



Clean Air Success: Carbon Monoxide & Particulate Matter

BACKGROUND

Clean, healthy air is one of our most precious resources. Today, Spokane-area residents breathe healthy air quality on all but a handful of days each year, primarily due to wildfire smoke. This is a huge improvement when compared to our air quality during the 1970s, 80s and 90s. During those decades, the Spokane-area frequently failed the National Ambient Air Quality Standards for carbon monoxide and particulate matter. So, how did Spokane reduce these pollutants and why can we declare success today?
Read on...

Carbon Monoxide: A Success Story

What is carbon monoxide?

Carbon monoxide (CO) is a colorless, odorless gas created when fuel (wood, gasoline, natural gas, etc) doesn't burn completely. Breathing CO prevents your blood from carrying enough oxygen, which can make you sick or even be deadly at high levels. Most of Spokane's CO comes from vehicle exhaust.

How the CO Problem was Solved

For many years, Spokane didn't meet federal clean air standards for CO. In 1998, the U.S. Environmental Protection Agency (EPA) classified the area as a Serious Nonattainment Area and gave Spokane until 2001 to meet the standard.

Thanks to major improvements in vehicle technology, CO levels dropped steadily. The last unhealthy reading was in 1996, even as the number of cars and miles driven increased.

Key improvements that made a difference:

- electronic fuel injection systems
- catalytic exhaust systems
- cleaner burning fuel (low sulfur)
- wintertime oxygenated fuels program

Other efforts also helped:

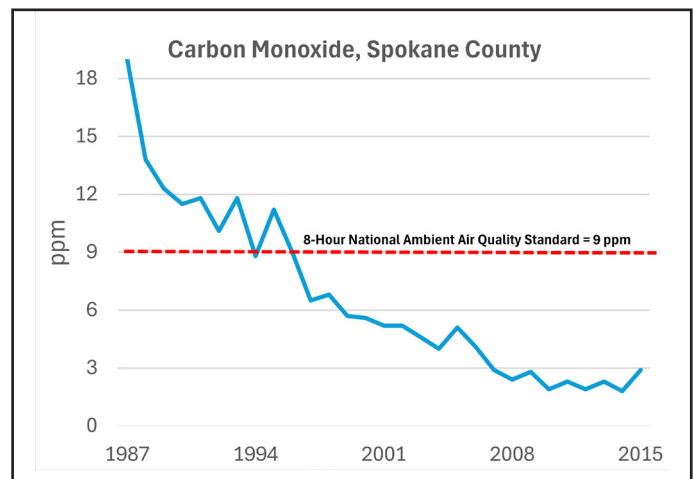
- vehicle emissions check program
- better traffic flow
- programs encouraging people to drive less

Spokane Meets and Maintains the CO Standard

In 2005, the EPA reclassified Spokane as in *attainment* for CO for meeting the deadline, and a 20-year maintenance period followed, ending in 2025.

CO concentrations remained so low that monitoring for CO ended in 2016.

Now that the 20-year maintenance period is complete, Spokane Clean Air no longer has to submit plans to the EPA. The only major change is that the *transportation conformity* requirement, handled by the Spokane Regional Transportation Council, has ended. This requirement ensured that transportation projects didn't worsen air quality or delay progress toward meeting and maintaining the CO standard.



On the back: Read about Spokane's success in attaining and maintaining clean air standards for Particulate Matter

Particulate Matter: Another Clean Air Win

What is particulate matter?

Particulate matter (PM) is a mix of tiny solid particles in the air, like dust, soot, and smoke. These particles can get deep into your lungs, causing health issues.

PM₁₀ refers to particles that are 10 microns in diameter or smaller, about 1/7th the width of a human hair.

In Spokane, PM₁₀ comes mainly from:

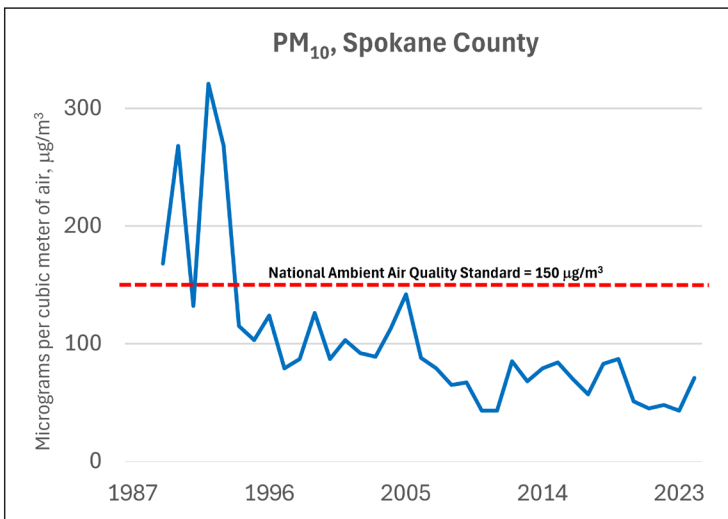
- Dust from roads (paved and unpaved)
- Outdoor burning
- Wood heating

In 1991, Spokane failed to meet the deadline to comply with the PM₁₀ standard. By the end of 1997, the area was meeting the standard and in 2005, EPA reclassified Spokane as in *attainment*. The 20-year maintenance period followed, ending in 2025.

How Spokane Reduced PM10

Efforts that helped Spokane meet and maintain clean air standards for PM₁₀, include:

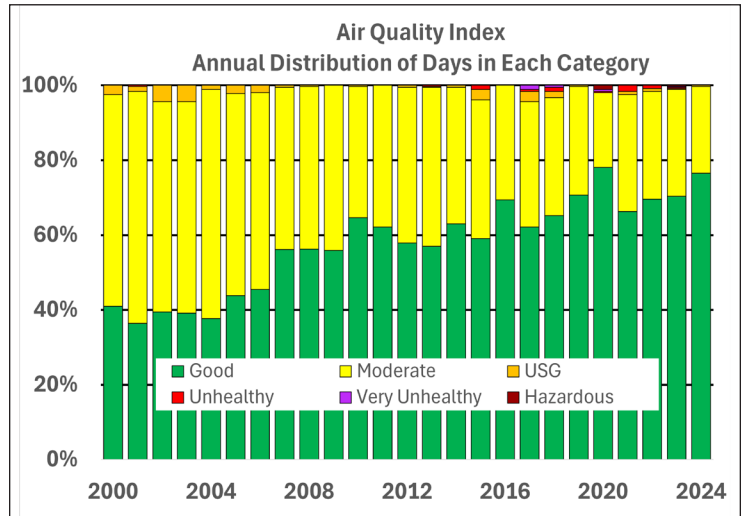
- Replacing old wood stoves with cleaner models
- Limiting outdoor burning and wood heating during poor air quality
- Improved farming practices to reduce wind erosion
- More thorough street sweeping
- Paving unpaved roads with high traffic
- Using cleaner traction sand; adding liquid deicers



Exceptional Events: Wildfires and Dust Storms

In 1997, EPA established a standard for PM_{2.5}, which is particulate matter measuring 2.5 microns in diameter or smaller. PM_{2.5} come mainly from combustion sources such as wood heating, outdoor burning, diesel exhaust, and wildfires. Although wildfire smoke has caused unhealthy air quality, Spokane is considered in compliance (attainment) of the PM_{2.5} and PM₁₀ standards, based on EPA's *Exceptional Events Rule*. This rule allows for the exclusion of air pollution data caused by uncontrollable natural events, like wildfires and dust storms, when determining compliance.

Air Quality is Improving, Challenges Remain



Today, Spokane County residents breathe healthy air on most days of the year (Good & Moderate on the AQI scale are within health standards.)

Since 2012, the Spokane area has experienced an annual average of 5.5 days with unhealthy PM_{2.5} levels due to wildfire smoke. As individuals, we can reduce the risk of human-caused wildfires by practicing and promoting fire prevention behaviors.

Roughly 80% of Spokane's air pollution stems from personal habits, including transportation, home heating, energy and consumer choices. Small changes in these areas can significantly improve our air quality, moving more days into the Good (green) AQI range—and ensuring cleaner, healthier air for all.

More information about what you can do for clean air, is at SpokaneCleanAir.org/clean-air-choices.