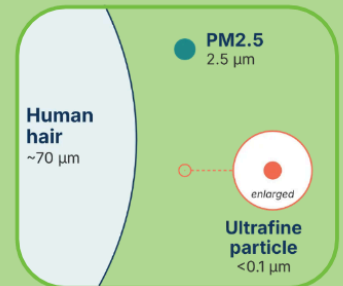


City Of New Bedford Adds Ultrafine Particle Monitoring

Three Ultrafine Particle (UFP) Sensors Have Joined The City's 20-Sensor Air Quality Network, Which Has Now Collected 2 Years Of Data

What are Ultrafine Particles (UFPs)?

UFPs are particles smaller than 100 nanometers in diameter, more than 500 times thinner than a human hair. Most UFPs are emitted from combustion: fuel burned in engines, cooking, heating, etc. UFPs weigh almost nothing, but by count they make up most of the particles in outdoor air.



How are UFPs different from other particle pollution?

- Particulate matter (PM) is classified by size. PM₁₀ is particles up to 10 μm, such as dust, pollen and sea salt. PM_{2.5} and PM₁ are smaller particles, up to 2.5 and 1 μm, mostly from smoke and fuel burning.
- PM is measured by weight, and the U.S. The EPA regulates PM_{2.5} and PM₁₀. UFPs are measured by count, and there is no U.S. air quality standard for them.
- PM_{2.5} levels tend to be similar across a whole region. UFP levels are highest right next to a source and drop quickly with distance.
- Paired with wind direction, UFP readings can show which nearby sources affect a location, such as port activity, highway traffic or aircrafts.

How do UFPs affect health?

Because they are so small, UFPs travel deeper into the body than larger particles.



Deep in the lungs: UFPs reach the smallest airways and air sacs, where they can cause inflammation.



Into the bloodstream: Some pass from the lungs into the blood and reach the heart and other organs.

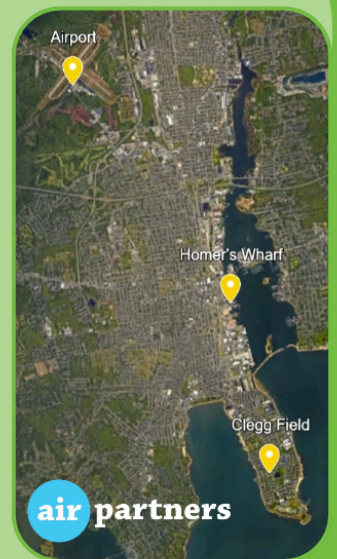


Ongoing research: Studies are examining links to heart and lung disease and effects on childhood brain development. The EPA describes current evidence as suggestive but not conclusive.

Where are the new UFP sensors?

The new UFP sensors are located at the New Bedford Regional Airport, Homer's Wharf, and Clegg Field.

All 23 sites also measure particulate matter, carbon monoxide, nitrogen oxides and ozone.



New Bedford's air quality is generally good, and we want to keep it that way. New tools help us understand where pollution comes from **today**, so we can protect neighborhoods **tomorrow**.

