

The role of community conversation in improving air quality

August 2 2024, by Sarah Derouin



Some communities are disproportionately affected by pollution from transportation. Credit: Robbie Shade via Flickr, CC BY 2.0

Assessments of how transportation pollution affects health often fail to prioritize the needs or concerns of communities experiencing disproportionate exposure to environmental hazards, such as low-income areas or communities of color. As a result, even successful climate policies do not necessarily benefit [these communities](#), and some policies

even worsen [inequalities](#).

[In a new study](#), appearing in *Community Science*, Christopher Rick and colleagues suggest that one reason for this gap could be that academic researchers fail to engage directly with these communities or their advocates.

To address this, the group collaborated with several [environmental justice](#) organizations in the northeastern United States to develop transportation emission mitigation strategies and build a sense of trust and community.

The organizations were Alternatives for Community & Environment, in Boston; the Center for Latino Progress and the Connecticut Coalition for Environmental Justice, both in Hartford; Pittsburghers for Public Transit, in Pittsburgh; the South Ward Environmental Alliance, in Newark, N.J.; the Virginia Environmental Justice Collaborative, in Richmond; and WE ACT for Environmental Justice, in New York.

The researchers quantified emissions levels from automobiles; buses; and light, medium, and [heavy trucks](#) across 12 states. They also determined the number of asthma flare-ups in children and [premature deaths](#) associated with each transportation mode. At current pollution levels, most premature deaths from transportation-related emissions are driven by automobile pollution.

Researchers and environmental justice representatives met to design and evaluate four emissions reduction scenarios: bus electrification, truck electrification, increased use of [public transit](#), and increased active mobility (such as walking and cycling). The researchers then used computer modeling to see how the air quality improvements yielded by each scenario could affect premature deaths and asthma flare-ups.

They found that policies that reduce automobile and light truck use have the greatest health benefits, but that reducing medium and heavy truck and bus emissions also significantly improves air quality and health. In densely populated areas, bus electrification has appreciable health benefits.

Of the four organizations that participated for the length of the project and completed post-project reflection interviews, all reported that they found the results useful for their advocacy efforts.

However, they offered some suggestions for more effective future collaborations, including holding discussion-based (rather than presentation-based) meetings, increasing hyperlocal air quality monitoring rather than relying on broader air pollution modeling, and linking quantitative results with ethnographic data.

More information: Christopher Rick et al, Modeling Air Pollution-Related Health Benefits of Transportation Scenarios: A Collaboration Between Academic Researchers and Environmental Justice Organizations, *Community Science* (2024). [DOI: 10.1029/2023CSJ000041](https://doi.org/10.1029/2023CSJ000041)

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Citation: The role of community conversation in improving air quality (2024, August 2) retrieved 5 August 2024 from <https://phys.org/news/2024-08-role-community-conversation-air-quality.html>

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