



City of Richmond

Report to Committee

To: Public Works and Transportation Committee
From: Lloyd Bie, P.Eng.
Director, Transportation
Date: April 1, 2021
File: 02-0775-50-6708/Vol
01
Re: Cycling Network Plan Update - Proposed Phase 1 Engagement

Staff Recommendation

1. That the proposed Phase 1 engagement activities to support the update of the Cycling Network Plan, as described in the report titled "Cycling Network Plan Update - Proposed Phase 1 Engagement," dated April 1, 2021 from the Director, Transportation, be endorsed for implementation; and
2. That staff be directed to report back on the results of the Phase 1 engagement.

Lloyd Bie, P.Eng.
Director, Transportation
(604-276-4131)
Att. 2

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Communications	<input checked="" type="checkbox"/>	
Parks Services	<input checked="" type="checkbox"/>	
Recreation and Sport	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	
Sustainability & District Energy	<input checked="" type="checkbox"/>	
Policy Planning	<input checked="" type="checkbox"/>	
Development Applications	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

The Official Community Plan has a target to increase cycling mode share from 1% in 2008 to 10% by 2041. The recently endorsed Community Energy and Emission Plan (CEEP) Strategic Directions intended to guide the revised 2020-2050 CEEP identifies accelerating achievement of this target mode share to 2030. The Council-approved 2018 and 2019 Capital Budgets include funding for the combined update of the City Centre and city-wide (outside of City Centre) existing cycling network plans (the Project). Key deliverables include a prioritised implementation strategy, conceptual designs for cycling facility types, and policy guidance for accommodating emerging micro mobility devices. This report presents the proposed Phase 1 engagement activities to gain feedback from the public and stakeholders regarding issues and opportunities for the existing cycling network.

This report supports Council's Strategic Plan 2018-2022 Strategy #2 A Sustainable and Environmentally Conscious City:

Environmentally conscious decision-making that demonstrates leadership in implementing innovative, sustainable practices and supports the City's unique biodiversity and island ecology.

2.2 Policies and practices support Richmond's sustainability goals.

This report supports Council's Strategic Plan 2018-2022 Strategy #4 An Active and Thriving Richmond:

An active and thriving community characterized by diverse social and wellness programs, services and spaces that foster health and well-being for all.

4.2 Ensure infrastructure meets changing community needs, current trends and best practices.

This report supports Council's Strategic Plan 2018-2022 Strategy #6 Strategic and Well-Planned Growth:

Leadership in effective and sustainable growth that supports Richmond's physical and social needs.

6.3 Build on transportation and active mobility networks.

This report supports Council's Strategic Plan 2018-2022 Strategy #8 An Engaged and Informed Community:

Ensure that the citizenry of Richmond is well-informed and engaged about City business and decision-making.

8.1 Increased opportunities for public engagement.

8.2 Ensure citizens are well-informed with timely, accurate and easily accessible communication using a variety of methods and tools.

Analysis

Cycling Network Plan Update Objectives

In 2008, the City updated the City Centre Transportation Plan (CCTP), which was incorporated into the City Centre Area Plan (CCAP, adopted in September 2009). The CCAP identifies a planned network of bike routes within the City Centre. In 2012, the City updated the Official Community Plan (OCP). The OCP identifies the City's cycling-related strategies and policies, a planned city-wide network (outside the City Centre) of major street bike routes and a complementary city-wide network of local street bikeways.

Since the completion of the CCAP and OCP update, Richmond has seen significant change with the arrival of the Canada Line, continued population growth and a consistent high level of development activity. At the same time, there has been an evolution in the design of cycling facilities with greater emphasis on bikeways that are comfortable for all cyclists (e.g., on-street cycle tracks separated from traffic on major streets, off-street paths).

The Project will ensure that the City's cycling network and policies are reflective of the community's current needs, continue to support the City's long-term mobility objectives and reflect best practices with respect to cycling facility planning and design.

Schedule and Process

The Project was initiated in Summer 2020 and is anticipated to be completed later in 2021. The planned schedule and process includes two rounds of engagement with the public (Figure 1):

- Phase 1: Gather perspectives from the community on what is important in their decision to cycle more often, and opportunities to improve the cycling experience and physical cycling network.
- Phase 2: Based on the Round 1 engagement results and technical analysis, present and gather feedback on an updated preliminary cycling network and complementary cycling policies as well as infrastructure priorities.

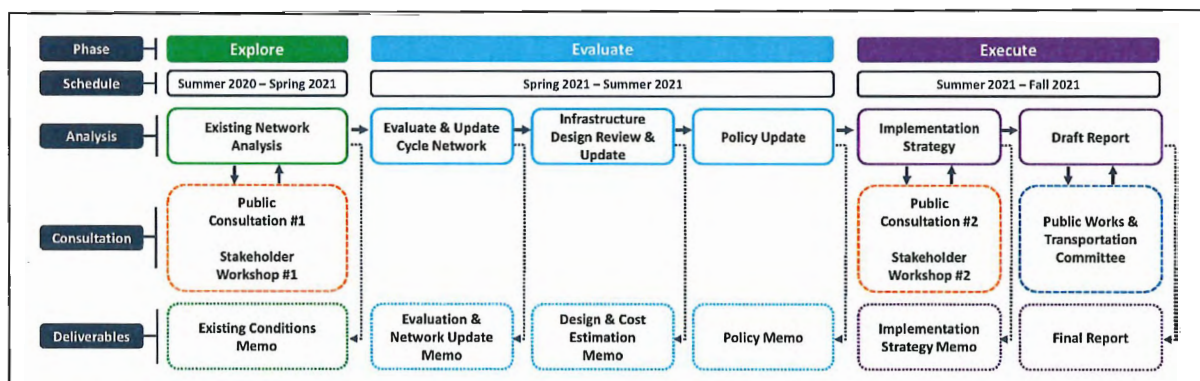


Figure 1: Planned Schedule and Process for Cycling Network Plan Update

In preparation for the Phase 1 engagement, Project activities to date have focused on a review of the current cycling network comprising (Attachment 1)¹:

- Documentation of the existing conditions (i.e., cycling facility types, comfort level, and ridership).
- Analysis of network connectivity and cycling accessibility to key destinations, including the preliminary identification of gaps.

Phase 1 Engagement

All engagement activities will take place on-line with initiation in late May/early June pending Council approval. Public engagement will be via the City's Let's Talk Richmond site, which will host:

- A survey to identify where and why residents currently ride, and seek comments on what would encourage them to ride more (Attachment 2).
- An interactive map of Richmond showing the existing cycling network, including committed but not yet constructed facilities, where participants can "pin" locations to identify gaps or areas of concern.
- An ideas board where participants can share their comments on and priorities for cycling in Richmond.

With the support of the Richmond School District, a separate simpler and shorter survey will be distributed to students (targeted to Grades 6-9) to identify current levels of cycling to/from school and any barriers to increased cycling. Students will also have the opportunity to use the interactive map and ideas board to provide additional feedback.

An external stakeholder session will also be convened with representatives invited from relevant agencies including the Ministry of Transportation and Infrastructure, TransLink, Vancouver Airport Authority, Richmond School District, ICBC, HUB Cycling, Richmond RCMP, and Vancouver Coastal Health. A separate stakeholder session will be held for members of the Richmond Active Transportation Committee (RATC) and a RATC representative will also be invited to the larger external stakeholder session.

Public awareness of the engagement process will be provided through the City's standard communication tools including social media (Twitter and Facebook), inclusion on the City website, and posting of an advertisement at transit shelters in the City Centre that have a digital panel (Figure 1). The same poster will also be temporarily installed along bike routes across the city.



Figure 1: Draft Transit Shelter Advertisement

¹ The existing cycling network depicted and quantified encompasses facilities within the geographic boundary of Richmond. Not all of the cycling facilities shown are located on roads or lands within the City's jurisdiction.

April 1, 2021

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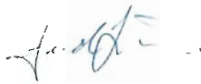
Staff believe these collective measures to engage with the public and stakeholders will reach the majority of the intended audience despite the current inability to conduct traditional in-person open houses and meetings.

Financial Impact

All activities can be accommodated within the existing approved funding sources.

Conclusion

The Phase 1 engagement activities for the public and stakeholders will inform development of a preliminary updated cycling network and prioritized implementation strategy, which will be the focus of Phase 2 engagement in Summer-Fall 2021.



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JC:jc

Att. 1: Cycling Network Plan Update - Existing Network Analysis Summary | Executive Summary

Cycling Network Plan Update: Existing Network Analysis Summary | Executive Summary

Cycling Network Plan Update: Existing Network Analysis Summary | Executive Summary

Executive Summary

This update to the Cycling Network Plan (CNP) sets out to help the City of Richmond respond to its objective of reducing vehicle trips and increasing cycling to 10% of all trips by 2041 by developing an informed vision of the future cycling network and identifying the required steps to achieve it.

Existing Cycling Network

The city's cycling network comprises more than 300 lane-km of cycling facilities, including a mix of facility types. Figure 1 illustrates the composition of Richmond's existing cycling network by facility type. The key characteristics of each facility type are summarized in Table 1.

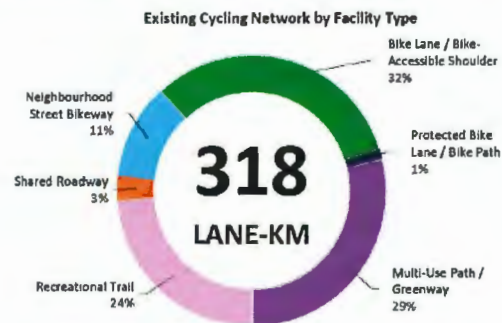


Figure 1: Proportion of Cycling Facility Types

The Existing Cycling Network map, Figure 2 on the following page, shows the distribution of cycling facilities throughout the city by facility type. Notably, informal cycling routes are not shown.

Table 1: Summary of Cycling Facilities by Key Characteristics

Facility Type	Alignment / Surface	Exclusive vs Shared	Treatments
Bike Path	Off-Street / Paved	Exclusive	Uni- or bi-directional lanes separated from traffic by boulevard, or through park / not adjacent to roadway.
Protected Bike Lane	On-Street / Paved	Exclusive	Uni- or bi-directional lanes separated by 0.3-1.0m delineator (bollards, curbs, concrete barriers, planter boxes, etc.)
Multi-Use Path / Greenway	Off-Street / Paved	Shared with pedestrians	Uni- or bi-directional lanes for all active uses and recreation.
Recreational Trail	Off-Street / Unpaved	Shared with pedestrians	Bi directional paths, typically finished with crushed gravel
Bike Lane / Bike-Accessible Shoulder	On-Street / Paved	Exclusive	Uni directional lane, delineated from traffic with painted line
Neighbourhood Street Bikeway	On-Street / Paved	Shared with traffic on local roads	On-street sharrow markings with directional signage on roadway and street signs
Shared Roadway	On-Street / Paved	Shared with traffic on main roads	On-street sharrow markings with shared roadway signage

Next Steps

An awareness of the current composition and distribution of facilities within the cycling network is essential to inform consultation efforts. As the foundation of many existing cycling trips in the city, the current network actively shapes and informs how users will experience and perceive further cycling needs and will continue to act as a baseline when considering further cycling improvements and their prioritization in subsequent study phases. As the network develops, balancing the needs for enhanced safety and an expanded network will continue to require a combination of facility types to accommodate different users and trips of varying purposes through the city.

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Cycling Network Plan Update: Existing Network Analysis Summary | Executive Summary

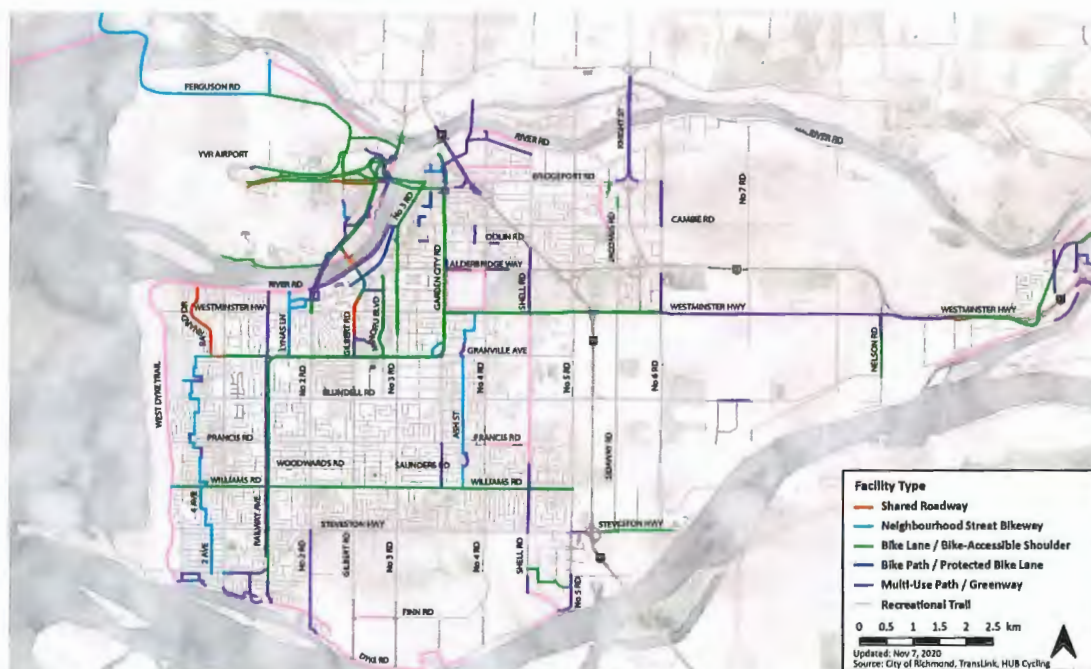


Figure 2: City of Richmond's Existing Cycling Network by Facility Type

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Cycling Network Plan Update: Existing Network Analysis Summary | Executive Summary

Cycling Network Plan Update: Existing Network Analysis Summary | Executive Summary

Cycling Comfort Level

In consultation with City of Richmond staff, and to allow for consistency with the reported data for Metro Vancouver municipalities, this study has adopted the cycling comfort level criteria used within TransLink/HUB's 2019 *Benchmarking the State of Cycling in Metro Vancouver* report. A detailed list of the criteria for cycling comfort by facility type is provided in Appendix A.

Generally, the level of comfort – or conversely, the level of stress – of a given cycling facility depends on its specific design configuration, characteristics of the adjacent traffic (i.e. volume and speed), and user mix. Typically, cyclists are most comfortable when physically separated from other modes, and stress is most significantly impacted by exposure to motor vehicle traffic. Additionally, comfort levels tend to decrease as both traffic speeds and volumes increase.

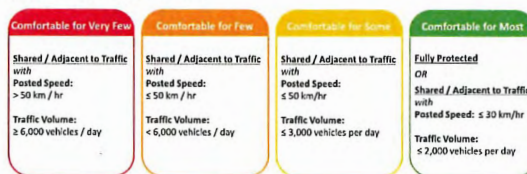


Figure 3: Cycling Comfort Level Criteria

Inherent design features of different facility types lend themselves towards lower or higher levels of comfort. Thus, while Figure 4 shows that over 50% of the existing cycling network in Richmond can be classified as 'comfortable for most', the breakdown of comfort level by facility type in Figure 5 highlights that this is primarily accounted for by off-street Recreational Trails and Multi-Use Paths/Greenways.

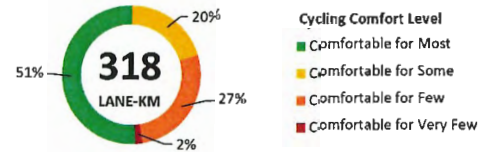


Figure 4: Cycling Comfort Level - Existing Cycling Network



Figure 5: Cyclist Comfort Level by Facility Type

The majority of remaining facilities are considered 'comfortable for some' (20%) or 'comfortable for few' (27%). This mainly reflects the shortcomings of conventional bike lanes/bike-accessible shoulders, which may not be viewed as a viable option by many potential users, particularly inexperienced cyclists, youth, and the elderly.

Importantly, facility types are not evenly distributed across the network and may serve different user groups or trip purposes. This is particularly true of Recreational Trails like the Dyke Trail, which offers limited utility for general purpose trips or commuting. The Cycling Connectivity and Accessibility Analysis section begins to unpack some of the challenges of this distribution.

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Cycling Network Plan Update: Existing Network Analysis Summary | Executive Summary

Next Steps

Public engagement presents an important opportunity to affirm perceptions of comfortable and safe cycling and to gather feedback on the types of facilities and conditions that would be most likely to increase cycling use. This understanding of perceived comfort will be informative when considering which cycling investments should be prioritized.

As limited financial resources are used to build out the network, a balance will need to be achieved between increasing the comfort level of existing facilities and potentially competing desires for an expanded network that makes cycling more accessible and equitable throughout the city.

Cycling Ridership

Recently installed in late 2019, bike counters on River Dr MUP west of No. 4 Road, Railway Greenway MUP at Maple Road, and No. 2 Road MUP south of Steveston Highway provide initial insight into the daily trends and seasonal usage patterns of cyclists at different locations. Figure 6 to the right shows the average daily cycling volumes from Nov 2019 through Sept 2020 alongside average historical precipitation and temperature data for Richmond.

While the relative cycling rates vary greatly by location (approx. 5-10 times as many average daily cyclists on the Railway Greenway in Mar to Jun 2020), all three locations similarly reflect a seasonal pattern of increased cycling with warmer temperatures and reduced rainfall during the summer months.

Third-party data obtained from Strava affirms the findings of the bike counter data, with a focus on longer distance recreational cycling patterns. Strava's historical trip data supports anecdotal evidence that Richmond remains a popular destination for recreational cyclists, indicating that in a typical (non-pandemic) year nearly one third of active Strava users cycling in Richmond are visitors from other communities. Comparing historical data also indicates a general increase in local recreation during the summer months of the pandemic by users of the Strava platform in Richmond.

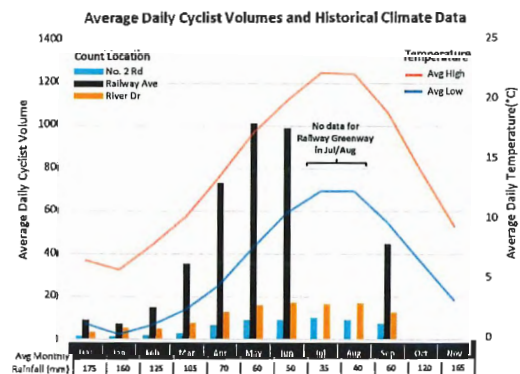


Figure 6: Avg Monthly Cyclist Volumes and Climate Data (Dec 2019 - Sept 2020)

Next Steps

Overall, these initial findings highlight the importance of establishing a reliable dataset to monitor cycling activity in the city. Despite Strava's limitations as an opt-in platform with only a subset of cycling trips, it provides a fine-grained level of cycling data at no cost. Identified trip patterns can better inform development of the future network and investment prioritization.

Continued monitoring of bike counter data as well as expanded installation at other strategic locations into the future will help to better understand cycling patterns as the network evolves. Such an expansion would also enable a decreased reliance on third-party data, which may not continue to be reliable in the long-term and which represents only a subset of cyclists.

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Cycling Network Plan Update: Existing Network Analysis Summary | Executive Summary

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Network Connectivity and Accessibility Analysis

Network connectivity represents a measure of the relative ease of reaching other locations within the cycling network from a given location. Cycling links with more immediate connections to other facilities or access to potential routes are considered more "connected" to the broader network and offer greater route choices to move throughout the network. Hence, discontinuous facilities located far from the primary north-south and east-west spines of the network exhibit low levels of connectivity and require cyclists to use informal routes to reach destinations and other parts of the cycling network from these locations.

While some areas of low connectivity were uncovered, the evaluation identified that even small extensions of the network and formalization of key informal routes could dramatically improve connectivity and cycling route choice throughout the city.

Cycling accessibility to points of interest was also examined. It was found that most commercial and mixed used areas are accessible via the existing cycling network, and all rapid transit stations are located adjacent to cycling facilities. One notable exception is the commercial area adjacent to Highway 99 in North Richmond, and the Cambie Community Centre, which is the only community centre not accessible within 400m of the cycling network.

Special focus was given to cycling accessibility to schools and educational institutions, as students are a key demographic for fostering cycling culture and trips to school by private vehicle could be considerably reduced by increasing student cycling behaviours and safe routes to school. While most secondary and post secondary schools were accessible within 400m of the cycling network, a number of elementary schools were not.

In the school context, comfort levels along the entire journey are critical for students who are less likely to be confident cyclists. These students and their parents are less likely to tolerate higher levels of traffic exposure.

Next Steps

While most of the identified key destinations (e.g. community centres, schools, libraries, tourist destinations) were found to be located near existing cycling facilities, limited route options and network gaps still limit convenient and direct access to some facilities for many users. This is particularly true for less confident cyclists who may not be comfortable cycling with mixed traffic, even if for a short distance between dedicated cycling facilities and their final destination.

One such group, students, would benefit from the establishment of a more comprehensive neighbourhood street bikeway network and 'safe routes to school' program to address existing gaps and encourage healthy and sustainable travel from a young age.

Looking Ahead

The analysis and findings summarized within this memo will be used as the basis for the first round of public and stakeholder engagement and as a stepping-stone to future phases of work.

While the initial stage of public consultation will be focused on the existing network, the future, planned cycling network will be assessed in the next phase of work alongside the findings and input gathered through public and stakeholder engagement. This will support the prioritization of new and upgraded cycling facilities and will inform conversations about the relative impacts of targeting investments in different areas.

The updated cycling network plan will continue to deliver on the goals of improved cyclist safety, enhanced utility of the active transportation network, and increased attractiveness of cycling as a comfortable and convenient transportation mode in Richmond.

Cycling Network Plan Update: Phase 1 Engagement Survey Questions

1. I typically travel by each of the following modes *

	Daily	Weekly	Monthly	Sometimes	Rarely	Never
Walk	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Car (driver)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Car (passenger)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bike	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please choose one answer per row

2. In 2020 with the start of the pandemic, I travelled by bike *

- ☐ Less than in 2019
- ☐ About the same as in 2019
- ☐ More than in 2019

Please choose one

3. In 2021 and beyond, I plan to go by bike *

- ☐ Less than in 2020
- ☐ About the same as in 2020
- ☐ More than in 2020

Please choose one

4. I cycle for the following types of trips *

- ☐ School
- ☐ Work
- ☐ Daily needs (e.g., groceries, banking, personal appointments, library)
- ☐ To recreational facilities (e.g., parks, fitness centres)
- ☐ For recreation
- ☐ I don't currently cycle
- ☐ Other (please specify)

Please check all that apply

Cycling Network Plan Update: Phase 1 Engagement Survey Questions

5. I choose to cycle because *

- ☐ It's fast and convenient
- ☐ It's healthy / good exercise
- ☐ It's better for the environment
- ☐ I don't have access to a car
- ☐ It's fun
- ☐ Other

Please rank each option

6. If you chose "Other" for Question 5, please specify

Please add your comment here...

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7. I feel comfortable cycling *

- ☐ On trails and off-street paths
- ☐ In bike lanes with physical barriers
- ☐ In bike lanes without physical barriers
- ☐ In mixed traffic on neighbourhood streets
- ☐ In mixed traffic on major streets
- ☐ I don't feel comfortable cycling in Richmond
- ☐ Other (please specify)

Please check all that apply

Cycling Network Plan Update: Phase 1 Engagement Survey Questions

8. I feel comfortable cycling with my children *

- ☐ On trails and off-street paths
- ☐ In bike lanes with physical barriers
- ☐ In bike lanes without physical barriers
- ☐ In mixed traffic on neighbourhood streets
- ☐ In mixed traffic on major streets
- ☐ I don't feel comfortable cycling in Richmond
- ☐ I don't have or cycle with children
- ☐ Other (please specify)

Please check all that apply

9. I would cycle more if *

- ▼ There were more direct bike routes to the places I want to go
- ▼ I had access to a bike
- ▼ I had a secure place to park my bike
- ▼ I had access to changerooms/showers
- ▼ Cycling facilities were physically separated from traffic
- ▼ Other

Please rank each option

10. If you chose "Other" for Question 9, please specify

Please add your comment here...

Cycling Network Plan Update: Phase 1 Engagement Survey Questions

11. I own a bicycle *

☐ Yes☐ No

Please choose one

12. I or a member of my household purchased a bike in 2020 *

☐ Yes☐ No

Please choose one

13. I am interested in using a shared bike, electric bike, or electric kick scooter program *

	Not all Interested	Somewhat Uninterested	Unsure	Somewhat Interested	Very Interested
Shared Bike	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shared Electric Bike	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Shared Electric Kick Scooter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please choose one option per row

14. The age group I, or the cyclists in my household, belong to is *

☐ 2-5 years☐ 6-12 years☐ 13-18 years☐ 19-35 years☐ 36-50 years☐ 51-64 years☐ 65+ years

Please choose all that apply

15. My postal code is *

Please add your comment here...

0/255

16. Other thoughts or ideas I would like to share about current cycling conditions in Richmond

Please add your comment here...

0/255