

February 28, 2024

Finance Committee

FAVORABLE SB 681 Major Highway Capacity Expansion Projects – Impact Assessments and Mitigation Plans

Madame Chairwoman and Members of the Committee:

About 35% of Maryland’s greenhouse gas (GHG) emissions are emitted from the transportation sector, making it the largest contributor to the state’s carbon footprint.¹ 85% of the pollution in this sector originates from personal vehicles and long-haul transportation trucks. Not only is this important in addressing the overall climate crisis, but also, the numerous health issues that are associated with exposure to vehicle emissions, especially those living near heavy traffic areas and highways. We must reduce our transit sector emissions to ensure the health of all Marylanders.

A key tool to achieve a healthy environment for all Marylanders will be to develop smart, emissions-conscious planning for our infrastructure projects. S.B. 681 Transportation and Climate Alignment Act of 2024 promotes this planning, supporting public health and environmental justice. As health professionals, we understand how important the link between the environment and health is, and that is why we support the passage of SB 681.

A key mechanism of S.B. 681 is to require the Department of Transportation to evaluate the projected impact of infrastructure projects 6 years following completion to account for induced demand. While highway widening is frequently touted as easing congestion and hence reducing emissions, these projects frequently result in induced demand and increased Vehicle Miles Traveled (VMT) following expansion of highway capacity.² With an increase in VMT there are increases in greenhouse gas emissions and air pollution, including hazardous ultrafine particulate air pollution known as PM 2.5.³

When we have more vehicles on widened highways traveling more miles, we will see more adverse health impacts directly related to motor vehicles. More deaths from motor vehicle collisions and pedestrians violently struck by increasingly larger, deadlier cars, something we see as health care workers everyday. With cars on the road we expect to see increased emissions and air pollution which will lead to more exacerbations of asthma and chronic obstructive pulmonary disease (COPD), resulting in more wheezing children in our Emergency Departments and breathless adults in our hospitals.

¹ Maryland’s Climate Pollution Reduction Plan. (2023). Maryland Department of Environment.

² Increasing highway capacity induces more auto travel | National Center for Sustainable Transportation. (2023, January 24). <https://ncst.ucdavis.edu/research-product/increasing-highway-capacity-induces-more-auto-travel>

³ SHIFT Calculator. (n.d.). <https://shift.rmi.org/>

Aside from acute concerns, infrastructure projects that increase VMT can lead to the development of chronic diseases. The expected increase in PM 2.5 is particularly concerning given it is known to increase the risk of stroke, heart disease, COPD, lung cancer, asthma, and other diseases.⁴ Each additional mile traveled leads to increased air pollution and particulate matter affecting all of our lungs, but as children breathe faster than adults, their developing lungs are at a higher risk of damage and future lung disease. Moreover, increased air pollution negatively impacts brain health. Air pollution can affect developing children with prenatal pollution exposure associated with increased risk of impaired cognitive abilities, behavioral problems, anxiety, depression, and autism.^{5,6,7} Among older adults, air pollution is associated with increased risks of Alzheimer's disease, Parkinson's disease, and dementia.^{8,9}

When we structure our transportation networks so that cars are the default option, we are also making a choice to limit opportunities for physical activity leading to worse physical and mental health. By limiting VMT in our infrastructure projects, and making our built environment conducive to walking and biking trips we can decrease rates of cardiovascular disease, diabetes, depression and anxiety.¹⁰ Using our limited funding for capital projects to improve access to mass transit and improving pedestrian safety we can reduce social isolation for those unable to drive, improving some of our most vulnerable community members' health and well-being.

We applaud the work of the authors of S.B. 681 for its forward thinking approach to infrastructure, climate, and health. Knowing how important the link between our infrastructure, the environment, and health is, we strongly encourage the legislature to pass the Act.

Thank you for your consideration.

⁴ Roth, G. A., et al. (2018). Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, 392(10159), 1736–1788. [https://doi.org/10.1016/s0140-6736\(18\)32203-7](https://doi.org/10.1016/s0140-6736(18)32203-7)

⁵ Imbriani G., et al. Early-Life Exposure to Environmental Air Pollution and Autism Spectrum Disorder: A Review of Available Evidence. *International Journal of Environmental Research and Public Health*. 2021; 18(3):1204. <https://doi.org/10.3390/ijerph18031204>

⁶ Ellison, J. (2022, July 12). UW study strengthens evidence of link between air pollution and child brain development. <https://www.washington.edu/news/2022/07/12/uw-study-strengthens-evidence-of-link-between-air-pollution-and-child-brain-development/>

⁷ Peterson BS, Rauh VA, Bansal R, et al. Effects of Prenatal Exposure to Air Pollutants (Polycyclic Aromatic Hydrocarbons) on the Development of Brain White Matter, Cognition, and Behavior in Later Childhood. *JAMA Psychiatry*. 2015;72(6):531–540. doi:10.1001/jamapsychiatry.2015.57

⁸ Shi L, et al.. Long-term effects of PM2.5 on neurological disorders in the American Medicare population: a longitudinal cohort study. *Lancet Planet Health*. 2020 Dec;4(12):e557–e565.

⁹ Livingston G, et al. Dementia prevention, intervention, and care: 2020 report of the Lancet Commission. *Lancet*. 2020 Aug 8;396(10248):413–446.

¹⁰ Ding D, Gebel K, Phongsavan P, Bauman AE, Merom D. Driving: a road to unhealthy lifestyles and poor health outcomes. *PLoS One*. 2014 Jun 9;9(6):e94602. doi: 10.1371/journal.pone.0094602.