



Department of Environmental Protection

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Massachusetts 2025 Air Monitoring Network Plan Response to Comments

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MassDEP operates a network of 26 ambient air quality monitoring stations at locations across the Commonwealth as part of a comprehensive program to provide information about air quality to the public and to determine compliance with National Ambient Air Quality Standards (NAAQS). Each year, MassDEP is required to submit to the U.S. Environmental Protection Agency (EPA) an Air Monitoring Network Plan in accordance with Title 40 CFR Part 58.10. On June 5, 2025, MassDEP published a draft 2025 Network Plan for a 30-day public comment period that closed on July 7, 2025. MassDEP received comments on the draft Plan from EPA, citizens and local organizations. MassDEP has summarized and responded to the comments below.

1. **Comment** (EPA): Page 7, Ozone (O₃) Network – We acknowledge the closure of the Chelmsford Manning Road Near Road site, which did not meet siting criteria for ozone.

Response: MassDEP located the Chelmsford site to meet near-road nitrogen dioxide (NO₂) monitoring requirements. The O₃ monitor was deployed for informational purposes only and was not used to demonstrate compliance with the ozone NAAQS.

2. **Comment** (EPA): Page 13, PM₁₀ continuous – We acknowledge that five sites monitoring for particulate matter with diameter less than 10 micrometers (PM₁₀) have installed continuous instrumentation. EPA only requires collocated sampling for manual PM₁₀ samplers. See 40 CFR part 58, section 3.3.4 Collocated Quality Control Sampling Procedures for Manual PM₁₀. This presents MassDEP with a cost savings opportunity by discontinuing the collocated PM₁₀ sampler at the Boston - Harrison Ave site.

Response: MassDEP will continue operating the PM₁₀ samplers as a quality assurance (QA) measure and currently has no plans to discontinue the collocated PM₁₀ sampler at the Boston – Harrison Avenue site. MassDEP will continue to evaluate other cost-saving strategies for the PM network.

3. **Comment (EPA):** Page 14, PM_{2.5} Network – We acknowledge that in December 2024, MassDEP added a fine particulate (PM_{2.5}) monitor to the existing Uxbridge (25-027-0024) monitoring station to satisfy new EPA PM_{2.5} monitoring network design criteria that require an additional PM_{2.5} monitor in the Worcester MA-CT MSA.

Response: MassDEP will continue to submit data from the Uxbridge monitor, and all other PM_{2.5} FEM monitors in the network, for comparison to the NAAQS.

4. **Comment (EPA):** Page 17, Ultrafine Particulate Monitoring – We acknowledge that MassDEP added four continuous ultrafine particulate matter (PM_{0.1}) monitors to enhance ambient air monitoring although not a requirement under 40 CFR part 58.

Response: MassDEP located the monitors to measure PM_{0.1} near high traffic roadways and will continue to submit the data to EPA’s Air Quality System (AQS) Database.

5. **Comment (EPA):** Page 18, Photochemical Assessment Monitoring Stations (PAMS) – Relative to enhanced ozone related monitoring activities, we formally approved your PAMS implementation plan for your Lynn site on May 9, 2018; and on August 15, 2019, we approved your Enhanced Monitoring Plan (EMP).

Response: MassDEP continues to implement its enhanced ozone monitoring plan.

6. **Comment (EPA):** Page 20, Enhanced Monitoring in Environmental Justice Communities – We acknowledge your effort described under “Enhanced Monitoring in Environmental Justice Communities,” although EPA notes that these activities are not a requirement under 40 CFR part 58.

Response: MassDEP will continue to evaluate the role of air sensor technology in monitoring local air quality.

7. **Comment (EPA):** Page 21, Summary of Recent and Proposed Network Changes – We note and acknowledge the following as your “Summary of Recent and Proposed Network Changes,” as reported by MassDEP in the summary.

The following are recent and planned changes to the air monitoring network:

- In December 2024, MassDEP discontinued a non-regulatory ozone monitor in Chelmsford (25-017- 0010) that was deployed for informational purposes only and was not used to demonstrate compliance with the ozone NAAQS because it did not meet siting criteria regarding distance from roadways in 40 CFR Part 58 Appendix E.
- In December 2024, MassDEP added a PM_{2.5} and a PM₁₀ FEM monitor at the Uxbridge monitoring station (25-027-0024) to satisfy new EPA PM_{2.5} monitoring network design criteria that requires an additional PM_{2.5} monitor in the Worcester MSA.
- In January 2025, MassDEP established a PM_{2.5} and black carbon monitoring station in Framingham (25-009-2007).

- MassDEP is in the process of establishing a PM_{2.5}, PM₁₀, and black carbon monitoring station in Saugus (25-009-2007). MassDEP is working with the utility company to complete the final step of bringing power to the site.
- MassDEP added ultrafine particulate (PM_{0.1}) monitors at existing monitoring stations in Chelmsford (25-017-0010), Boston-Chinatown (25-025-0045), Boston-Dorchester (25-025-0044), and Springfield (25-013-0018).

Response: MassDEP appreciates EPA's comments.

8. **Comment (EPA):** Page 25, Monitoring Site Descriptions – Please remove any language of ozone from the Chelmsford – Manning Road description, as the ozone monitor has been discontinued at this site.

Response: MassDEP has removed the ozone language from the Chelmsford – Manning Road description.

9. **Comment (Airport Impact Relief, Inc.):** The Massachusetts Executive Office of Energy and Environmental Affairs (EEA) has required Massport to engage with community stakeholders and area experts in a monthly Working Group process designed to explore feasible opportunities to increase measurement and mitigation of airport impacts. This Working Group has a particular emphasis on air quality and is specifically focusing on ultrafine particulate (UFP) pollution.

MassDEP's draft Network Plan introduces information on monitoring UFP which is not a EPA regulated pollutant. We believe it is important for MassDEP to elaborate on the reason the state is collecting UFP data. Given the spatial and temporal variability of UFPs, we see an opportunity for MassDEP to expand upon the information it provides relative to the need, use, and intended trajectory of this nascent UFP monitoring capability in Massachusetts. We submit that the distributed sensor network model is the only practical purpose collecting UFP data. However, as currently proposed, the draft Network Plan does not provide enough explanation for why UFP data is being sought, nor how and why the UFP monitoring system now under development is being created.

MassDEP, in providing information about its air quality monitoring system should inform the public about the behavior and characteristics of the pollutants it is monitoring, including UFPs. As it updates and informs the public about the specifications of and changes to its monitoring system, MassDEP should explain the temporal and spatial challenges of measuring and monitoring UFPs and establish that the capabilities described in the Draft 2025 Ambient Air Quality Monitoring System signal a new chapter in the state's efforts. Additionally, we would like to see MassDEP further describe how future UFP monitoring will require developing the capacity to measure this transient air quality impact over time and space.

Such additional descriptions would be useful to the current EEA Massport Logan Airport Working Group's efforts by establishing that the accurate and timely measurement of UFPs to inform understanding of public health issues and potential mitigation strategies in areas surrounding point sources is a statewide environmental goal. Such acknowledgement would better explain the state's reason for collecting UFP data which is not required for EPA NAAQS compliance, and it would provide

MEPA and agencies seeking to avoid and minimize exposure to UFPs with additional regulatory traction.

Response: In 2024 MassDEP added four continuous UFP monitors at existing monitoring stations in Chelmsford, Boston-Chinatown, Boston-Dorchester, and Springfield to enhance ambient air monitoring in or near urban environmental justice (EJ) populations near high traffic roadways. Environmental justice advocates have asked MassDEP to increase air quality monitoring in overburdened areas and have raised concerns about exposure to UFP and diesel emissions near roadways and transportation infrastructure. MassDEP was able to add the UFP monitors through a one-time EPA funding grant. Measuring UFP at these locations will build on MassDEP's existing PM_{2.5} monitoring work and allow for comparison of UFP concentrations in different areas of the state and seasonal and annual UFP trends. The UFP monitoring data is currently available in EPA's AQS database and MassDEP is developing a new Monitoring Data Dashboard system that will make it easier to provide the UFP data to residents, researchers, and other interested stakeholders. MassDEP also will use the current monitoring to build internal expertise that can support and guide future UFP monitoring efforts, including the use of low-cost UFP sensors.

10. **Comment** (Residents living Near Woods Hole Terminal): MassDEP received multiple comments from residents living near the Woods Hole Ferry Terminal in Falmouth operated by the Steamship Authority (SSA) requesting the establishment of an air monitoring station near the terminal. Residents raised concerns about the growth of traffic to the terminal, ferry exhaust during arrivals, departures, and idling, as well as tailpipe emissions from idling cars, buses, and trucks waiting to board the ferry. Residents cited visible smoke from the ferries and deposited soot on windowsills as signs of poor air quality. They raised concerns about SSA's aging ferry fleet and lack of enforcement of the state's 5-minute idling limit for cars and trucks at the terminal. They highlighted the lack of air monitoring on Cape Cod and the importance of monitoring that would capture ferry and port-related emissions, account for seasonal population changes, and address regional health concerns. There also was a request for air monitoring at the Vineyard Haven and Oak Bluffs SSA terminals.

Response: MassDEP does not have the resources to establish a new monitoring station in Falmouth at this time but recognizes the importance of increasing the understanding of local air quality concerns. MassDEP air monitoring staff have discussed the potential for PM_{2.5} air sensor monitoring with SMART Citizens Task Force, which includes residents concerned about air emissions from SSA's ferries and associated car and truck traffic. As noted in the draft Network Plan, MassDEP continues to enhance its community-based air sensor efforts to enable communities to assess local air quality, including through its PM_{2.5} sensor grant program. MassDEP is planning to announce its third PM_{2.5} air sensor grant that gives sensors to tribal organizations, non-profit organizations, community-based organizations, and municipalities to measure PM_{2.5} levels in their local communities. When the third PM_{2.5} sensor grant opportunity is announced, MassDEP encourages SMART Citizens Task Force to consider applying for this grant.

11. **Comment** (Conservation Law Foundation (CLF)): We are pleased that the PM_{2.5} and Black Carbon monitor planned for "in or near Saugus" has been placed on Bristow Street, near the

Saugus/Lynn/Revere border. However, we continue to recommend that Lawrence receive a UFP and black carbon monitor. Lawrence is a community with significant EJ populations: 100% of Lawrence is mapped for EJ population criteria, and 79.9% of the city's residents speak a language other than English at home. Lawrence experiences significant tailpipe pollution due to Interstate 495 and Massachusetts Route 28. While Framingham is an EJ community in need of monitoring, we recommend that Lawrence also receive priority for the siting of a UFP and black carbon monitor Massachusetts.

Response: MassDEP recently added air monitoring stations in EJ populations in Framingham and Saugus using federal American Rescue Plan Act grant funds. MassDEP does not have the resources to establish a new monitoring station in Lawrence at this time.

12. **Comment (CLF):** DEP has announced and begun to roll out a Multi-Pollutant Sensor Pilot Program of 40 black carbon sensors and 50 multi-pollutant sensors across 2-3 EJ communities to track high levels of pollutants from truck traffic and other transportation pollutants. We recommend that DEP expand the initial communities it will work with and provide clear structure as to the program's timeline and when DEP will move beyond the initial communities. We recommend DEP prioritize Roxbury, Springfield, New Bedford, and Brockton, with EJ populations representing between of 78.9%, and 100% of local residents. New Bedford, Amherst, Framingham, and Randolph are all also communities with significant EJ populations, ranging from approximately 79 – 100% of the population living in EJ block groups. Rural communities like Dudley and Becket, both of which have EJ populations, should also receive consideration in this program.

Response: MassDEP is committed to deploying advanced air sensors in EJ communities to address local air quality concerns. Initial implementation of the sensor pilot program was delayed due to staffing shortfalls; however, MassDEP is planning sensor pilots and will consider the EJ populations recommended in the comments.

13. **Comment (CLF):** MassDEP should expand its air quality monitoring broadly to include additional pollutants. We encourage MassDEP to add additional monitors in congested areas and operate them such that they monitor for all pollutant parameters associated with transportation pollution. This includes PM_{2.5}, PM₁₀, VOCs, O₃, NOx, CO, SO₂, black carbon, and UFPs. MassDEP should deploy UFP monitoring and expand NOx and black carbon monitoring. MassDEP should work to secure federal and/or state funding for new monitoring stations for UFPs. MassDEP should also prioritize adding the capacity to test for all pollutants associated with nearby industrial emissions and tailpipe pollution, including PM₁₀, VOCs, O₃, NOx, CO, SO₂, black carbon, and UFPs, to all air quality monitoring stations in the network that are proximate to EJ populations.

Response: MassDEP continues to pursue opportunities to establish additional monitoring stations in EJ areas and is supporting the use of air sensors to enhance and broaden monitoring coverage, particularly in underserved communities. Resource limitations prevent the addition of new permanent monitors in all communities impacted by congested traffic and transportation pollution;

however, as new resources become available, MassDEP will evaluate opportunities to add monitoring equipment and expand coverage in future Network Plans.

14. **Comment (CLF):** MassDEP should continue programs like the Air Sensor Grant Program. We are pleased to see that MassDEP announced the award of 213 PM_{2.5} to 27 grantees as part of the second Air Sensor Grant Program in late 2024. We recommend DEP continue this program to reach and surpass the originally announced quantity of 300 PM sensors. For ensuring transparency and enabling knowledge of the network, we ask DEP to publish the progress made on deploying sensors, as well as any subsequent lists of awardees for this grant. We recommend that DEP conduct outreach to EJ communities that have not received PurpleAir sensors and ensure that communities have access to up-to-date information on how to apply for additional sensors.

Response: MassDEP plans to announce a third Air Sensor Grant Program in the near future and will ensure that EJ populations are notified of the grant opportunity when it is announced. MassDEP has worked closely with grantees from the first two sensor grant programs by providing technical guidance and support throughout the process. A summary of the sensor grantees and number of sensors deployed to date is provided in Attachment 1. As the data show, some grantees did not end up deploying the sensors they received. This is due to various reasons (e.g., staff turnover, difficulty finding sensors hosts, shifting priorities). In cases where grantees do not deploy sensors MassDEP asks grantees to return the sensors so they can be used for future sensor grants.

15. **Comment (CLF):** MassDEP should correct any inoperable monitors and sensors. MassDEP should devise an annual schedule for performing quality assessment checks on all operating monitors. MassDEP should publish the results of these checks in its Annual Air Quality Reports. This report should include any plans for addressing substandard monitor performance. In the Massachusetts 2024 Air Quality Report, the section entitled “Quality Assurance and Quality Control” provides a general overview of standard procedures for quality assurance but does not include any data. MassDEP should include up-to-date information in the same section of next year’s report.

Response: MassDEP implements a rigorous maintenance program at all air monitoring stations, carried out by trained staff in accordance with an EPA-approved Quality Assurance Project Plan (QAPP). This includes automated quality assurance and quality control (QA/QC) checks for gas analyzers, specifically ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), and sulfur dioxide (SO₂), to evaluate instrument precision and bias every three days. EPA provides summary reports of these precision and bias assessments at <https://www.epa.gov/outdoor-air-quality-data/single-point-precision-and-bias-report>. Additional QA/QC checks include routine equipment audits following EPA and manufacturer specifications, daily data quality review to detect potential equipment issues, and coordinated responses to address any signs of malfunction or compromised data quality. These measures maintain consistent operation according to EPA specifications and minimize downtime throughout the monitoring network. MassDEP also supports communities that have received PM sensors to ensure proper operation. While these sensors offer a low-cost monitoring option, they are less durable than regulatory-grade equipment and have a limited life expectancy.

16. **Comment (CLF):** MassDEP should coordinate with MassDOT to plan for future monitors based on plans for future changes to infrastructure. As MassDOT evolves and decarbonizes the transportation sector to meet our climate targets, DEP should work closely with MassDOT through all available channels to plan for locations of future monitor siting. Although combustion vehicle use will likely decrease in the future, combustion vehicles will continue to be used for the foreseeable future, and electric vehicles still place communities at risk for exposure to particulate matter of various kinds. Since many of MassDOT's future plans will inevitably revolve around vehicles driving through our network—and even further siting infrastructure to support electrification—vigilant monitoring of air in EJ communities will be essential for ending the generational cycle of EJ communities suffering from pollution as the Commonwealth strives to transition away from fossil fuels.

Response: High-traffic areas are a consideration when selecting locations for air monitoring stations and air sensors. For example, MassDEP operates two EPA-designated near-road monitoring stations and has placed several monitoring stations in urban areas with typically higher traffic volumes. In 2024, MassDEP deployed UFP monitors at four air monitoring stations in high traffic areas (Boston-Chinatown, Boston-Von Hillern, Chelmsford, and Springfield) to monitor trends and supply residents with this data. Moving forward, MassDEP will continue to consider transportation infrastructure plans into the design of its monitoring network and sensor programs.

17. **Comment (CLF):** MassDEP should increase its community engagement, including by engaging with the Environmental Justice Advisory Council. We urge MassDEP to coordinate with stakeholders in communities that currently have monitoring stations or will soon. These communities deserve MassDEP's continued communication and clarity with the processes that are designed to protect their air. The process of submitting formal commentary is an important aspect of ongoing agency work. However, MassDEP should frequently engage directly with these communities to remove the barrier of the formal commentary process that many people cannot engage in due to a lack of awareness, lack of technical resources, or language differences. MassDEP should also enhance the accessibility of data collected from the entire air monitor network, ensuring that communities can participate in the process of using the data collected to continue to advocate for change. We recommend that MassDEP engage with the Environmental Justice Advisory Council established pursuant to An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy and Executive Order 552 to determine appropriate monitoring locations other than our recommendations. This includes mobile and stationary monitors that are located [in] communities disproportionately burdened by transportation infrastructure. We urge MassDEP to convene an air quality technical advisory committee comprised of air monitoring experts and environmental justice community experts to identify additional air monitoring locations for UFPs. We recommend that the 2026 air monitoring plan include baseline air quality conditions and suggestions for reducing air pollution in pollution corridors and hotspots by 2030.

Response: MassDEP is actively engaged with communities to enhance air quality monitoring and provide valuable information on local air conditions. MassDEP's air monitoring staff work directly with communities, including those with EJ populations, to implement air sensor programs and offer expertise. To further strengthen this commitment, MassDEP has added staff positions dedicated to

community monitoring and collaborates with its Director of Environmental Justice to ensure inclusive stakeholder engagement and seeks input from EJ advocates, including the Environmental Justice Advisory Council, on its air quality monitoring plans. This includes significant engagement campaigns like those undertaken in Framingham and Saugus prior to establishing air monitoring stations in those communities. Air monitoring staff participate in panel discussions, public meetings, work groups comprised of government and community leaders, and meetings with community groups concerned about their local air quality. MassDEP is developing public-friendly data tools to enhance data accessibility through online dashboards. Communities can continue to direct questions about air monitoring, air sensors, dashboards, and monitoring data to Allison Langone at allison.m.langone@mass.gov.

Attachment 1

2021 Sensor Grant		
Grant Recipient	Sensors Granted	Sensors Deployed
Acushnet	8	8
Billerica	7	0
Boston	10	9
Braintree	7	1
Buckland	5	5
Chatham	5	4
East Longmeadow	5	5
Egremont	5	4
Freetown	10	5
Granby	6	0
Greenfield	10	8
Holbrook	10	7
Lancaster	10	6
Lawrence	10	6
Leicester	10	0
Longmeadow	7	1
Marblehead	7	4
Middleborough	7	1
Milford	10	6
Milton	5	4
Needham	10	7
North Adams	10	0
Northborough	5	5
Oak Bluffs	5	5
Oxford	5	0
Peabody	7	7
Plymouth	10	0
Saugus	8	5
Somerset	10	7
Southborough	5	5
Templeton	5	5
Uxbridge	5	5
Westfield	9	5

2024 Sensor Grant		
Grant Recipient	Sensors Granted	Sensors Deployed
Abington	8	0
Brockton Neighborhood Health Center	5	1
Charlestown Civic Association	10	3
Charlton Board of Health	10	7
Town of Chatham	5	5
City of Framingham Health Department	5	5
Douglas Board of Health	8	0
FRCOG	10	4
Hitchcock Center for the Environment	10	5
Hopedale Board of Health	6	4
Town of Hopkinton Health Department	6	6
Littleton	10	8
Mohawk Trail Regional School District	6	6
Town of Monson Conservation Commission	5	5
Montague	5	5
Natick Health Department	5	4
Town of Northbridge - Board of Health	5	5
North Reading Sustainability Committee	10	9
Rutland	10	0
SCNU	10	0
SEMPBA	10	10
Somerset	10	0
South Hadley Public Health Department	8	6
Swampscott	10	10
Upton Board of Health	10	10
Town of Westport	6	6
WRAFT	10	10