

# Campaign reduces car idling at two elementary schools

May 2 2022, by Paul Gabrielsen

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An anti-idling campaign at two Salt Lake County elementary schools was effective in reducing idling time by 38%, and an air monitoring experiment found that air quality around schools can vary over short

distances. These findings, published in the journal *Atmosphere*, can help schools and school districts along the Wasatch Front plan to protect students, staff and the community from idling-related air pollution.

"Idling at schools during drop-off and pick-up times is a substantial problem," says study lead author Daniel Mendoza, a research assistant professor in the University of Utah's Department of Atmospheric Sciences and visiting assistant professor in the Department of City & Metropolitan Planning. "The anti-idling campaign was effective in reducing not only the number of vehicles idling but also the length of idling."

Mendoza and colleagues, including Tabitha Benney, an associate professor of political science, are studying the sources and impacts of air pollution along the Wasatch Front, a region with bowl-like geography that leads to air quality issues. U scientists have developed mobile tools to monitor air quality, including a van filled with research-grade air sensors that's been affectionately named the "Nerdmobile." For this study, the Nerdmobile was parked outside Willow Springs Elementary and Bonneville Elementary for a week at a time in each school's pick-up/drop-off zone. The measurements at the van were then compared with air quality measurements inside the school and near the school's playground.

They're also interested in the social impacts of air quality. For this study, they partnered with researchers at Westminster College who used the U.S. Environmental Protection Agency's Idle-Free Schools Toolkit to conduct an intensive three-month anti-idling campaign involving teachers and parents. "It was extremely important to us that the campaign involved the school community every step of the way," says Rachel Forrest, adjunct professor in the Public Health Program, School of Nursing and Health Sciences, Westminster College. "Community members helped shape the look and feel of the campaign and donated

their time and expertise to implement it. Without their support, this wouldn't have been possible."

And it worked. The researchers found 38% less idling time and 11% fewer cars idling after the campaign than before.

The researchers intended to follow up several months later to see how well the effects of the campaign persisted, but unfortunately, school closures due to the COVID-19 pandemic abruptly ended the study in March 2020.

"Reduced idling has numerous advantages," Mendoza says. "The most important one is the substantial reduction of concentrated pollution in a relatively small area." Recent research from Mendoza, Benney and colleagues found that [indoor air quality](#) in two Salt Lake City high schools was impacted by outdoor air quality.

Idling can also unnecessarily burn fuel—a fact that becomes more relevant as gas prices have risen in recent months.

Why do parents idle when dropping off or picking up? It's usually to maintain a comfortable temperature in the car, but studies have found that it takes 10-15 minutes for in-car temperatures to change enough to be uncomfortable.

What did the team learn about air pollution from idling? Another unfortunate setback, a winter inversion, which traps emissions in the cold valley under a lid of warm air and impairs air quality, set in during the study period, confounding the measurements and making the effect of reduced idling on [air quality](#) unclear.

"However, what the inversion helped us see more clearly was the lasting effects of idling around schools as there were marked pollution spikes

following drop-off and pick-up times," Mendoza says. The researchers also noticed that the amount of particulate matter air pollution dropped off between the van parked in the pickup lane and the school playgrounds, highlighting the localized air pollution caused by car emissions.

"It is not only parents but also school buses that have been culprits of localized [pollution](#) hotspots around schools," Mendoza says. Many [school districts](#), he says, have already enacted idling bans for buses. "However, parents are a completely different story."

**More information:** Daniel L. Mendoza et al, Air Quality and Behavioral Impacts of Anti-Idling Campaigns in School Drop-Off Zones, *Atmosphere* (2022). [DOI: 10.3390/atmos13050706](https://doi.org/10.3390/atmos13050706)

Provided by University of Utah

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