

February 26, 2021

Civic Works Committee
300 Dufferin Ave
London, ON N6B 1Z2

Dear Chair and Members:

**Re: CWC Meeting of March 2, 2021
Item 2.8: Dundas Place - Temporary Bicycle Lanes and Revised Parking Limits**

I am writing to express my concern with the proposed layout of the temporary bicycle lanes found in the Engineering Report to the Civic Works Committee dated February 19, 2021 (“the Report”). There is clear evidence that biking alongside parked cars is dangerous. There is also clear evidence that protected bike lanes eliminate this danger, while also incentivizing cycling. I ask this Committee ensure that any bike lane—temporary or otherwise—built on Dundas Place be a protected lane, not a painted lane.

The Danger of Biking Beside Parked Cars

There is a wealth of evidence demonstrating that biking beside parked vehicles is dangerous for cyclists, primarily due to drivers opening door into the path of a cyclist.

One study of crash circumstances in Vancouver and Toronto found that

*Motor vehicle involvement in collisions and falls featured most prominently on major streets with parked cars, and almost not at all on routes separated from traffic... Major streets with parked cars had more crashes with vehicles than expected, including those with vehicle doors. In contrast, collisions with motor vehicles on routes separated from traffic were rare.*¹

Another study, which analyzed video footage from commuter cyclists to determine how frequently dooring incidents occurred, found that

- *The number of opened vehicle doors per trip ranged from 0 to 3 with a per trip rate of 0.59.*
- *All vehicle occupants/drivers who were observed entering the vehicles opened the door. None of the vehicle occupants/drivers made a head check in the direction of the oncoming traffic and none of them waited for the cyclist to pass before opening the door. All vehicles observed were non-commercial vehicles.*
- *It is likely that the most effective countermeasure would be a reconfiguration of the road space to shift cyclists away from the door zone.*²

A similar study found that cyclists riding alongside cars had to swerve or brake to avoid opened doors 2.3 times per hour while cycling.³

Furthermore, on-street parking is associated with cars passing closer to cyclists.⁴ Research shows that 1 out of every 17 car passes is a “close pass” of less than 1 m (which contravenes

¹ Teschke et al, 2014: “Bicycling crash circumstances vary by route type: a cross-sectional analysis”.

² Johnson et al, 2013: “Cyclists and open vehicle doors: Crash characteristics and risk factors”.

³ Lawrence et al, 2018: “Cyclist exposure to the risk of car door collisions in mixed function activity centers: A study in Melbourne, Australia”.

the *Highway Traffic Act*), and cars pass closer to cyclists where there are on-road bike lanes and parked cars.⁵

The roadway portion of Dundas Place is approximately 25 feet wide. Although it is not clear from the image in the Report how wide the parking lanes and bike lanes are, it should be noted that on average an open car door extends 11 feet from the curb.⁶ Unless there is a buffer zone of at least 3 feet between cars and a bike lane, 40%-60% of cyclists bike within the door zone of parked vehicles. Numerous road design guides (including AASHTO, NACTO, FHWA, MassDOT, and the OTM) recommend or require a significant buffer zone between parked cars and bike lanes. This buffer is not evident in the Report.

This means that with two parking lanes, nearly the entire road width must be set aside just for parking, if it is to be safe. Given the current and proposed design of the road, there is simply not enough room for cyclists to ride safely, let alone for two bike lanes and motor vehicle traffic. However, by introducing a protected bike lane, the City can avoid this situation.

The Benefit of Protected Bike Lanes

Painted bike lanes are not an effective way to protect cyclists, and have no significant effect on reducing collisions.⁷ Only lanes with a physical barrier provide meaningful protection to cyclists. The more protected a bike lane is, the greater the vehicle passing distance is, which is safer for cyclists.⁸ In addition to making cycling safer, introducing protected bike lanes reduces accidents for all road users – including drivers.⁹ In fact, as the number of cyclists increases, the fewer bike/car accidents there are.¹⁰

Cyclists correctly perceive protected bike lanes to be safe.¹¹ This applies to older cyclists¹² as well as children.¹³ As a result, where protected bike lanes are built, significantly more people use them. For instance, Seattle saw a 400% increase in cyclists after adding protected bike lanes.¹⁴ Mode share in areas of Montreal and Vancouver that have a protected bike network approaches 20%, but declines where no protected network exists.¹⁵

The Report states that

⁴ Evans et al, 2018: “Factors Affecting Vehicle Passing Distance and Encroachments While Overtaking Cyclists”.

⁵ Beck et al, 2019: “How much space do drivers provide when passing cyclists? Understanding the impact of motor vehicle and infrastructure characteristics on passing distance”.

⁶ Schimek, 2018: “Bike lanes next to on-street parallel parking”.

⁷ Bhatia et al, 2016: “Examining the impact of cycle lanes on cyclist-motor vehicle collisions in the city of Toronto”.

⁸ Evans et al, 2018: “Factors Affecting Vehicle Passing Distance and Encroachments While Overtaking Cyclists”.

⁹ Marshall & Ferenchak, 2019: “Why cities with high bicycling rates are safer for all road users”.

¹⁰ Hamra et al, 2020: “Motor Vehicle Crashes Involving a Bicycle Before and After Introduction of a Bike Share Program in Philadelphia, Pennsylvania, 2010–2018”.

¹¹ Hoglund, 2020: “Safety-oriented practices of adult bicycle riders in Brooklyn, New York USA: an interview study”.

¹² Scheper et al, 2020, “The perception of bicycle crashes with and without motor vehicles: Which crash types do older and middle-aged cyclists fear most?”.

¹³ Zhao et al, 2020: “Risk Perception Sensitivity of Cyclists Based on the Cox Risk Perception Model”.

¹⁴ Schmitt, 2019: “Ridership Jumped 400% When Seattle Protected a Bike Lane”.

¹⁵ Teschke et al, 2017: “Proximity to four bikeway types and neighborhood-level cycling mode share of male and female commuters”.

Bicycle lane barriers would be limited based on traffic conditions and to retain the flexibility of the street for programming... [w]here necessary, planters are being considered for this purpose.

Barriers should not be limited. Separating the motor vehicle and parking lanes from the bike lanes with a row of planters, similar to what is shown in the figure below, would retain flexibility while protecting cyclists. Separation would also prevent the perennial problem of drivers using the bike lanes for parking.



A potential objection to this design is that drivers would be opening their doors into traffic. The response is that with the current design, drivers would be opening their doors into people. This Committee should carefully consider whether it values the potential of minor property damage over the life and limb of cyclists. There is simply no cogent reason to limit the protections offered to cyclists.

The Benefits of Incentivizing Cycling

Cities experience significant economic, health, and environmental benefits when they build protected bike infrastructure. These benefits are not available from painted bike lanes.

Research shows that building protected cycling infrastructure is good for businesses near that infrastructure. When Salt Lake City replace car parking with bike lanes, sales in adjacent shops increased by 8.8%.¹⁶ When Toronto did the same thing on Bloor street, it found that monthly customer spending and the number of customers served increased.¹⁷ In fact, studies show that cyclists spend more on average than drivers at shops in central business districts.^{18 19} In terms of a benefit-to-cost ratio, one study found that “per square metre, cycle parking delivers 5 times higher retail spend than the same area of car parking ... [cycling infrastructure schemes] have benefit-to-cost ratios in the in the range of 5:1 to 19:1 – some as high as 35.5:1.”²⁰

Aside from the direct economic benefits of protected bike lanes, there are significant indirect benefits through better public health. Recent research indicates that building protected cycling infrastructure may be helpful for combating the spread of infectious diseases.²¹ Active

¹⁶ Anderson, 2015: “Salt Lake City Cuts Car Parking, Adds Bike Lanes, Sees Retail Boost”.

¹⁷ Arancibia et al, 2019: “Measuring the Local Economic Impacts of Replacing On-Street Parking With Bike Lanes”.

¹⁸ Clifton et al, 2012: “Business Cycles Catering to the Bicycling Market”

¹⁹ Kastrop, 2013: “Are Cyclists Good Customers?”.

²⁰ Raje & Saffrey, 2016: “The Value of Cycling”.

²¹ Adlakha & Sallis, 2020: “Activity-friendly neighbourhoods can benefit non-communicable and infectious diseases”.

commuting is associated with reduction in cardiovascular disease, cancer and mortality.^{22 23} As a result, even a small increase (as little as 2 percentage points) in cycling mode share is associated with significant economic benefits due to reduced morbidity and mortality.²⁴

Finally, increased cycling is good for the environment. A single person shifting from driving to biking or walking saves 7.1 kg of CO₂ per day.²⁵ Canadian data shows that increasing protected cycling network length by 7% reduces greenhouse gas emissions by 2% due to increased cycling mode share.²⁶

There is no evidence to suggest that the Report's proposal for Dundas Place will incentivize cycling. It may actually dissuade cyclists who rightly fear being doored. However, building protected bike lanes will support the City's goals for increasing active transportation mode share.

Conclusion

While I am happy that this Committee is open to reconsidering the configuration of Dundas Place, the Report's proposed layout does not comply with evidence-based standards for bike lanes adjacent to parking spaces. If the Report's layout is implemented, it will put the health and safety of cyclists at risk. On the other hand, if protected bike lanes are built, cyclists will be kept safe from dooring incidents, and more people will be likely to come to Dundas Place. There are significant economic, health, and environmental benefits to building protected cycling infrastructure that the City would not obtain using the Report's proposed layout. I ask that this Committee ensure that the bike lanes built on Dundas Place are protected lanes.

Yours truly,



David Isaac
DTI/

cc: Councillor Arielle Kayabaga

²² Celis-Morales et al, 2017: "Association between active commuting and incident cardiovascular disease, cancer, and mortality: prospective cohort study".

²³ Dutheil et al, 2020: "Protective Effect on Mortality of Active Commuting to Work: A Systematic Review and Meta-analysis".

²⁴ Whitehurst et al, 2021: "An economic analysis of the health-related benefits associated with bicycle infrastructure investment in three Canadian cities".

²⁵ Brand et al, 2020: "The Climate Change Mitigation Effects of Active Travel".

²⁶ Zahabi et al, 2016: "Exploring the link between the neighborhood typologies, bicycle infrastructure and commuting cycling over time and the potential impact on commuter GHG emissions".