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Angela Machado
Committee Secretary (Acting)
City Clerk's Office, Secretariat
City Hall, 12th Floor, West Tower
100 Queen St. W
Toronto, ON M5H 2N2

RE: ActiveTO Midtown Complete Street Pilot

I am resident of Ward 30 and a physician working at the University Health Network, where I serve as a clinical hematologist and medical director of the hospital blood bank. I am grateful to the Infrastructure and Environment Committee for the opportunity to depute in favour of making the bicycle lanes on Yonge Street permanent.

As the most recent data from the ActiveTO Midtown Complete Street Pilot study has demonstrated, the installation of protected bike lanes on Yonge Street between Bloor and Davisville has resulted in a dramatic and sustained increase in cycling along that corridor, an increase that is continuing to trend upwards and which has had negligible effects on car commute times.¹

The public health effects of this pilot were not evaluated, aside from failing to demonstrate any effect on transportation times for ambulances or other emergency vehicles.¹ However, the effects on the medical system from shifting commuters from gas-powered vehicles to bicycles and other forms of active transportation have been well-studied elsewhere.

There are clear benefits to the cyclists themselves as a result of increased physical activity, benefits that have been shown to outweigh the increased exposure to traffic pollution that comes from biking in traffic.² As other studies have shown, however, even a small decrease in urban car-based transportation will reduce emissions to a degree that everyone will benefit. A study from New Zealand, for example, found that if the proportion of trips

¹ Third ActiveTO Midtown Complete Street Pilot dashboard, available at <https://www.toronto.ca/wp-content/uploads/2023/01/963c-TSATM-DashboardSeptNov-2022.pdf> (accessed Jan 30 2023)

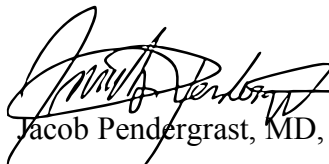
² Tainio M, de Nazelle AJ, Götschi T, Kahlmeier S, Rojas-Rueda D, Nieuwenhuijsen MJ, de Sá TH, Kelly P, Woodcock J. Can air pollution negate the health benefits of cycling and walking? *Prev Med.* 2016 Jun;87:233-236.

under 7 km in an urban setting taken by bicycle increased from 1% to 5%, the resulting reduction in traffic pollution would result in measurable reductions in population rates of acute respiratory and cardiac events in adults, as well as cancer diagnoses.³ The overall effect revealed in this model was that for every 1000 individuals aged 20-64 who take up cycling as their usual means of commuting, population mortality decreases by 17.5%.³

The benefits of decreased traffic pollution are even more dramatic in children. In a birth cohort study, every interquartile range increase in traffic-related air pollution was associated with a 30% increase in a diagnosis of asthma and a 20% increase in ear, nose and throat infections in first four years of life.⁴ Prenatal and postnatal exposure to various air pollutants has also been associated with reduced cognition, attention problems, and autistic traits in childhood.^{5,6} Pooled estimates from a meta-analysis indicated a 12% greater risk of preterm birth per 10- μ g increase in particular matter per cubic millimeter of ambient air.⁷

Even setting aside the well-established financial benefits of bike lanes to the businesses they run beside,⁸ the public health benefits of shifting away from vehicular and towards active transportation are worth many millions of dollars. That same study from New Zealand estimated that, even setting aside the costs of vehicular collisions, every 1000 km driven by cars incurs \$25 in health care costs due to the effects of pollution.¹ When one factors in the financial benefits of mitigating further climate change, an issue which the World Health Organization has declared “the biggest global health threat of the 21st century”,⁹ it would seem incomprehensible that City Council would invest any resources towards removing bike lanes which are clearly serving their purpose of encouraging active transportation, rather than invest funds in creating additional bike lanes in other areas of the city.

Yours sincerely,



Jacob Pendergrast, MD, FRCPC

³ Lindsay G, Macmillan A, Woodward A. Moving urban trips from cars to bicycles: impact on health and emissions. *Aust N Z J Public Health*. 2011 Feb;35(1):54-60.

⁴ Brauer M, Hoek G, Smit HA, et al. Air pollution and development of asthma, allergy and infections in a birth cohort. *Eur Respir J* 2007;29:879-888

⁵ Perera F. Pollution from Fossil-Fuel Combustion is the Leading Environmental Threat to Global Pediatric Health and Equity: Solutions Exist. *Int J Environ Res Public Health*. 2017 Dec 23;15(1):16.

⁶ Peterson BS, Bansal R, Sawardekar S, et al. Prenatal exposure to air pollution is associated with altered brain structure, function, and metabolism in childhood. *J Child Psychol Psychiatry* 2022 February 14 (Epub ahead of print).

⁷ Ghosh R, Causey K, Burkart K, Wozniak S, Cohen A, Brauer M. Ambient and household PM2.5 pollution and adverse perinatal outcomes: a meta-regression and analysis of attributable global burden for 204 countries and territories. *PLoS Med* 2021;18(9)

⁸ “Love them or hate them, research offers financial case for big city bike lanes”, available at <https://www.cbc.ca/news/business/biking-lanes-business-health-1.5165954> (accessed Jan 30 2023)

⁹ “Climate Change and Health”, available at <https://www.paho.org/en/topics/climate-change-and-health> (accessed Jan 30 2023)