

Better Transportation Planning

For Better Public Health

What does transportation have to do with health?



The metro Atlanta area has failed to meet the National Ambient Air Quality Standards (NAAQS) for ground-level ozone since 1978 and for fine particulate matter (PM_{2.5}) since 2004, when the Environmental Protection Agency (EPA) first designated nonattainment regions for this pollutant. With a review and likely strengthening of the ground-level ozone standard now under way, Augusta, Athens, Columbus and Macon also may become nonattainment areas for ozone in 2011.¹

Air pollution is linked to serious health problems including respiratory and heart diseases, cancer, premature death, and reduced lung function growth in children. Children are more vulnerable than most adults because they breathe at a faster rate, they spend more time being active outdoors, especially in the summer, they take in more air in relation to their body weight, and their young lungs are still developing. The growing body of research on the health effects of ozone and PM_{2.5} has revealed health effects at lower and lower concentrations.



In addition to the many health problems associated with road-based air pollution, a car-dependent lifestyle also has been associated with obesity, a growing problem in Georgia linked to many health problems including heart disease, cancer and diabetes.

Why is transit expansion needed to meet air quality standards?

According to the latest modeling by Georgia's Environmental Protection Division (EPD), Atlanta traffic accounts for more than half of the metro area's ozone-forming nitrogen oxide (NO_x) emissions and about one-third of its PM_{2.5} emissions.² Coal fired power plants and heavy-duty diesel engines (e.g., trucks, construction equipment, buses) also are significant sources of these pollutants in Georgia. Traffic-based emissions also account for a large portion of the air pollution in Georgia's mid-sized cities.

Georgia EPD staff acknowledge that the agency has already "picked all the low-hanging fruit" in terms of NO_x and PM_{2.5} emissions reductions.³ Forty-five counties already are using the cleanest form of gasoline available, the entire state is using ultralow sulfur diesel for all on-road diesel vehicles, and all but the three smallest coal fired power plants in the state will be retrofitted with best available control technology to reduce smog and particle-forming emissions by 2015. There are few remaining options within EPD's regulatory tool box. It is highly unlikely that metro Atlanta will be able to meet a tighter ozone standard without reducing vehicle miles traveled on metro Atlanta roadways, and Georgia's mid-sized cities face a similar challenge.



¹ See EPA's list at http://www.epa.gov/groundlevelozone/pdfs/2008_03_design_values_2004_2006.pdf

² http://www.georgiaair.org/airpermit/downloads/mobilearea/anti_idling_ppt/index.htm, slide 18.

³ http://www.georgiaair.org/airpermit/downloads/mobilearea/anti_idling_ppt/index.htm, slide 33.

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What are the costs of inaction?

Opponents of transit expansion often point to the significant capital investment required to build new rail lines, but they rarely cite the costs of failure to provide alternatives to clogged roadways. Many studies have documented the health risks associated with living or going to school close to busy roadways.⁴ In a study of commuter exposures, Clean Air Task Force documented diesel particle levels—the deadliest form of ambient air pollution—four to eight times higher inside commuter cars than in the ambient outdoor air.⁵ In addition to the impact that poor air quality has on quality of life, the economic costs of living and commuting in an area with unhealthy levels of air pollution have been estimated to be in the billions. In one such study, analysts estimated an annual cost of more than \$3.5 billion for hospitalizations and medical treatment, as well as about \$2.8 million in lost workdays each year, related to air pollution exposure.⁶

A growing number of studies indicate that the risks associated with air pollution are not the only health risks we should take into consideration in estimating the costs of a car-dependent environment. Researchers have found an association between vehicle miles traveled and obesity.⁷ While driving often takes commuters “door-to-door,” using public transit integrates walking into a commuter’s daily schedule, and regular exercise is known to provide many health benefits. Obesity is estimated to cost the state of Georgia about \$2.1 billion per year.⁸

How do we get there?

- Leverage federal funding and identify a variety of state and local funding mechanisms to fully implement *Concept 3*, the comprehensive public transit plan for metro Atlanta developed by a multi-agency Transit Planning Board.
- Implement the statewide passenger and freight rail plan developed by Georgia’s Department of Transportation (GDOT) to enable Georgia to compete for federal high speed and intercity rail funding. Ensure connectivity between the statewide plan and the Atlanta regional plan *Concept 3*.
- Ensure that the project selection criteria for transportation projects to be funded through regional transportation local option sales taxes (TSPLOSTS) favor transit and bicycle and pedestrian infrastructure.
- Overhaul project prioritization processes to consider alignment with land use, consistency with regional plans such as *Concept 3*, ability to move people and freight most efficiently, and equity concerns including meeting the needs of transit-dependent citizens.
- Improve coordination among Georgia’s many transportation planning agencies.

⁴ See, for example, <http://www.sciencedaily.com/releases/2007/01/070125185843.htm>.

⁵ CAFE, 2007. No Escape from Diesel Exhaust. http://www.catf.us/publications/reports/No_Escape_from_Diesel_Exhaust.pdf.

⁶ See this summary by the California Air Resources Board: <http://www.arb.ca.gov/research/health/fs/PM-03fs.pdf>

⁷ Lopez-Zetina, Javier, Lee, Howard and Robert Friis, 2006. The link between obesity and the built environment: Evidence from an ecological analysis of obesity and vehicle miles of travel in California. *Health and Place*, 12(4).

⁸ Georgia Department of Public Health, 2005. Overweight and Obese in Georgia. <http://health.state.ga.us/pdfs/familyhealth/nutrition/ObesityRep.DPH05.023HW.pdf>