University of British Columbia – Kinesiology 464 Health Promotion and Physical Activity

An Analysis of Cycle Route Safety Features

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Introduction

The city of Vancouver aims to promote cycling as a key mode of transportation in the city. By focusing on the development of the cycling route infrastructure in and around the city, Vancouver is encouraging its citizens to commute in a healthier and more environmentally friendly way.

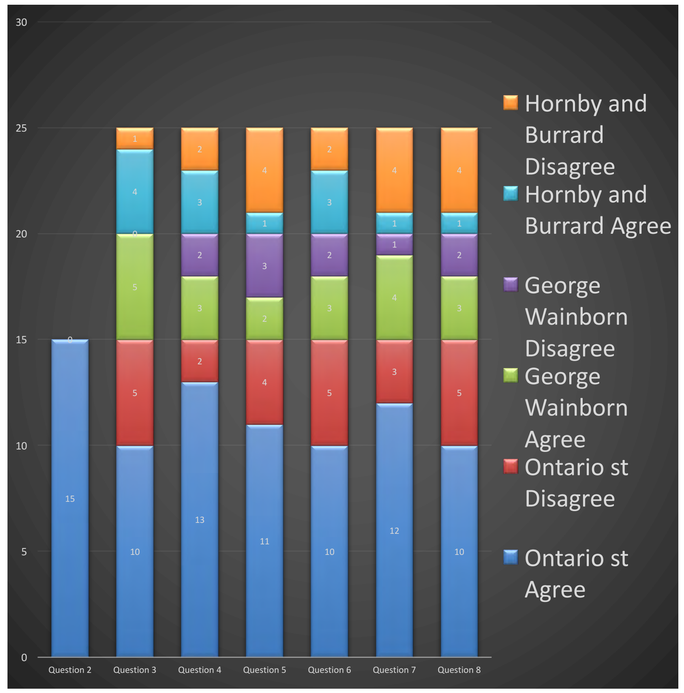
Methods

Choose route features to analyze
- Create questions
- Width, visibility, and surface

Analyze the collected responses
- Compile responses from each route

Create suggestions from survey responses
- What should be considered in the planning of future routes?

Results



Survey answers per question

Question 2 was not applicable for two of the analyzed routes.

Hornby street and Burrard street

The photographs show the width and the surfaces of the three bike lanes.

Ontario street – 49th and 50th ave

Discussion

Most participants felt each of the routes were well maintained with no potholes or debris.
- Ontario St: 80%
- Seawall at George Wainborn Park: 80%
- Seawall between Hornby and Burrard: 60%

This one is likely lower due to the surface being cobble stone (consistent with Holzel et al 2012)

There is a need for more lighting along the seawall at George Wainborn (GW) and between Hornby and Burrard (HB)
- GW = 40% participants felt there was adequate lighting
- HB = 20% of cyclists felt there was adequate lighting

Compared to Ontario street (73% of participants felt this way)

Challenge & Limitation:

Having more people stop to participate in the study

Ontario street had a stop light and a natural stop in traffic – so were able to survey more participants (15)

George Wainborn and between Hornby and Burrard did not have these natural stops, so our sample sizes were only 5 participants at each route

Route passing George Wainborn Park

Recommendations

The width of the lanes was found to be a key feature that gave cyclists a higher level of comfort while riding as well as contributed to the rider's perception of safety.

More research into the effectiveness of cement barriers protecting cyclists and increasing their level of perceived safety is necessary. Consider alternative methods to cement barriers along routes with less space for cyclists.

Provide more effective lighting along the bike routes. Many users were dissatisfied with the inadequate amount of lighting along the routes, particularly on the routes along the seawall.

Conclusion

Bike lane width, surface and lighting are all features that contribute to a cyclist's perception of safety while riding. The results and the recommendations in the present study can help drive the development of the bike route infrastructure around the city of Vancouver.

Appendices – Survey Questions

How many days per week do you ride along this route?
When riding along this route, do you feel like you are a safe distance away from cars sharing the road with you?
When riding along this route, do you feel like there is adequate space to safely pass or be passed by other cyclists?
When riding along this route, do you feel safe passing through intersections without having to worry about pedestrians or vehicles?
When riding along this route, do you feel there is adequate lighting to easily see where you are going?
When riding along this route, do you feel like you can clearly see around corners and through intersections without being obstructed by parked cars, trees, bushes, or fences?
When riding along this route, do you feel that the road is adequately maintained in being kept free of debris and potholes?
When riding along this route, do the road conditions make you feel comfortable riding along the path at higher speeds?

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