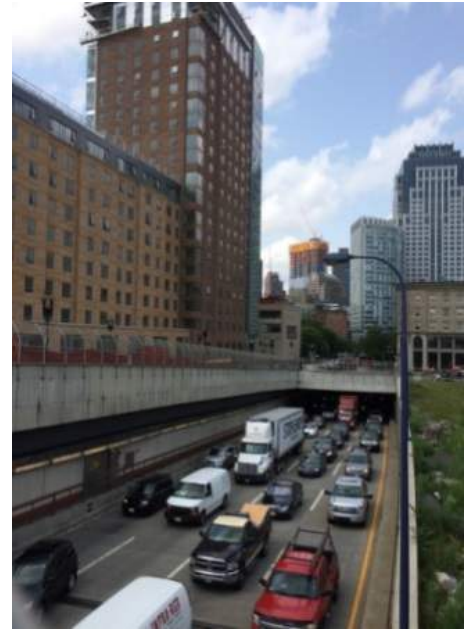


# What Are Ultrafine Particles (UFPs)?

- Ultrafine particles (UFPs) are found in air pollution.
- They come from cars, trucks, and other sources.
- UFPs are in air pollution near busy roadways.
- UFPs are so small you cannot see them.

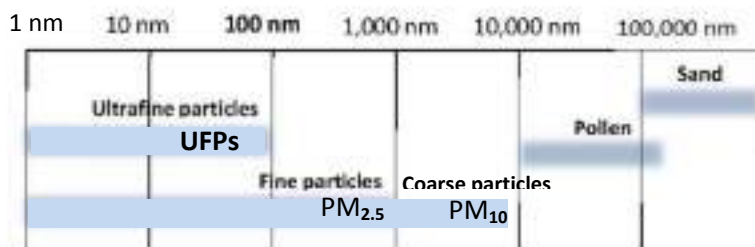


UFPs are in the air near busy roadways

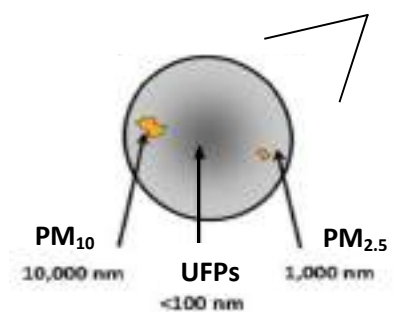
## UFPs are the smallest particles in air pollution.

- UFPs are so small they are measured in nanometers (nm).
- UFPs are 100 nanometers (nm) wide or smaller.

UFPs are smaller than coarse particles (PM<sub>10</sub>) and fine particles (PM<sub>2.5</sub>) in air pollution



Many thousands of UFPs can fit in the period at the end of this sentence.



**People who live or work near busy roadways breath high levels of UFPs. UFPs can harm your health.**

# Ultrafine Particles (UFPs) Can Harm Your Health

- Air pollution is filled with small particles called particulate matter (PM).
- Fine particles (PM<sub>2.5</sub>) are the main cause of haze in cities all over the world.
- Breathing PM<sub>2.5</sub> causes eye, nose, and throat problems, coughing, sneezing and shortness of breath.



**Air pollution causes serious health problems all over the world**

**UFPs in air pollution are so small they get deep into your lungs and can travel to other parts of your body.**

- UFPs are the smallest particles in air pollution. Once in your lungs, UFPs can get into your blood and travel to other parts of your body like your heart and brain.
- Studies show particulate matter (PM) in air pollution can damage your lungs and heart. Studies show UFPs can also damage the brain.



**Breathing UFPs can damage your heart and brain.**

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# What Can You Do About Ultrafine Particles (UFPs)?

Ultrafine particles (UFPs) are in air near busy roadways. UFPs are also in the air inside homes and buildings near busy roadways.

Here is how you can protect yourself and your family from breathing high levels of ultrafine particles (UFPs).



Protect yourself and your family from UFPs near busy roadways.

- Plan your time outdoors for when UFPs levels are low.

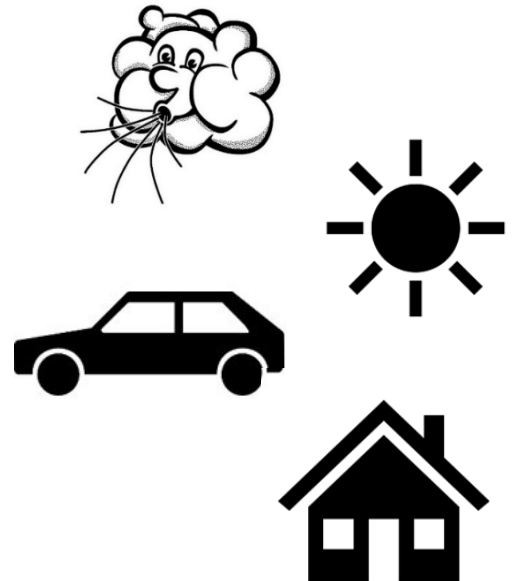
Here's when UFPs levels are low outdoors:

- When there is a breeze in the air
- When it is warm outside
- When traffic is light

- Prevent UFPs from getting indoors.

Here's how to keep UFPs levels low indoors:

- Keep windows closed
- Use air conditioning or a high-quality air filter



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**Learn more about ultrafine particles (UFPs) from the Community Assessment of Freeway Exposure and Health Study (CAFEH) <https://sites.tufts.edu/cafeh/>**