

COUNCIL MEMBERS' MOTION

4. Incorporating a Bike Safety Index into Urban and Active Transportation Planning

Submitted by: Councillor Fry

WHEREAS

1. Through Transportation 2040, the Climate Emergency Action Plan, and Healthy City strategies, the City of Vancouver has the committed goal: to encourage and support walking, cycling, and rolling so that 2/3 of all trips are made by walk, bike, and transit by 2030;
2. Two common and popular metrics used to map attractiveness of urban locations are Walk Score ¹ and Bike Score ². These rating systems are used by planners, researchers, real-estate agents and prospective residents to indicate how conducive an area is to walking or biking, on a scale of 0-100;
3. While Walk Score is determined by number and proximity of destinations or amenities within one mile, Bike Score methodology additionally contemplates bike lanes and road connectivity, bike commuting mode share, hills and grade;
4. In a newly published study, Determining If Walkability and Bikeability Indices Reflect Pedestrian and Cyclist Safety ³, principal investigator Tarek Sayed, UBC civil engineering professor and Canada Research Chair in transportation safety and advanced mobility, writes: "Among the public, there is an implicit assumption that 'walkable' and 'bikeable' means safe for walking and biking, but these indices do not actually include objective measures of safety";⁴
5. The study, comparing walk score and bike score with pedestrian-motor-vehicle and cyclist-motor-vehicle crashes in Vancouver, compiled 134 traffic analysis zones using 5 years of ICBC crash data with walking, cycling, and motor-vehicle traffic volume controls for exposure to indicate that areas of the city with higher walkability and bikeability can be potentially associated with greater pedestrian and cyclist crash risk, respectively, even after controlling for exposure;
6. Areas of the city found to pose the highest collision risk to pedestrians included the downtown core, Fairview, Mount Pleasant, Strathcona and Grandview-Woodland, which all have high Walk Scores. Areas of the city found to pose the highest collision risk to cyclists included zones in the downtown core and in Strathcona and Mount Pleasant, which are all rated highly on the Bike Score index;

7. Neighborhood walkability and bikeability scores do not indicate safety for pedestrians and cyclists, and could be modified to better incorporate objective risk; and
8. New, improved methods of transportation safety, risk, and attractiveness analysis and evaluation like those being developed at UBC's Transportation Engineering department are helping to reshape road safety priorities here and across North America.

THEREFORE BE IT RESOLVED

- A. THAT Council direct staff to report back on the development of a Bike Safety index to represent both biking attractiveness and cyclist crash risk; and that:
 1. The Bike Safety Index consists of bike network coverage, continuity, complexity, signal density, and recreational density;
 2. The Bike Safety Index be used as a tool to prioritize network improvements, interventions and connection of network gaps;
 3. The Bike Safety Index be used to inform signage, road markings and information for active transportation users and motor vehicle drivers;
 4. The Bike Safety Index be developed as zone-based approach, prioritizing high crash areas first, as part of a comprehensive city-wide approach; and
 5. The UBC Transportation Engineering research group be consulted as to whether opportunities for their work in this field might inform or collaborate on a safety index.
- B. THAT Council direct staff to consider and report back how a similar "walkability" safety index might be developed to identify attractiveness and risks in order to prioritize improvements and interventions in the public realm for all pedestrians, including wheelchair users and other rollers.

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1. <https://www.walkscore.com/about.shtml>
 2. <https://www.walkscore.com/bike-score-methodology.shtml>
 3. <https://journals.sagepub.com/doi/10.1177/0361198120931844>
 4. <https://news.ubc.ca/2020/08/27/high-walk-and-bike-scores-associated-with-greater-crash-risk/>

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