that is impacting the air we breathe is with the TCEQ-provided monitors and associated analysis. Otherwise, the burden of supplying, maintaining and analyzing the data from these monitors falls upon the citizens themselves. Given the cost of these monitors and the time and expertise required for proper analysis, this burden of hundreds of thousands of dollars as well as the needed human resources and impact on industry permitting certainly isn't something you want to leave to untrained, ill-equipped citizens.

I see air monitoring as a shield or screen designed to protect community members. For over 12 months now, local industry continues to crank out pollutants which could now be released at any level industry desires because our shield is completely gone and we are flying blind--this is completely unacceptable.

My recommendations for improvement are as follows:

- Ambient air monitors such as the CAMS-52 OFW monitor in Midlothian should not be allowed to be down/off for more than 90 days at a time as residents should not be left to serve as guinea pigs with no protections in place for any longer than 90 days, which seems to be a sufficient time-period for a monitor to be replaced, removed, repaired, etc
- Midlothian and other similar locations with multiple PSD sites generating air pollution need more monitoring than a single ambient air monitor located UPwind of most of our point sources of pollution. Per the draft report, TCEQ current has about 23 ambient air monitors in the DFW area but only plans one monitor for in Midlothian, upwind of LaFarge Holcim, in spite of TCEQ's own data demonstrating that LaFarge Holcim Midlothian emitted more priority pollutants in 2020 than all other industrial sources in North TX COMBINED https://storymaps.arcgis.com/stories/f7d459b553ea4fd794f6e756cd8083b8
- Until we are able to get additional monitors deployed, I propose that the CAMS-52 OFW monitor in Midlothian be placed downwind of LaFarge Holcim. The city of Midlothian has already offered to allow for it to be placed at the Tayman Water Treatment plant, which is directly downwind of LaFarge Holcim and generally downwind of Ash Grove and Martin Marietta as well, per TCEQ's own most recent analysis (see p.97) https://www.tceq.texas.gov/downloads/toxicology/research-projects/midlothian.pdf
- More up-to-date analysis needs to be done, given that no toxicology studies have been done since 2010 and that study showed significant flaws, yet is still used to justify keeping the Midlothian monitor at the Old Fort Worth Road location. When additional studies are done, they should include comparative evaluations of PM 2.5, nanoparticles, and PM 4 (current standard for crystalline silica measurement). Furthermore, one in Six days collection data by CAM Monitors is anything but acceptable. Measurements

should be done with Gravimetric Monitors on-site 24 hours, covering all wind data and other meteorological data, Midlothian has also a need for elevation considerations for monitor locations. Once these evaluations are properly done, we will be better able to determine the total number and optimal location for all of the air monitoring needed to capture pollutants from all major point sources throughout all 4 seasons and associated changing wind directions and other weather conditions.

- Ambient air monitor data should be shared with the general public in easy-to-understand terms on the TCEQ website with not only absolute numbers shown but also interpretations (ie are numbers dangerous (above EPA targets, healthy, etc).
- Given that the TCEQ is already issuing ozone alerts and we are only halfway through May and in serious nonattainment for ozone levels, time is of the essence in improving air monitoring, which is the cornerstone of appropriate enforcement/compliance

Midlothian Breathe would be happy to partner with TCEQ and EPA to bridge the gap in our currently inadequate monitoring through the sharing of data that we are collecting via purple air sensors. We already have about 13 sensors in place that are positioned in a grid pattern, based on the point sources, prevailing winds and elevation patterns and we are looking to add more.

Sincerely,
Laura Hunt, M.D.
Director Midlothian Breathe