

Rapidly Improving Cycling Accessibility in Prince George Using Temporary Bike Lanes

Kyle Ross
Organizer

Safe Biking for Prince George
safebikingpg@gmail.com



Welcome back to Change.org! A new petition wins every hour thanks to signers like you.

[Dashboard](#)[Petition details](#)[Edit](#)[Comments](#)

Improve Bike Lane Infrastructure in the City of Prince George, BC



723 have signed. Let's get to 1,000!



At 1,000 signatures, this petition is more likely to be **featured in recommendations!**



Phillip Curran signed this petition



Theo Mlynowski signed this petition



Improve Bike Lane Infrastructure in the City of Prince George, BC

[Share on Facebook](#)[Send an email to friends](#)[Send a message via WhatsApp](#)

[Safe Biking for Prince George](#) started this petition

Hello Prince George,

Prince George's Current Bike Solutions

- Prince George does have painted bike “gutters”, but this current design is unsafe for most and unconnected (Figure 3) (Beck et al., 2019; Dill & McNeil, 2013; Winters and Teschke, 2010)
- Current reliance on painted bicycle “gutters” on the side of the road leads to motor vehicles passing closer than if there was no infrastructure at all (Figure 1) (Beck et al., 2019)
- Cars are still able to park in bike lanes, which causes passing vehicles to pass even closer (Figure 2) (Beck et al., 2019)

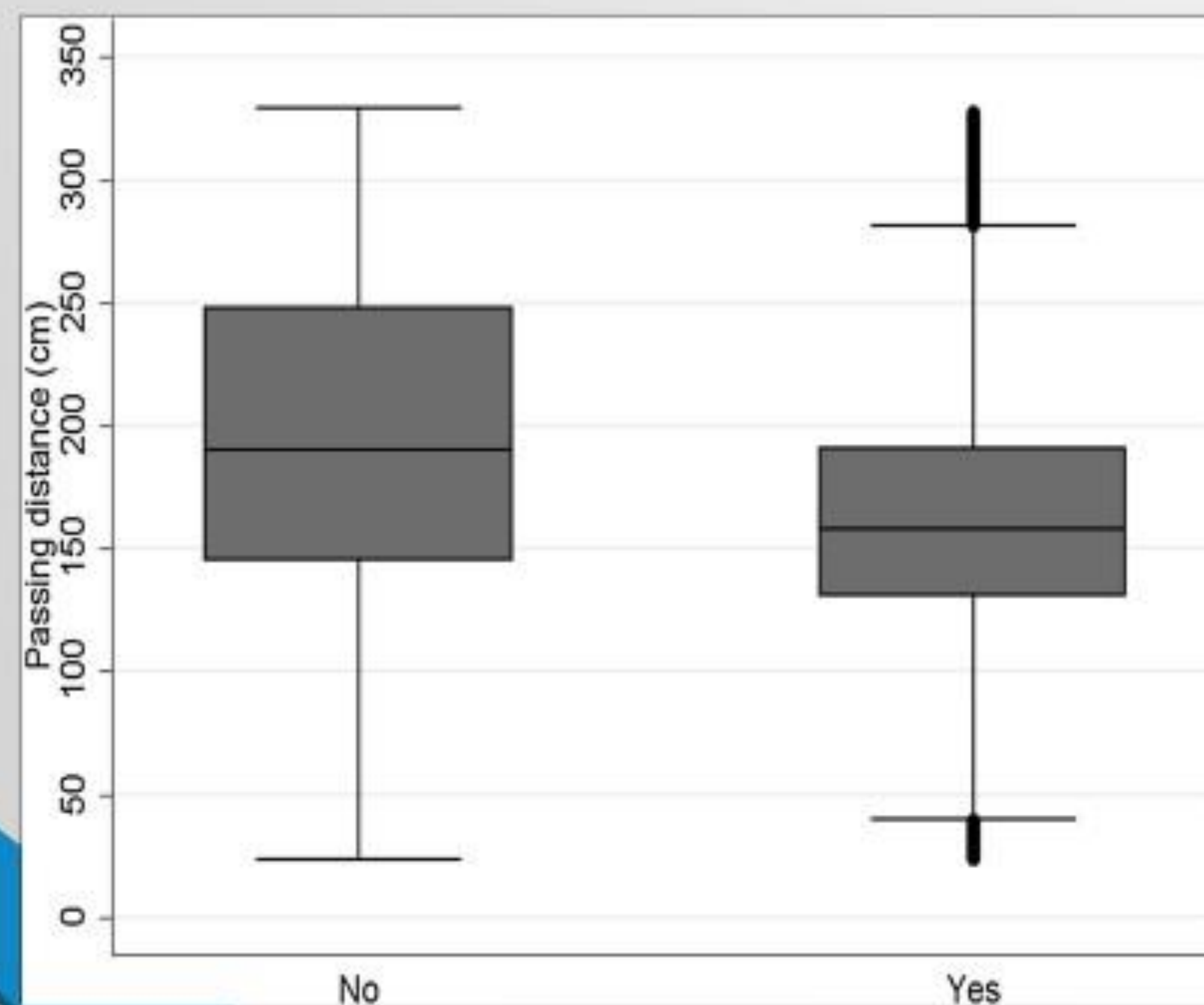


Figure 1. Mean passing distance by presence/absence of a parked on-road bicycle lane

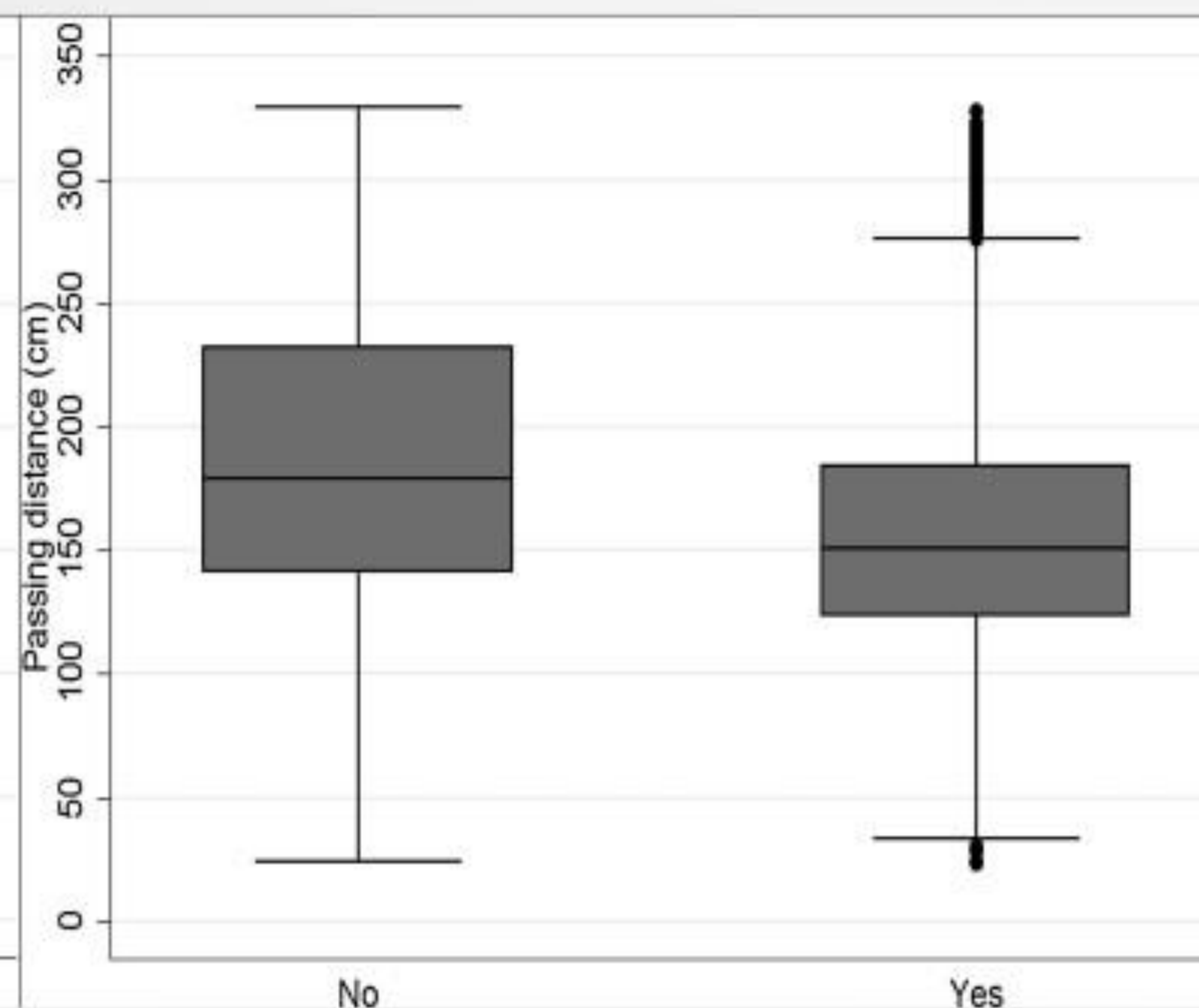


Figure 2. Mean passing distance by the presence/absence of parked cars on the curbside.

Figure 1 and Figure 2 are from Beck et al. (2019)

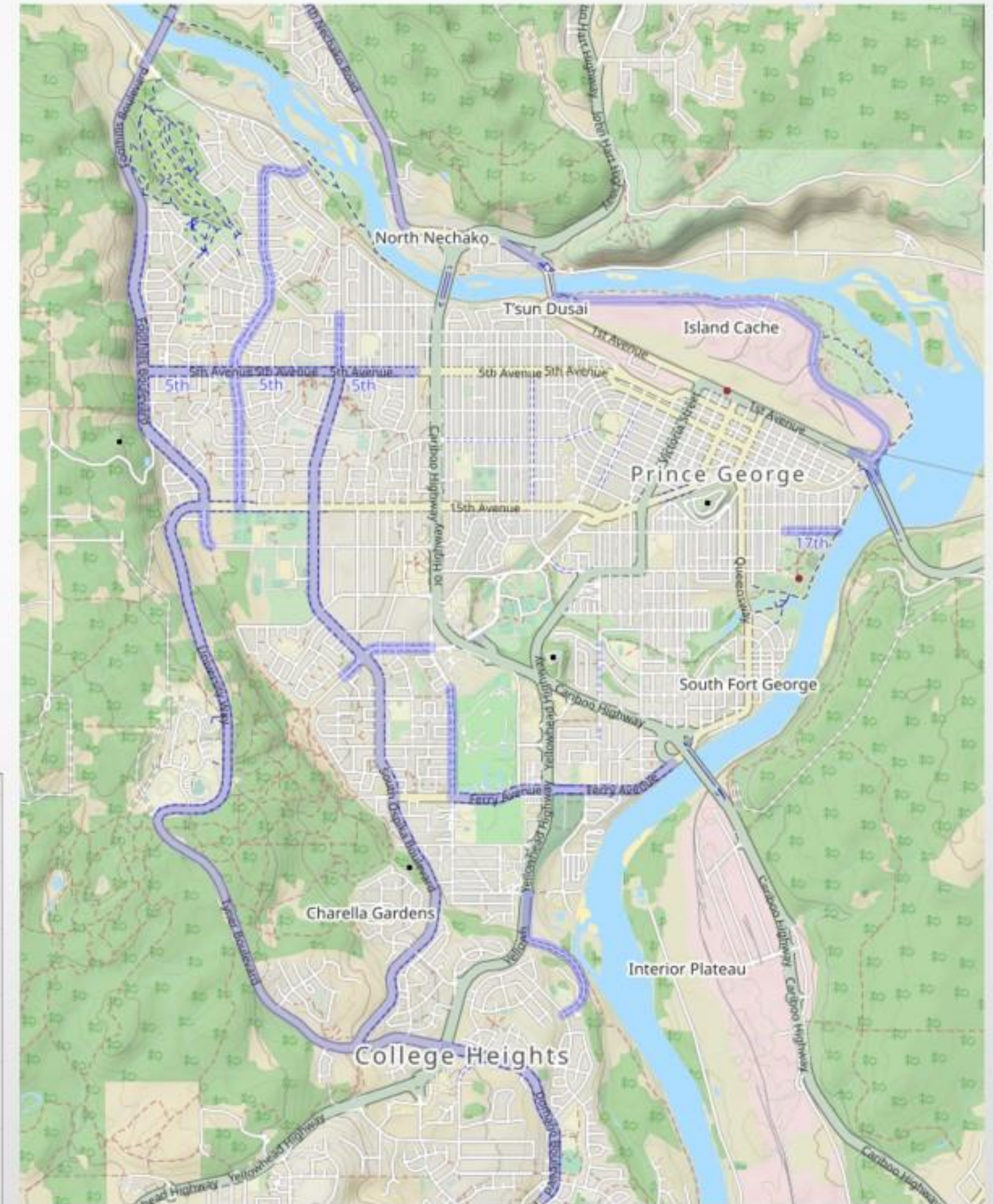


Figure 3. Map of Prince George with Bike Lanes highlighted in blue. Map data from OpenStreetMap. Copyright 2023 OpenStreetMap contributors

Prince George's Current Bike Solutions

- 1 in every 17 passing events was within 1 metre in a painted bike lane (Beck et al., 2019)
- The lack of viable alternatives for transportation in Prince George raises the minimum liveable wage (\$21.19 in 2022) according to Living Wage for Families BC (French, as cited by Clarke, 2022)
- Due to there being no viable alternatives to driving, 52% of all carbon emissions are from transportation (City of Prince George, 2020)
- The average price of owning a personal vehicle can also be restrictive for some, with the average price of owning a car being on average approx. \$1000/month including depreciation (Levin, 2023)
- The current bike lane design will only cater to those that are very comfortable with cycling, which ignores those that are “interested but concerned” – which can range from 37%-60% of the population (B.C. Ministry of Transportation and Infrastructure, 2019)
- For example, the percentage that are “interested but concerned” are 55% in Kamloops and 56% in the United States (City of Kamloops, 2018; Dill and McNeil, 2013)

The Solution: Temporary On-Street Bike Lane

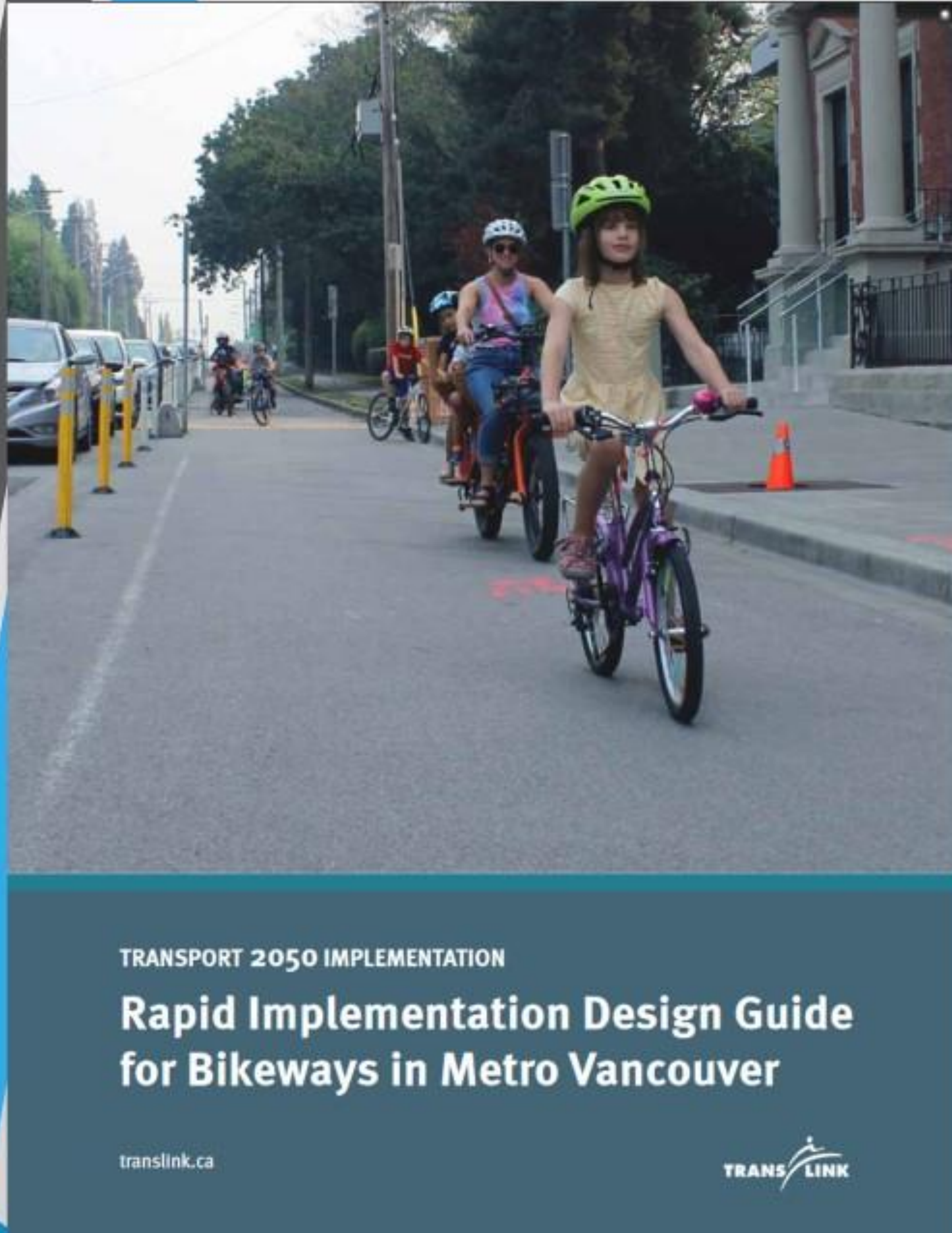


Figure 5 Front Cover of the Rapid Implementation Design Guide. From Translink (2022)

- The Rapid Implementation Design Guide focusses on building the bike lane first, then gathering feedback. This method allows users of the bike lane to provide feedback on routes that are more tangible than theoretical graphics that might not be understood
- The temporary bike lane solution is cost effective, flexible, and able to be installed quickly and efficiently to rapidly expand a protected bike lane network
- Uses a mix of plastic delineator posts, curbs, and other easily movable objects
- “Because minimal capital construction is required, there is less need for topographic survey or detailed engineering to consider factors such as changes in grades, detailed drainage design, or relocation or removal of utilities, street trees, or other infrastructure” (Translink, 2022)
- Can also be installed on-site by city crews, within existing curbs making this method more cost-effective than traditional bike infrastructure (Translink, 2022)
- Unlikely to be perfect, but feedback from the temporary installation can be quickly acted on and will carry over to permanent designs.
- Should have a focus on making biking more accessible for all ages and abilities

The Solution: Temporary On-Street Bike Lane



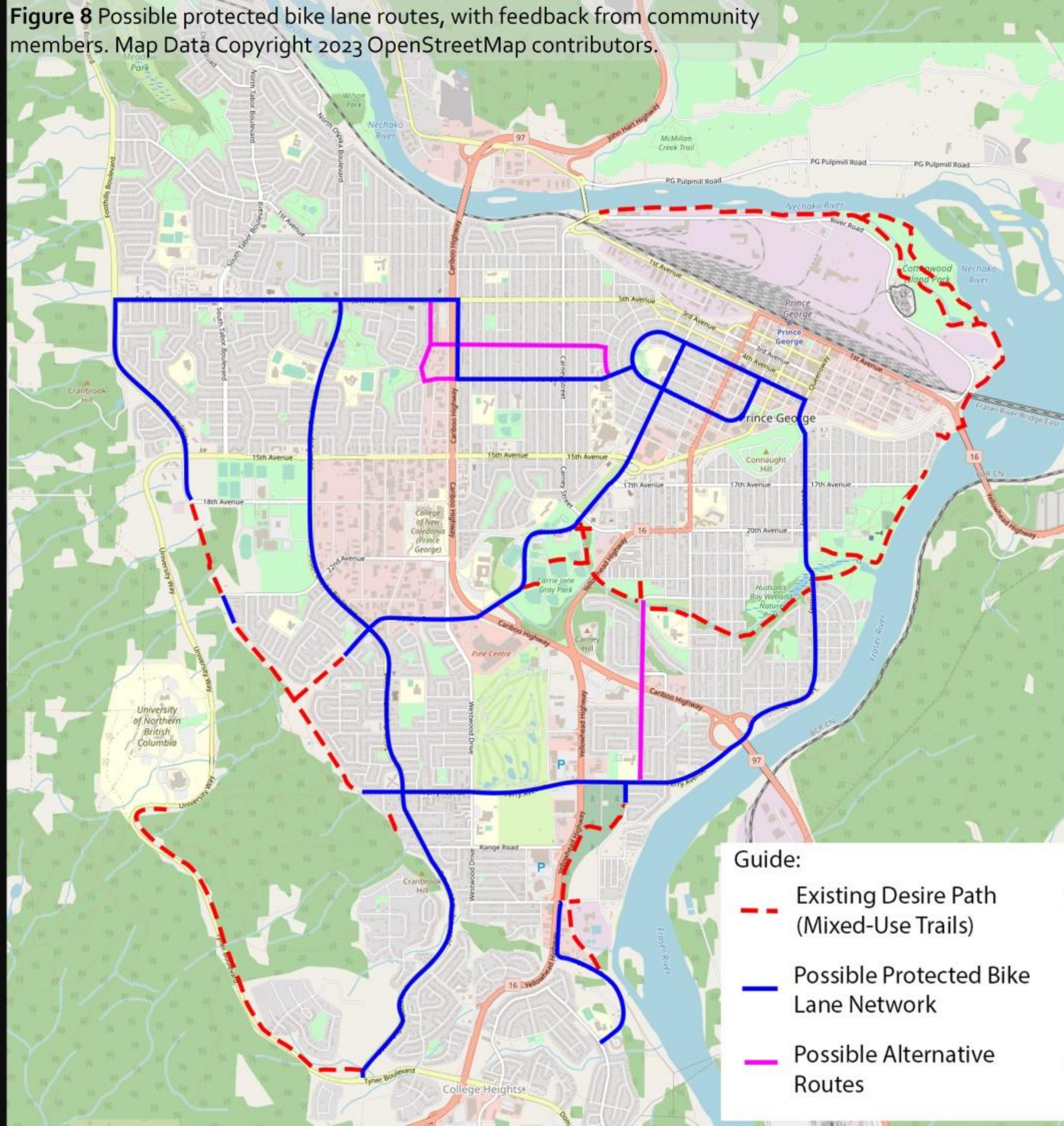
Figure 6 A parking protected and buffered bike lane. Sourced from Translink (2022)



Figure 7 A rapid-implementation bike lane using a mix of barrier types in North Vancouver. Sourced from Translink (2022)

- The feedback gathered from the temporary bike lane can help inform decisions on how the bike lane can be made permanent, or removed entirely if it doesn't work in that location
- Separation of the bicycle lane is important because, 88% of the interested but concerned surveyed said that they would be more likely to ride a bike if bike lanes were separated with a physical barrier (Winters et al., 2019). Physical separation through as little as plastic delineator posts will increase perceived safety among the "interested but concerned," which will increase cycling numbers (McNiel et al. 2015)
- Parking in regions such as downtown can be converted from angled parking into a parallel-parking protected bike lane (Translink, 2022) (Figure 6)
- Removing parking from in front of businesses will not decrease revenue; it will increase revenue in most cases, or have a net-neutral effect on revenue (Toronto Centre for Active Transportation, 2019)
- Figure 8 on the next slide highlights routes that could be focussed on, based on existing active transportation routes and feedback provided from community members. These routes visualize "bones", or major routes, that focus on connecting the bowl to downtown in a more complete way than the existing network

Figure 8 Possible protected bike lane routes, with feedback from community members. Map Data Copyright 2023 OpenStreetMap contributors.



Guide:

- Existing Desire Path (Mixed-Use Trails)
- Possible Protected Bike Lane Network
- Possible Alternative Routes

[illegible]

- Figure 9** An example of a bike and pedestrian only signal phase.
Sourced from the Province of British Columbia (2019)

Winter Cycling



Figure 10. Cyclist riding down a cleared bike lane during winter. Sourced from Cebe (2014)



Figure 11. A machine clearing a bike path. Sourced from Cebe (2014)

- Is entirely possible. The only significant barrier for winter cycling is snow clearing.
- Every facet of the bike lane design should consider accessibility of *existing* snow clearing equipment (Province of British Columbia, 2019)
- More methods of clearing can be added later, such as trucks with plow attachments, quads with plow attachments, or vehicles with brush attachments. Research is being conducted about using salt-brine solutions as well
- Prioritization important, with routes to schools and important businesses cleaned first (Cebe, 2014)
- Unlikely to be perfect, and the City will experience growing-pains with snow-clearing, but an attempt should be made to maintain bike lanes throughout winter at least on priority routes first
- Cycling counts will likely diminish slightly during winter, but it is still worth making sure that the paths are cleared
- Perhaps recommend winter tires for lesser quantities of snowfall (less than 2 centimeters)
- Some buffer space should be allotted on roadways to allow for temporary snow storage (Province of British Columbia, 2019)

Benefits of Cycling

- Improved cardiovascular, mental and physical health (Teschke et al., 2012; Mueller et al., 2015)
- Cheap method of getting around, perfect for in-town trips
- Environmentally friendly
- Reduces or eliminates cost associated with owning a car
- Reduces cost for the City in long-term road maintenance
- Even possible in winter with proper snow clearing
- Improvement in noise and air pollution
- Social benefits of seeing friends and neighbours in-person
- Reduces motor vehicle traffic by actually taking cars off of the road

Funding

Some funding opportunities can include:

- The B.C. Active Transportation Infrastructure Grants Program (Planning: maximum of 50%, or \$50,000; Per project: 50% up to \$500,000)
- The Government of Canada's Active Transportation Fund (Planning: \$50,000; 60% of funding up to 50 million)
- The Green Municipal Fund (One-time grant of 50% eligible costs up to \$175,000)
- The British Columbia Vision Zero in Road Safety Grant Program (Up to \$20,000 per project)

These funds can help offset some of the cost associated with the bike lane, but protected bike lanes will still come at a cost. Rapid implementation can be a part of making the initial cost cheaper. When funding is available and the road needs to be replaced, roads can be fully upgraded to current British Columbia Active Transportation Guide standards

Summary

- Current bike lanes are insufficient and should be improved with the Rapid Implementation Design Guide for Bikeways in Metro Vancouver, or something similar
- Cost effective, with a high return-on-investment
- Building bike lanes combats environmental, social, public health, traffic, and road safety issues
- The temporary solution suggested isn't perfect, but it can be a stepping-stone to better active transportation infrastructure in the future
- For more information, refer to the Rapid Implementation Design Guide for Bikeways in Metro Vancouver (2022) and the current British Columbia Active Transportation Design Guide (2019)

Together, We Can Make Prince George a More Bikeable City.

Sources:

- Beck, B., Chong, D., Olivier, J., Perkins, M., Tsay, A., Rushford, A., Li, L., Cameron, P., Fry, R., & Johnson, M. (2019). How much space do drivers provide when passing cyclists? Understanding the impact of motor vehicle and infrastructure characteristics on passing distance. *Accident; Analysis and Prevention*, 128, 253–260. <https://doi.org/10.1016/j.aap.2019.03.007>
- BC Injury Research and Prevention Unit. (n.d.). Vision Zero BC. Visionzerobc.ca. Retrieved May 17, 2023, from <https://www.visionzerobc.ca/about>
- Cebe, J. (2014, February). Winter Bike Lane Maintenance: A Review of National and International Best Practices. Altago.com. <https://altago.com/wp-content/uploads/winter-bike-riding-white-paper-atta.pdf>
- Clarke, T. (2022, November 17). Cost of living in Prince George more than Nanaimo and Kamloops. Prince George Citizen. <https://www.princegeorgecitizen.com/local-news/cost-of-living-in-prince-george-more-than-nanaimo-and-kamloops-6118198>
- City of Prince George. (2020). 2020 Climate Change Mitigation Plan. princegeorge.ca. <https://www.princegeorge.ca/media/134>
- Deliali, K., Christofa, E., & Knodler, M., Jr. (2021). The role of protected intersections in improving bicycle safety and driver right-turning behavior. *Accident; Analysis and Prevention*, 159(106295), 106295. <https://doi.org/10.1016/j.aap.2021.106295>
- Dill, J., & McNeil, N. (2013). Four types of cyclists?: Examination of typology for better understanding of bicycling behavior and potential. *Transportation Research Record*, 2387(1), 129–138. <https://doi.org/10.3141/2387-15>
- Government of British Columbia. (n.d.). B.C. Active Transportation Infrastructure Grants Program. gov.bc.ca. Retrieved April 13, 2023, from <https://www2.gov.bc.ca/gov/content/transportation/funding-engagement-permits/funding-grants/active-transportation-infrastructure-grants>
- Government of Canada. (2021, March 10). Active Transportation Fund. infrastructure.gc.ca. <https://www.infrastructure.gc.ca/trans/index-eng.html>
- Study: Transportation networks and commuting options. (n.d.). greenmunicipalfund.ca. Retrieved April 14, 2023, from <https://greenmunicipalfund.ca/funding/study-transportation-networks-commuting-options>
- Lavin, J. (2023, January 5). What is the total cost of ownership for a car? ratehub.ca. <https://www.ratehub.ca/blog/what-is-the-total-cost-of-owning-a-car/>
- McNeil, N., Monsere, C. M., & Dill, J. (2015). Influence of bike Lane buffer types on perceived comfort and safety of bicyclists and potential bicyclists. *Transportation Research Record*, 2520(1), 132–142. <https://doi.org/10.3141/2520-15>
- Mueller, N., Rojas-Rueda, D., Cole-Hunter, T., de Nazelle, A., Dons, E., Gerike, R., Götschi, T., Int Panis, L., Kahlmeier, S., & Nieuwenhuijsen, M. (2015). Health impact assessment of active transportation: A systematic review. *Preventive Medicine*, 76, 103–114. <https://doi.org/10.1016/j.ypmed.2015.04.010>
- Province of British Columbia. (2019). British Columbia Active Transportation Design Guide. https://www2.gov.bc.ca/assets/gov/driving-and-transportation/funding-engagement-permits/grants-funding-cycling-infrastructure-funding/active-transportation-guide/2019-06-14_bcatdg_compiled_digital.pdf
- Winters, M., & Teschke, K. (2010). Route preferences among adults in the near market for bicycling: findings of the cycling in cities study. *American Journal of Health Promotion: AJHP*, 25(1), 40–47. <https://doi.org/10.4278/ajhp.081006-QUAN-236>
- Teschke, K., Reynolds, C. C. O., Ries, F. J., Gouge, B., & Winters, M. (2012). *Bicycling: Health risk or benefit?* ubc.ca. Retrieved March 24, 2023, from https://ubcmj.med.ubc.ca/files/2015/11/ubcmj_3_2_2012_6-11.pdf