

NYC's Open Streets program during COVID pandemic has unintended consequences on noise complaints

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The Open Streets program launched in New York City during COVID-19 may be linked to an increase in street and sidewalk noise

complaints, according to a new study from Columbia University Mailman School of Public Health. New York was one of several cities that allocated more public spaces for physical activity and recreation during the pandemic. Several scientific articles have documented the positive impacts of Open Streets on physical activity, walking, cycling, safety, and social interactions.

Until now, however, there has been a lack of studies investigating any unintended impacts of Open Streets, one of which was the annoyance derived by the exposure to potentially higher levels of environmental noise for those living in the areas in the program. Investigating unintended impacts of policies like the Open Streets program can help maximize the benefits of these policies. The findings from this study are reported in the journal *Environmental Research*.

New York City started the implementation of the Open Streets program in April 2020. Open Streets are public urban spaces used for [physical activity](#) and recreation, occasionally accompanied by organized activities. The Open Streets program presents an opportunity to investigate its broader impacts on the [urban environment](#) and [human health](#) as an intervention towards healthier cities.

"During the pandemic, an increase in noise complaints in the city was observed. We wanted to investigate whether part of this increase could be an unintended consequence of Open Streets. Hopefully our findings can help optimize the program and the design of a healthier city," said Marianthi-Anna Kioumourtzoglou, ScD, associate professor of environmental health sciences at Columbia Mailman School of Public Health, and senior author.

Exposure to high levels of environmental noise has been associated with detrimental health outcomes such as sleep disturbance, cardiovascular disease, and impairment of cognitive performance. "We focused on

noise complaints (as a proxy for noise annoyance) for sidewalk and vehicle noise, as these categories represent the environmental noise sources most likely impacted by Open Streets," said Kioumourtzoglou.

The researchers used data from summer 2019 (pre-implementation) and summer 2021 (post-implementation), to estimate the association between census tract-level proportion of Open Streets and daily noise complaints. NYC-DOT provided detailed data that included information on the date that a [street](#) segment entered the program, as well as days and hours that each segment was supposed to be operational. Noise complaints data were obtained through the NYC Open Data Portal from NYC 311, the government service number and phone application that records information on each case, including location, time, and complaint category. The researchers also evaluated whether the association between Open Streets and noise complaints varied by weekday versus weekend but found no evidence of differing effects.

Open Streets tended to be in census tracts where more affluent populations reside. Specifically, the researchers found that census tracts where the most economically distressed communities live had fewer—and occasionally no—Open Street segments. They, therefore, considered other factors in their analyses such as sociodemographic data and urban morphology that could potentially influence the association between the proportion of Open Streets in a census tract and noise complaints. Their findings suggest that daily street and sidewalk noise complaints were higher in census tracts with Open Streets. Although the researchers also observed an association for vehicle noise complaints, it was not as strong as the association with sidewalk [noise](#) complaints.

"Our results highlight the necessity to reinforce urban policies with a careful analysis for potential unintended impacts to optimize and maximize the benefits of these policies," said Jaime Benavides, a post-doctoral researcher in the Department of Environmental Health

Sciences. "Future complementary studies may provide a more complete analysis of the program's impacts for policy makers to integrate this information and adapt the policy to be more effective in attaining its objectives," said Benavides.

Co-authors are Vivian Do and Jeff Goldsmith, Columbia Mailman School of Public Health; and Sebastian T. Rowland, of Columbia Mailman School and PSE Healthy Energy.

More information: Jaime Benavides et al, Unintended impacts of the Open Streets program on noise complaints in New York City, *Environmental Research* (2023). [DOI: 10.1016/j.envres.2023.115501](https://doi.org/10.1016/j.envres.2023.115501)

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