

Air pollution unequally affects people in Tampa, study says

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New data recently released shows that people of color are more exposed

to air pollutants from Tampa Bay's busy roadways.

WUSF's Jessica Meszaros spoke with Amy Stuart, a professor in the College of Public Health at the University of South Florida, who is one of the researchers behind this study.

JM: Can you tell us about your experiments and your findings?

AS: We ran a series of simulations to model [human behavior](#), to model traffic behavior, to model pollutant behavior, then to estimate exposures for individuals in the Tampa area, and then to look at who's exposed... And what we found was people living in poverty have higher exposures, African Americans, and to some degree, Hispanics, have higher exposures. People who do more travel, who are on the roadways more... so active working adults, also have higher exposures.

Now this pattern is a pattern that is not uncommon to Tampa. It's a pattern that's seen around the country and around the world really, though, the specifics can differ from place to place. And so we're just really interested in thinking about: how can we design better? What can our [transportation systems](#) do to have a community and infrastructure that is both more healthy? And is more fair, as more equitable between groups?

JM: And what is it about Tampa's roads that makes it more of a risk for pollutant exposure to people of color?

AS: It seems most of our transportation system is cars on roadways, right? So the problem with that is that the cars emit pollutants. So if you live near those roadways, you have higher exposures to those pollutants.

And so people who are socio-economically disadvantaged in some way are often living in places that are closer to lands that are less desirable.

People have done work on sort of looking at what are the factors that lead to this phenomena talk a lot about segregation, population segregation, and then where our land uses—where do we put our big roadways? And there's a lot of dynamics involved in how that happens. So it's really about the fact that we have mostly vehicles, we're not using other forms of transportation. So we got big roadways with lots of emissions. And the people that are living near many of those big roadways are less advantaged.

JM: Are there any areas in particular (in the Tampa Bay area) at a particular time that stood out to you in this study?

AS: The big [roadway](#) interchanges is where you see hotspots. And then you see areas, like the downtown Tampa area, and particular times of the day, that gets high concentrations. So it's really our big freeway intersections and areas where there's a lot of activity during the day.

JM: How would this affect people's health?

AS: Some of the important impacts of air pollution, including traffic-related air pollution, are basically respiratory and heart disease. Both mortality from those as well as an impacts on your respiratory system and your cardiovascular system. People who have asthma, or people who have [chronic bronchitis](#), or COPD, that can exacerbate those conditions.

More information: Sashikanth Gurram et al. Agent-based modeling to estimate exposures to urban air pollution from transportation: Exposure disparities and impacts of high-resolution data, *Computers, Environment*

and Urban Systems (2019). [DOI: 10.1016/j.compenvurbsys.2019.01.002](https://doi.org/10.1016/j.compenvurbsys.2019.01.002)

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