Life Near the Highway: Examining Environmental Justice and Equity in Land Use and Transportation Planning

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Introduction

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About the Urban Institute

- The Urban Institute is the trusted source for unbiased, authoritative insights that inform consequential choices about **the well-being of people and places** in the United States. We are a nonprofit research organization that believes decisions shaped by facts, rather than ideology, have the power to improve public policy and practice, strengthen communities, and transform people’s lives for the better.

OUR MISSION IS TO OPEN MINDS, SHAPE DECISIONS, AND OFFER SOLUTIONS THROUGH ECONOMIC AND SOCIAL POLICY RESEARCH.
Agenda

• Highway Pollution and Its Impacts
• Louisville, KY As a Case Study
• Mitigation and Adaption Strategies
• Panel
Highway Pollution and Its Impacts
Highways are significant sources of air and noise pollution.

- Most pollution originates from tailpipe exhaust, but additional sources include tire wear, brake wear, and resuspended road dust.
- All vehicles emit noise pollution, although some, like heavy trucks and those due for maintenance, are more responsible than others.
Highway-associated pollution has had a range of impacts.

- **Air pollution**: Lung and heart problems, stroke, premature birth.
- **Noise pollution**: Type 2 diabetes, blood pressure, poor sleep and impaired cognitive performance.
- Over 19,000 U.S deaths were caused by vehicular air pollution in 2017 (Choma et al. 2021).
- Health impacts are most common **within 300 meters** (approx. 1,000 feet).
Case Study: Louisville, Kentucky
Why Louisville?

- Louisville's Office of Planning and Design Services is currently conducting an equity review of its Land Development Code (LDC).

- As part of the review, the Office is evaluating potential zoning changes related to highway adjacency.

- The city already requires 250 foot (approx. 75 m) setbacks for residential development and noise sensitive community facilities around parts of highways in outer Louisville.
Living near highways

- 47.8% of residents live within 300 meters of an arterial, and 13% live within 300 meters of an Interstate.

- Between 45-50% of housing units within 50 meters of Interstates and arterials are rented, compared to 38.2% Metrowide.

- 21% of public housing units are located within 150 meters of Interstates.

- A higher proportion of residents below the poverty line and residents receiving SNAP benefits live within 50 meters of arterials and Interstates than 300 meters away or more.

- Few discrepancies by race or age.
A Higher Share of the Low-Income and Zero-Car Population Lives Close to Arterials

- % of residents below the federal poverty level
- % of households receiving SNAP benefits
- % of households with 0 car access
Going to school near highways

- More schools of all types are located within 300 meters of arterials than further.
- About one third of schools are located within 150 meters of arterials.
- Children attending schools are relatively equally exposed to roadway pollution by subgroup.
A Majority of Louisville Schools is Located Within 300 Meters of Arterials
Working near highways

- 68% of Louisville's jobs are located within 300 meters of arterials; 44% are located within 150 meters.
- Employees with salaries below $1,250 per month are disproportionately likely to work near arterials and Interstates.
- On the other hand, so are employees with bachelor's degrees or higher.
Mitigation and Adaptation Strategies
In recent years, more federal funding has become available for cities to invest in transportation projects.

- Inflation Reduction Act (IRA)
  - Neighborhood Access and Equity Grant Program
- Infrastructure Investment & Jobs Act (IIJA)
  - Reconnecting Communities
  - Carbon Reduction Program
  - RAISE
Cities across the country have begun to take action.

I-81, Syracuse

I-75, Detroit
Cities should be mindful of who lives near pollution sources and make efforts to be equitable in future development.

- Limit the construction of schools, housing, and office buildings within certain bounds of highways.
- Implement more detailed project review for new investments in and around highways (health impact assessments, air quality mandates).
Cities can also use this knowledge to implement more rigid air quality monitoring.
Today's Panel
Introductions

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