



**City Council
Electronic Meeting**

**Council Chambers, City Hall
6911 No. 3 Road
Monday, July 25, 2022
7:00 p.m.**

Pg. # ITEM

MINUTES

1. *Motion to:*
- CNCL-12** (1) *adopt the minutes of the Regular Council meeting held on July 11, 2022; and*
- (2) *adopt the minutes of the Regular Council meeting for Public Hearings held on July 18, 2022. (distributed separately)*



AGENDA ADDITIONS & DELETIONS

PRESENTATION

- CNCL-22** Jordan Oye, Chair, Richmond Public Library Board and Susan Walters, Chief Librarian, to present the Library's 2021 Annual Report.

COMMITTEE OF THE WHOLE

2. *Motion to resolve into Committee of the Whole to hear delegations on agenda items.*

☐

3. Delegations from the floor on Agenda items.

PLEASE NOTE THAT FOR LEGAL REASONS, DELEGATIONS ARE NOT PERMITTED ON ZONING OR OCP AMENDMENT BYLAWS WHICH ARE TO BE ADOPTED OR ON DEVELOPMENT PERMITS/DEVELOPMENT VARIANCE PERMITS – ITEM NO. 18.

4. *Motion to rise and report.*

☐

RATIFICATION OF COMMITTEE ACTION

CONSENT AGENDA

PLEASE NOTE THAT ITEMS APPEARING ON THE CONSENT AGENDA WHICH PRESENT A CONFLICT OF INTEREST FOR COUNCIL MEMBERS MUST BE REMOVED FROM THE CONSENT AGENDA AND CONSIDERED SEPARATELY.

RECOMMENDATIONS FROM COMMITTEE WILL APPEAR ON THE REVISED COUNCIL AGENDA, EITHER ON THE CONSENT AGENDA OR NON-CONSENT AGENDA DEPENDING ON THE OUTCOME AT COMMITTEE.

CONSENT AGENDA HIGHLIGHTS

- Receipt of Committee minutes
- Technical And Economic Considerations For Rooftop Solar Energy Systems For New Buildings
- Council Strategic Plan 2018-2022 Term Highlights
- Proposed New Federal Electoral District Boundaries – Richmond
- Land use applications for first reading (to be further considered at the Public Hearing on September 6, 2022):

Council Agenda – Monday, July 25, 2022

Pg. # ITEM

- 7480 Williams Road – Rezone From Single Detached (RS1/E)” Zone To the “Coach House (ZS12) – Broadmoor” Zone (Deluxe Custom Homes Ltd. – Applicant)
- Agricultural Land Reserve Exclusion Application By Montrose Industries Ltd. At 7011 No. 7 Road & PID 024-397-423
- Cycling Network Plan Update - Final Plan
- Extension To Contract 6917Q - Public Works Lease Vehicles
- 2021 Richmond Film Office Year In Review

5. *Motion to adopt Items No. 6 through No. 14 by general consent.*



Consent
Agenda
Item

6. COMMITTEE MINUTES

That the minutes of:

- CNCL-42 (1) *the **Community Safety Committee** meeting held on July 12, 2022;*
- CNCL-48 (2) *the **General Purposes Committee** meeting held on July 18, 2022;*
- (3) *the Parks, Recreation and Cultural Services Committee meeting held on July 20, 2022; (distributed separately)*
- (4) *the Planning Committee meeting held on July 19, 2022; (distributed separately) and*
- (5) *the Public Works and Transportation Committee meeting held on July 19, 2022 (distributed separately)*
- be received for information.*



Consent
Agenda
Item

7. TECHNICAL AND ECONOMIC CONSIDERATIONS FOR ROOFTOP SOLAR ENERGY SYSTEMS FOR NEW BUILDINGS

(File Ref. No. 10-6125-07-02) (REDMS No. 6915777)

Council Agenda – Monday, July 25, 2022

Pg. # ITEM

CNCL-54

See Page CNCL-54 for full report

GENERAL PURPOSES COMMITTEE RECOMMENDATION

That as described in the report titled “Technical and Economic Considerations for Rooftop Solar Energy Systems for New Buildings” dated June 30, 2022, from the Director, Sustainability and District Energy, staff proceed with engaging local builders and developers as part of identifying regulatory and incentive pathways to advance building electrification and on-site low carbon energy systems, including rooftop solar PV systems, and report back.



Consent
Agenda
Item

8. **COUNCIL STRATEGIC PLAN 2018-2022 TERM HIGHLIGHTS**
(File Ref. No. 01-0005-01) (REDMS No. 6908395)

CNCL-73

See Page CNCL-73 for full report

GENERAL PURPOSES COMMITTEE RECOMMENDATION

- (1) *That the report titled, “Council Strategic Plan 2018-2022 Term Highlights” dated June 7, 2022, from the Director, Intergovernmental Relations and Corporate and Strategic Planning, be received for information; and*
- (2) *That the attached reports titled, “Council Strategic Plan 2018-2022: Achievement Highlights” (Attachment 1) and “Council Strategic Plan 2018-2022: Achievement Highlights Overview” (Attachment 2) be made available for download on the City of Richmond website.*



Consent
Agenda
Item

9. **PROPOSED NEW FEDERAL ELECTORAL DISTRICT BOUNDARIES – RICHMOND**
(File Ref. No. 01-0103-01) (REDMS No. 6905974)

CNCL-167

See Page CNCL-167 for full report

GENERAL PURPOSES COMMITTEE RECOMMENDATION

- (1) *That a letter, with copies to Delta, New Westminster and Local Members of Parliament, be sent to the 2022 Federal Electoral Boundaries Commission for the Province of British Columbia to express Richmond’s opposition to the proposed changes to Richmond’s electoral boundaries for Richmond East and Richmond West;*

Council Agenda – Monday, July 25, 2022

Pg. #

ITEM

- (2) *That the City of Richmond be represented if possible at the Public Hearing on September 12, 2022 in Richmond and speak in opposition to the proposed changes;*
- (3) *That the letter emphasize the proposed changes the City of Richmond supports and states the importance of dividing within and between cities; and*
- (4) *That a letter be sent to Statistics Canada appealing the reported Census figures for the City of Richmond.*



Consent
Agenda
Item

10. **APPLICATION BY DELUXE CUSTOM HOMES LTD. FOR REZONING AT 7480 WILLIAMS ROAD FROM THE “SINGLE DETACHED (RS1/E)” ZONE TO THE “COACH HOUSE (ZS12) – BROADMOOR” ZONE**

(File Ref. No. RZ 21-930951) (REDMS No. 6931455)

CNCL-178

See Page CNCL-178 for full report

PLANNING COMMITTEE RECOMMENDATION

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10404, for the rezoning of 7480 Williams Road from the “Single Detached (RS1/E)” zone to the “Coach House (ZS12) - Broadmoor” zone, be introduced and given first reading.



Consent
Agenda
Item

11. **AGRICULTURAL LAND RESERVE EXCLUSION APPLICATION BY MONTROSE INDUSTRIES LTD. AT 7011 NO. 7 ROAD & PID 024-397-423**

(File Ref. No. AG 20-914852) (REDMS No. 6839458)

CNCL-204

See Page CNCL-204 for full report

PLANNING COMMITTEE RECOMMENDATION

- (1) *That authorization for Montrose Industries Ltd. to forward an Exclusion Application to the Agricultural Land Commission for removal of 7011 No. 7 Road & PID 024-397-423 from the Agricultural Land Reserve (ALR) be denied.*

Council Agenda – Monday, July 25, 2022

Pg. # ITEM

- (2) *That staff be directed to prepare a letter signed by the Mayor to the Minister of Agriculture, Minister of Environment, Richmond Members of Legislative Assembly (MLAs) and the Premier of BC requesting the Provincial Government consider all options to allow the existing landfill at the site to operate in the ALR under a non-farm use approval.*



Consent
Agenda
Item

12. **CYCLING NETWORK PLAN UPDATE - FINAL PLAN**
(File Ref. No. 02-0775-50-6708) (REDMS No. 6889117))

CNCL-239

See Page CNCL-239 for full report

PUBLIC WORKS AND TRANSPORTATION COMMITTEE
RECOMMENDATION

That the update of the Cycling Network Plan, as described in the report titled “Cycling Network Plan Update - Final Plan,” dated June 21, 2022 from the Director, Transportation, be endorsed for implementation.



Consent
Agenda
Item

13. **EXTENSION TO CONTRACT 6917Q - PUBLIC WORKS LEASE VEHICLES**
(File Ref. No. 02-0780-03) (REDMS No. 6892985)

CNCL-440

See Page CNCL-440 for full report

PUBLIC WORKS AND TRANSPORTATION COMMITTEE
RECOMMENDATION

That staff be authorized to issue a change order to Purchase Order 96440 to increase the value of the current contract between the City of Richmond and Zeemac Vehicle Lease Ltd. by \$244,794, bringing the new contract value to \$700,000, and extending the contract end date to July 1, 2023.



Council Agenda – Monday, July 25, 2022

Pg. # ITEM

14. **2021 RICHMOND FILM OFFICE YEAR IN REVIEW**
(File Ref. No. 08-4150-09-01) (REDMS No. 6894176)

CNCL-443

See Page CNCL-443 for full report

PARKS, RECREATION AND CULTURAL SERVICES COMMITTEE
RECOMMENDATION

That the staff report titled, “2021 Richmond Film Office Year in Review,” dated June 15, 2022, from the Director, Arts, Culture and Heritage Services, be received for information and circulated to motion picture industry stakeholders for their information.



CONSIDERATION OF MATTERS REMOVED FROM THE
CONSENT AGENDA

NON-CONSENT AGENDA ITEMS

15. **ROAD CLOSURE AND REMOVAL OF ROAD DEDICATION
BYLAW NO. 10382 (PORTION OF ROAD ADJACENT TO 6831
GRAYBAR ROAD) IN RELATION TO RZ 21-928623**
(File Ref. No. 12-8060-20-010382) (REDMS No. 6894939, 6894803)

REVISED
CNCL-522

See Page CNCL-522 for Bylaw

RECOMMENDATION ARISING FROM THE JULY 11, 2022 CLOSED
COUNCIL MEETING

Opposed: Cllrs Day and Wolfe

- (1) *That Road Closure and Removal of Road Dedication Bylaw No. 10382 (Portion of Road adjacent to 6831 Graybar Road) be introduced and given 1st, 2nd and 3rd readings;*

- (2) *That the required notice of road closure and disposition of the closed road be advertised prior to final adoption;*
- (3) *That staff be authorized to file a certifying statement executed by the Corporate Officer at Land Title Office cancelling the right of resumption in the closed road pursuant to the Resumption of Highways Regulation; and*
- (4) *That staff be authorized to take all necessary steps to complete all matters as contained in the report titled “Road Closure and Removal of Road Dedication Bylaw No. 10382 (Portion of Road adjacent to 6831 Graybar Road) in relation to RZ 21-928623” dated June 9, 2022 including authorizing the Chief Administrative Officer and the General Manager, Finance and Corporate Services to negotiate and execute all documentation required to effect the transaction, including executing all required Land Title Office documentation.*



GENERAL PURPOSES COMMITTEE

Mayor Malcolm D. Brodie, Chair

16. STEVESTON COMMUNITY CENTRE AND BRANCH LIBRARY – FORM AND CHARACTER

(File Ref. No. 06-2052-25-SCCR1) (REDMS No. 6913914)

CNCL-451

See Page CNCL- 451 for staff memorandum dated July 14, 2022
(previously distributed)

CNCL-454

See Page CNCL- 454 for full report

GENERAL PURPOSES COMMITTEE RECOMMENDATION

Opposed: Cllr. Wolfe

That the form and character design for the Steveston Community Centre and Branch Library as outlined in the report titled, “Steveston Community Centre and Branch Library – Form and Character Design”, dated June 30, 2022 from the Director, Facilities and Project Development and the Director, Recreation and Sport Services be approved.



Council Agenda – Monday, July 25, 2022

Pg. # ITEM

17. **BANNING MARINE SCRUBBERS**

(File Ref. No.) (REDMS No.)

CNCL-466

See Page **CNCL-466** for full report

GENERAL PURPOSES COMMITTEE RECOMMENDATION

Opposed: Cllrs. Day, Steves and Wolfe

The matter is referred to staff for further information and that a letter be sent in support of the UBCM resolution on marine scrubbers.

☐

PUBLIC ANNOUNCEMENTS AND EVENTS

NEW BUSINESS

BYLAWS FOR ADOPTION

CNCL-472

Building Regulation Bylaw No. 7230 Amendment **Bylaw No. 10365**
(Energy Step Code Requirements)

Opposed at 1st/2nd/3rd Readings – None.

☐

CNCL-477

Consolidated 5 Year Financial Plan (2022-2026) Bylaw No. 10327
Amendment **Bylaw No. 10381**

Opposed at 1st/2nd/3rd Readings – None.

☐

CNCL-483

Richmond Zoning Bylaw No. 8500, Amendment **Bylaw No. 9292**
(7220 Railway Avenue, RZ 15-691744)

Opposed at 1st Reading – None.

Opposed at 2nd/3rd Readings – None.

☐

Council Agenda – Monday, July 25, 2022

Pg. # ITEM

REVISED CNCL-485	Richmond Zoning Bylaw 8500, Amendment Bylaw No. 9932 (23400, 23440, 23460 and 23500 Gates Ave, and a Closed Portion of Gates Avenue, RZ 17-766714) Opposed at 1 st Reading – Cllrs. Greene and Wolfe Opposed at 2 nd /3 rd Readings – None
-----------------------------------	---

☐

REVISED CNCL-489	Richmond Official Community Plan 9000, Amendment Bylaw No. 10011 (23400, 23440, 23460 and 23500 Gates Avenue and a portion of Gates Avenue, RZ 17-766714) Opposed at 1 st Reading – Cllrs. Greene and Wolfe Opposed at 2 nd /3 rd Readings – None
-----------------------------------	--

☐

CNCL-493 Richmond Zoning Bylaw No. 8500, Amendment **Bylaw No. 9973**
 (4226 Williams Road, RZ 17-768134)
 Opposed at 1st Reading – Cllrs. Day and Wolfe
 Opposed at 2nd/3rd Readings – Cllrs. Day and Wolfe

☐

CNCL-494 Richmond Zoning Bylaw No. 8500, Amendment **Bylaw No. 10304**
 (2351 Simpson Road, ZT 21-938101)
 Opposed at 1st Reading – None.
 Opposed at 2nd/3rd Readings – None.

☐

DEVELOPMENT PERMIT PANEL

18. RECOMMENDATION

See DPP Plan Package (distributed separately) for full hardcopy plans

- | | |
|---|---|
| CNCL-496

CNCL-508
CNCL-511
CNCL-516
CNCL-519 | <p>(1) <i>That the minutes of the Development Permit Panel meeting held on June 29, 2022, and the Chair's reports for the Development Permit Panel meetings held on May 15, 2019, December 11, 2019 and June 16, 2021, August 11, 2021 and April 27, 2022, be received for information; and</i></p> <p>(2) <i>That the recommendations of the Panel to authorize the issuance of:</i></p> |
|---|---|

Council Agenda – Monday, July 25, 2022

Pg. #

ITEM

- (a) a development Permit (DP 17-768135) for the property located at 4226 Williams Road*
 - (b) a Development Permit (DP 17-791045) for the property located at 6333 Cooney Road;*
 - (c) a Development Permit (DP 18-829228) for the property located at 23400, 23440, 23460 and 23500 Gates Avenue;*
 - (d) a Development permit (DP 18-829286 for the property located at 23200 Gilley Road, and*
 - (e) a Development permit (DP 21-933784) for the property located at 10700 Cambie Road*
- be endorsed, and the Permits so issued.*

☐

ADJOURNMENT

☐



Regular Council

Monday, July 11, 2022

Place: Council Chambers
Richmond City Hall

Present: Mayor Malcolm D. Brodie
Councillor Chak Au
Councillor Carol Day
Councillor Andy Hobbs
Councillor Alexa Loo
Councillor Bill McNulty
Councillor Linda McPhail (by teleconference)
Councillor Harold Steves (by teleconference)
Councillor Michael Wolfe

Corporate Officer – Claudia Jesson

Call to Order: Mayor Brodie called the meeting to order at 7:00 p.m.

RES NO. ITEM

MINUTES

- R22/13-1 1. It was moved and seconded
That:
- (1) *the minutes of the Regular Council meeting held on June 27, 2022, be adopted as circulated;*
 - (2) *the minutes of the Special Council meeting held on June 30, 2022, be adopted as circulated; and*
 - (3) *the Metro Vancouver 'Board in Brief' dated June 24, 2022, be received for information.*

CARRIED



**Regular Council
Monday, July 11, 2022**

- R22/13-2 2. It was moved and seconded
That Council resolve into Committee of the Whole to hear delegations on agenda items (7:01 p.m.).

CARRIED

3. Delegations from the floor on Agenda items – None.

- R22/13-3 4. It was moved and seconded
That Committee rise and report (7:01 p.m.).

CARRIED

CONSENT AGENDA

- R22/13-4 4. It was moved and seconded
That Items No. 6 through No. 13 be adopted by general consent.

CARRIED

5. COMMITTEE MINUTES

That the minutes of:

- (1) the Finance Committee meeting held on July 4, 2022;*
 - (2) the General Purposes Committee meeting held on July 4, 2022;*
 - (3) the Parks, Recreation and Cultural Services Committee meeting held on June 28, 2022; and*
 - (4) the Planning Committee meeting held on July 5, 2022;*
- be received for information.*

ADOPTED ON CONSENT



**Regular Council
Monday, July 11, 2022**

**6. 2022 ENVIRONMENTAL ENHANCEMENT GRANT PROGRAM -
SECOND INTAKE**

(File Ref. No. 03-1085-01) (REDMS No. 6905434, 6903574, 6907533, 6907537, 6907536)

- (1) *That the second round of 2022 Environmental Enhancement Grants be awarded for the total recommended amount of \$4,900 as identified in Attachment 1 of the staff report titled “2022 Environmental Enhancement Grant Program – Second Intake” dated May 30, 2022, from the Director, Parks Services; and*
- (2) *That the grant funds be disbursed accordingly.*

ADOPTED ON CONSENT

ADDITIONAL MOTION:

That staff look at environmental initiatives that may be on private property, the parameters around them and when they may be acceptable and report back.

ADOPTED ON CONSENT

7. MENSTRUAL EQUITY INITIATIVE UPDATE

(File Ref. No. File Ref. No. 11-4055-20- FMPR1) (REDMS No. 6896811)

- (1) *That the Menstrual Equity Initiative be continued as outlined in the staff report titled “Menstrual Equity Initiative Update” dated May 27, 2022, from the Director, Recreation and Sport Services, and the Director, Community Social Development; and*
- (2) *That the City join the United Way’s Period Promise Campaign by signing on to the Period Promise Policy Agreement.*

ADOPTED ON CONSENT

8. 2022 UBCM COMMUNITY EXCELLENCE AWARDS

(File Ref. No. 03-1087-01) (REDMS No. 6896973)

That the City’s entries for the Union of BC Municipalities (UBCM) Community Excellence Awards be endorsed, including:

- (1) *Excellence in Service Delivery: Single-Use Plastic and Other Items Bylaw No. 10000;*



**Regular Council
Monday, July 11, 2022**

- (2) *Excellence in Asset Management: City of Richmond Flood Protection Program; and*
- (3) *Excellence in Sustainability: Brighthouse Fire Hall No. 1 – Solar Photovoltaic Panel Installation.*

ADOPTED ON CONSENT

10. AMENDMENTS TO THE CONSOLIDATED 5 YEAR FINANCIAL PLAN (2022-2026) BYLAW NO. 10327

(File Ref. No. 12-8060-20-010327) (REDMS No. 6907543, 6907546)

That the Consolidated 5 Year Financial Plan (2022-2026) Bylaw No. 10327, Amendment Bylaw No. 10381, which incorporates and puts into effect the changes as outlined in the staff report titled “Amendments to the Consolidated 5 Year Financial Plan (2022-2026) Bylaw No. 10327” dated June 10, 2022, from the Acting General Manager, Finance and Corporate Services, be introduced and given first, second and third readings.

ADOPTED ON CONSENT

11. APPLICATION BY PAKLAND PROPERTIES FOR REZONING AT 11760 WILLIAMS ROAD FROM THE “SINGLE DETACHED (RS1/E)” ZONE TO THE “COMPACT SINGLE DETACHED (RC2)” ZONE

(File Ref. No. 12-8060-20-010391, RZ 21-938616) (REDMS No. 6903531, 6915765, 6914734, 6927125)

Please see Page 5 for action on this item.

12. APPLICATION BY SIMARBIR S. KHANGURA AND LAKHBIR S. KHANGURA FOR REZONING AT 6340 GRANVILLE AVENUE FROM THE “SINGLE DETACHED (RS1/E)” ZONE TO THE “COMPACT SINGLE DETACHED (RC2)” ZONE

(File Ref. No. 12-8060-20-010388, RZ 21-932253) (REDMS No. 6909436, 6909455)

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10388, for the rezoning of 6340 Granville Avenue from the “Single Detached (RS1/E)” zone to the “Compact Single Detached (RC2)” zone, be introduced and given first reading.

ADOPTED ON CONSENT



**Regular Council
Monday, July 11, 2022**

13. APPLICATION BY MLK PROPERTIES LTD. TO ENTER INTO A HERITAGE REVITALIZATION AGREEMENT TO PROTECT THE R.G. RANSFORD HOUSE AND TO CONSTRUCT COACH HOUSE AT 10700 RAILWAY AVENUE

(File Ref. No. 12-8060-20-010386, HA 20-907706) (REDMS No. 6918755, 6741547)

- (1) That Heritage Revitalization Agreement (10700 Railway Avenue) Bylaw No. 10386 to permit the City to enter into a Heritage Revitalization Agreement substantially in the form attached hereto, in accordance with the requirements of Section 610 of the Local Government Act, to protect the R.G. Ransford House and to construct a coach house at 10700 Railway Avenue, be introduced and given first reading.*
- (2) That, following adoption of Heritage Revitalization Agreement (10700 Railway Avenue) Bylaw No. 10386, the Mayor and City Clerk be authorized to execute any further agreements contemplated in the Heritage Revitalization Agreement.*

ADOPTED ON CONSENT

**CONSIDERATION OF MATTERS REMOVED FROM THE
CONSENT AGENDA**

11. APPLICATION BY PAKLAND PROPERTIES FOR REZONING AT 11760 WILLIAMS ROAD FROM THE “SINGLE DETACHED (RS1/E)” ZONE TO THE “COMPACT SINGLE DETACHED (RC2)” ZONE

(File Ref. No. 12-8060-20-010391, RZ 21-938616) (REDMS No. 6903531)

R22/13-5

It was moved and seconded

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10391, for the rezoning of 11760 Williams Road from the “Single Detached (RS1/E)” zone to the “Compact Single Detached (RC2)” zone, be introduced and given first reading.



**Regular Council
Monday, July 11, 2022**

The question on the motion was not called as discussion ensued regarding the (i) retention of trees, (ii) the timeline of the Official Community Plan (OCP) review, (iii) the proposed application complies with the City's Zoning bylaw, OCP and Council policy, and (iv) rental requirements for secondary suites.

In response to Council queries with respect to rental requirements of secondary suites, staff responded that they would do an analysis and report back to Planning Committee with a memorandum.

The question on the motion was then called and **CARRIED** with Cllr. Wolfe opposed.

NON-CONSENT AGENDA ITEMS

14. 2022 MAJOR DEVELOPMENT COST CHARGES PROGRAM UPDATE

(File Ref. File Ref. No. 03-1070-04-03) (REDMS No. 6896790)

R22/13-6

It was moved and seconded

That the preliminary DCC programs and DCC rates as outlined in the staff report dated June 10, 2022 titled "2022 Major Development Cost Charges Program Update" from the Acting Director, Finance, be endorsed as the basis for further public consultation in establishing the updated DCC Rates Bylaw.

In response to queries from Council staff advised that (i) the general calculation formula for Development Cost Charges (DCC's) is derived from many components and is consistent with the rate calculation used across municipalities, (ii) the rates have not been adjusted or recalculated since 2017, (iii) the application of DCC's is only for rezonings not rebuilt homes, (iv) the increases outlined represent a catch up of five years during which prices have increased substantially, (v) DCC's collected are based on additional growth, (vi) once the OCP targeted review is completed a full DCC review will be undertaken, and (vii) collection of DCC's is a financing tool to ensure that growth itself should assist in funding servicing needs.

The question on the motion was then called and **CARRIED** with Cllr. Wolfe opposed.



Regular Council
Monday, July 11, 2022

Further discussion ensued regarding imposing DCC's on rebuilds and lobbying the province to change their policy on the application of DCC's. As a result of the discussion the following **referral** motion was introduced

R22/13-7

It was moved and seconded

That a letter be sent to the Provincial government requesting that Development Cost Charges be extended to be applied for single family rebuilds.

The question on the motion was not called as staff noted that the proposed change would alter the concept of DCC application.

The question on the motion was then called and **DEFEATED** with Mayor Brodie, Cllrs. Au, Hobbs, Loo, McNulty, McPhail and Steves opposed.

Discussion ensued regarding the viability of charging DCC's on single family rebuilds. As a result the following **referral** motion was introduced:

R22/13-8

It was moved and seconded

That staff investigate the viability of applying Development Cost Charges to dwellings being rebuilt and report back.

CARRIED

PUBLIC ANNOUNCEMENTS

Mayor Brodie advised that July 13, 2022 DP Panel meeting has been cancelled.

BYLAW FOR 2nd and 3rd READING

R22/13-9

It was moved and seconded

Building Regulation Bylaw No.7230, Amendment Bylaw No. 10365

CARRIED



**Regular Council
Monday, July 11, 2022**

PUBLIC DELEGATIONS ON NON-AGENDA ITEMS

- R22/13-10 15. It was moved and seconded
That Council resolve into Committee of the Whole to hear delegations on non-agenda items (8:16 p.m.).

CARRIED

Kerry Starchuk, Richmond resident, referred to her submission (copy on file) and expressed her concerns regarding preserving single family neighbourhoods and spoke about unsightly premises during construction, parking and obstruction of driveway concerns and length of time for new home construction completion.

Discussion ensued regarding the good neighbour program and abiding by bylaw regulations. As a result of the discussion the following **referral** motion was introduced:

- R22/13-11 It was moved and seconded
That staff review the options to improve the Good Neighbour Program submitted by the delegation and report back with an analysis, and
That staff provide information about the Good Neighbour Program, including data regarding what it entails, what is the percentage of resolutions and suggest revisions and recourse for developers not abiding by City bylaws and report back.

CARRIED

Deirdre Whalen, Richmond Poverty Reduction Coalition, shared her concerns regarding the need for non-market rental housing in Richmond and referred to her submission (copy on file) urging City Council to pursue and secure federal, provincial and other sources of funding to develop non market housing using city-owned land, undertake a full Low End Market Rental review and reduce the number of Richmond residents on the BC housing wait list by 50% within 5 years.



**Regular Council
Monday, July 11, 2022**

Discussion ensued regarding (i) the city purchasing land for affordable housing, (ii) pursuing senior levels of government for funding for affordable housing, (iii) engaging faith groups to collaborate on creating affordable housing, (iv) reducing the amount of people on the BC housing waiting list, and (v) engaging non profit societies, pension funds, and other sources to partner with to create non market rental housing.

As a result of the discussion the following **referral** motion was introduced:

R22/13-12

It was moved and seconded

That the presentation by the Richmond Poverty Reduction Coalition regarding increasing the supply of non-market rental housing be referred to staff for an analysis of options and recommendations, in conjunction with the objective of the City of Richmond purchasing properties for affordable housing and in addition to, capturing the lift on the designated properties and report back.

Question on the referral motion was called and **CARRIED**

R22/13-13

16. It was moved and seconded

That Committee rise and report (9:02 p.m.).

CARRIED

ADJOURNMENT

R22/13-14

It was moved and seconded

That the meeting adjourn (9:02 p.m.).

CARRIED



City of
Richmond

Minutes

Regular Council Monday, July 11, 2022

Certified a true and correct copy of the Minutes of the Regular meeting of the Council of the City of Richmond held on Monday, July 11, 2022.

Mayor (Malcolm D. Brodie)

Corporate Officer (Claudia Jesson)

Annual Report 2021



CNCL - 22

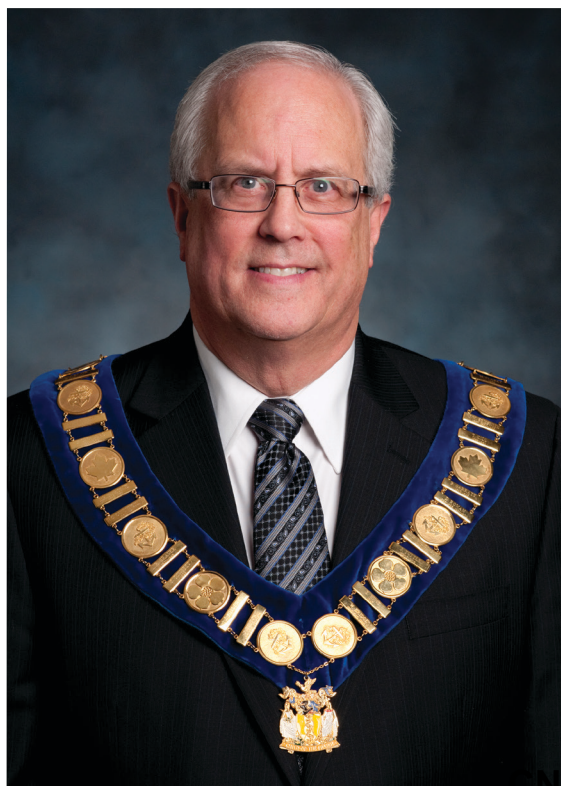


Richmond
Public Library

Greetings From The Mayor

On behalf of Richmond City Council, I invite you to browse the pages of the library's 2021 Annual Report to the Community.

As the pandemic progressed into its second year, the library was able to safely and steadily restore services. By adapting programs, services and spaces to alleviate social isolation, provide access to vital information and create spaces for community to safely gather, the library remained integral to our community, even during a time of global uncertainty.



With a vision of creating opportunities to learn, connect and belong, the library is focussed on being:

- **Responsive** – linking community to critical information and resources as community needs change.
- **Inclusive** – removing barriers and making services, programs and resources available to everyone.
- **Innovative** – introducing collections, resources and experiences that inspire and encourage curiosity.

I am proud that our library has joined the hundreds of library systems across North America to eliminate late charges and become fine free. This change means that every Richmond resident has access to the wide range of services the library offers, regardless of circumstance. Furthermore, I look forward to the continued collaboration between the library and the City to support Richmond in its vision to be the most appealing, livable and well-managed community in Canada.

In closing, I would like to thank the Library Board Trustees, library staff, community partners, volunteers and donors, who have given their expertise, time and financial support to enhance library services for everyone in our community. Your support is so important and valued!

A handwritten signature in black ink, which appears to read "Malcolm Brodie".

Malcolm D. Brodie
Mayor

Message From The Board Chair And Chief Librarian

During another year of constant change, we are incredibly proud of our staff's unwavering commitment to providing exceptional service for our community. Your library experience certainly changed as we entered a second year of the pandemic and we all had to find new and innovative ways to learn, connect and belong in a virtual world. Together we adapted to rapidly changing protocols, allowing us to safely expand our hours of operation and gradually restore vital services. We were extremely excited to be able to welcome you back into our libraries. None of this would have been possible without your ongoing support – thank you!

We are proud that we were able to connect with community in many ways this year. We prioritized and accomplished a lot of great initiatives and started work on others that will form the foundation for the road ahead. Here are some of the highlights from this year:

- Continuing our commitment to support inclusive initiatives, we provided Indigenous Perspectives staff training in alignment with our values to guide us in our path towards truth and reconciliation.
- We introduced new self-service technology that makes your experience borrowing and returning materials not only quick and efficient, but fun too.
- Our partnership with the Sister Cities Advisory Committee to unite communities across continents expanded with our 2021 One Book, Four Cities program.
- Community members of all ages were excited to be introduced to our new birdwatching and fishing ExplorePACKS that encourage the exploration of Richmond's vibrant natural environment.
- As part of our core responsibility to provide equitable access, 2021 saw the elimination of library fines to remove economic barriers and the acquisition of dedicated accessible technology to support those with print disabilities.

If you haven't been to the library for a while, there's no better time than now. Our friendly staff are here to welcome you and help you register for programs, introduce you to new services, and guide you to the 350,000 items in our collections available to explore and borrow. Visit us today, we'd love to see you!



A handwritten signature in black ink, appearing to read 'Jordan Oye'.

Jordan Oye
Board Chair



A handwritten signature in black ink, appearing to read 'Susan Walters'.

Susan Walters
Chief Librarian

Did You Know ?



Storytimes at all branches



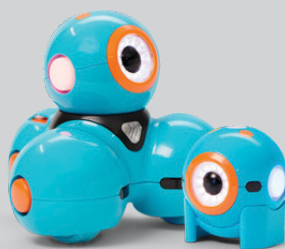
Free Wi-Fi



You can make purchase suggestions



You can volunteer



We have cool tech



We have lots of study space

345,000+
Items to borrow



1,360+
Free programs



Book clubs for all ages

Sign up today for our monthly eNewsletter!
CNCL - 25



Richmond Public Library



DONATE TO CREATE A UKULELE LENDING COLLECTION FOR RICHMOND
Join RPL and community members who represent Ukulele-loving older adults in Richmond in creating a legacy Ukulele lending library for residents to borrow. This collection is being created in memory of long-time community volunteer, Linda Perrow.

[Donate Now](#)

Canadian Library Month
Join us all month long for demonstrations in-branch and follow us on social media for sneak peek videos and tips.

Canadian Library Month
One card, one million possibilities

Build And Grow Our Community

Economic Recovery

We believe in equitable library access for all and to demonstrate this to our community, we made late fines a thing of the past in February 2021. As a result, we welcomed back 3,300 customers last year and redirected almost 10,000 staff hours previously spent on fine-related conversations. We have reinvested those hours in our customers, and our community.

We continue to be a connector to essential government services and supports and once again were able to offer Low Income Tax Clinics to over 100 Richmond residents. Dedicated computer stations provided free access for customers to print their BC Vaccine cards. The library also offered vital Job Fair programs in partnership with WorkBC Employment Services, WorkBC Richmond and the British Columbia Hotel Association that provided professional development and networking opportunities to over 550 attendees.





Mental Wellness

Beyond the economic impacts, and with the support of grants, donations and partnerships, the library provided close to 500 community members with programs that explored depression, anxiety and other mental health conditions. Intergenerational programs for seniors and teens that included our PenPals series, along with providing opportunities for customers of all ages to connect outside and create nature-inspired art with local artist Rachel Rozanski, offered relief from social isolation and loneliness caused by the pandemic.

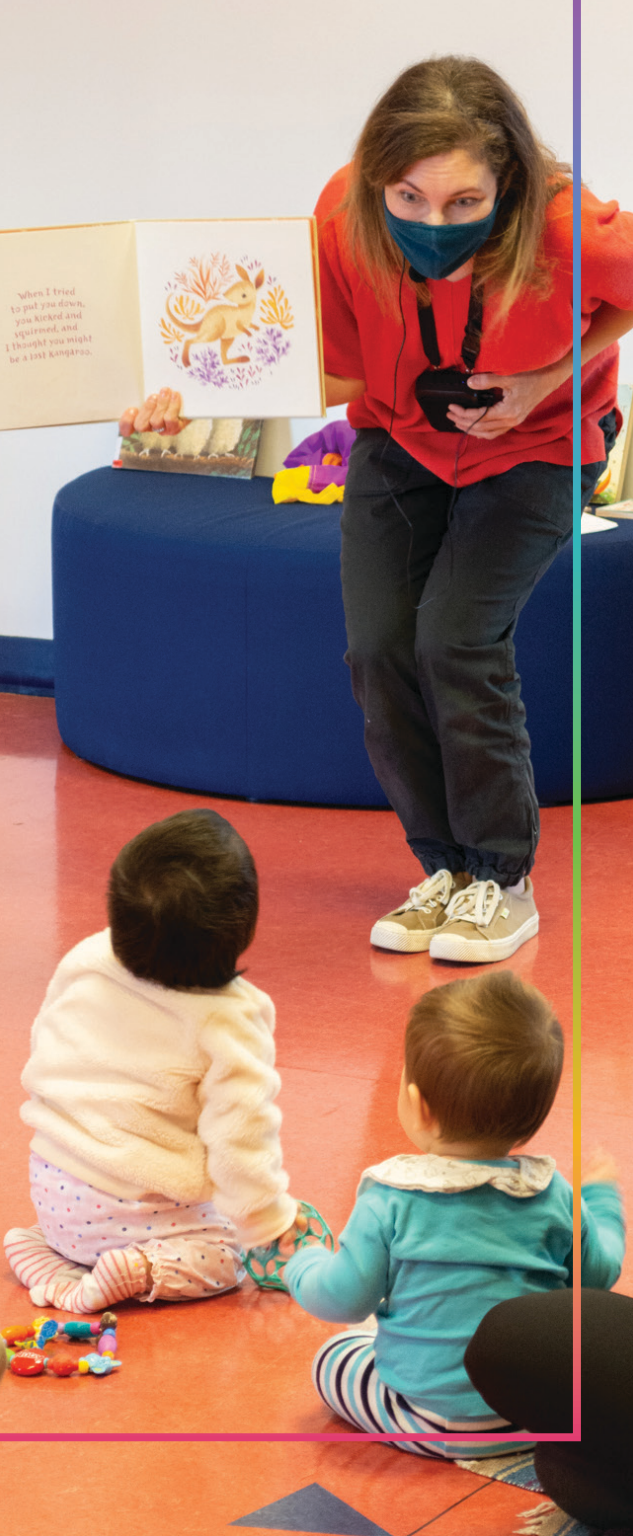


Inclusion

From educating staff through over 600 hours of Equity, Diversity and Inclusion training, to developing a dedicated Indigenous Resources web page, to offering dynamic and educational programming led by local Indigenous peoples, the library is providing opportunities to learn and reflect, while creating a space for sharing ideas through dialogue. Through partnership programs with local community advocates and a Province of BC Multiculturalism Grant, the library presented meaningful and interactive programming for Black History Month, Pride Week and to support Black, Indigenous, and People of Color (BIPOC) youth.

Our Library Champions supported all of our community-building efforts and demonstrated resiliency, pivoting during the pandemic to make virtual connections with new immigrants, and helping them unleash the benefits of accessing the library. Together, 23 Champions participated in projects with the library, reaching out to 620 immigrant community members and making almost 65,000 impressions on social media through over 80 social media posts. Thank you, Champions!





Develop And Leverage Our Resources

Investing In Staff

By developing and leveraging our staff, the library's greatest and most valuable resource, we are ensuring they can deliver amazing customer service and execute the library's values. Our staff are committed to empowering customers with access to innovative tools, and a wide variety of informative collections and digital resources so that they can pursue and achieve their goals. The library invested in training for all staff to give them the tools and knowledge needed to provide consistently excellent customer service. This training emphasized a focus on the "3R's" – relationship-building, responsiveness and reliability.

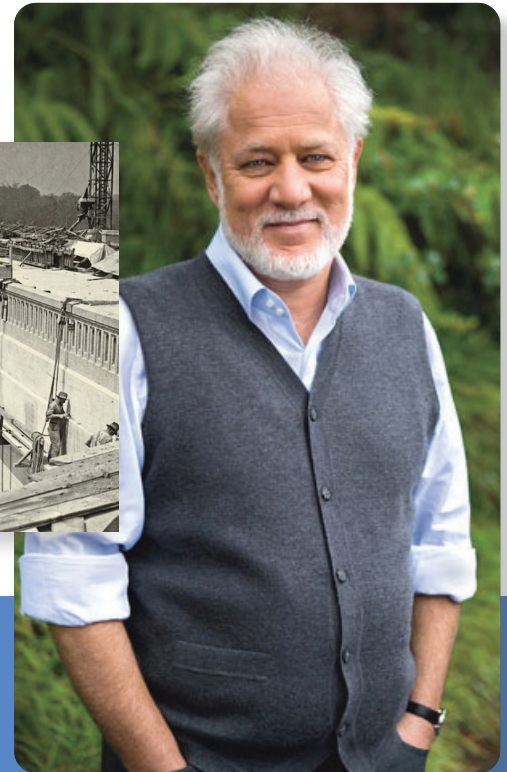
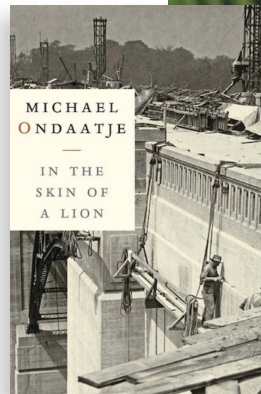
Investing In Community

Funded by a Provincial Digital Initiatives Grant, we were able to purchase computers and offer customized programming and computer literacy training to residents living at the Salvation Army Richmond House Emergency Shelter. To increase access to the library's Wi-Fi service both inside and outside our branches, the library also invested grant funding to upgrade our existing wireless system. This grant enabled the library to focus on ensuring that some of our community's most vulnerable members continued to have access to essential government information and supports, and to create partnerships with local organizations to build and grow a stronger community.

Expand Access To Core Services

Literacy-Based Programs

Literacy-based programs are foundational to the library, offering a dynamic and stimulating environment for all age groups and encouraging life long learning. We are dedicated to developing and supporting a literate society and promoting the social and emotional growth of all Richmond residents. The annual Summer Reading Club and Writer-In-Residence series, as well as the popular Learning Together family literacy program, Literacy for Life for adult language learners, and traditional storytimes and book clubs all played a key role in keeping community connected to reading through learning. Almost 21,000 people took part in these programs!





To support the community's creative needs and interests, the library introduced Cricut machines at both the Brighthouse and Ironwood branches.

Diverse Collections

To support our community of readers, the library's collection is constantly growing and expanding. With limited physical access to library branches in 2020, the library redirected funding to digital materials and noted a 40% increase in the use of digital collections. This trend continued into 2021; digital circulation remained strong with residents borrowing 714,000 digital items (ebooks, audiobooks, magazines, movies and more).

With increased access to library branches, physical circulation increased by almost 70% with over 1.3 million items being borrowed. To keep our collections fresh, the library added over 36,000 items to our collection. Supporting homebound Richmond seniors, the library delivered more than 3,200 items to over 50 Home Services customers.

Funded by a generous donation from the Friends of the Library, a new collection of hardcover picture books and audiobooks in one, called VOX™ books was introduced, to support parents in encouraging independent bedtime reading.

Staying Informed

This year, over 17,000 people stayed informed through free access to over 6,000 newspapers and magazines from around the world, using PressReader, one of the library's free digital resources.

Physical And Digital Literacy

Richmond is home to one of the most important bird habitats in Canada, the Fraser River Delta, and our City has a long history and heritage based on the fishing industry. To help our community explore Richmond's many parks, outdoor spaces and waterways, the library introduced a series of ExplorePACKS created to promote birdwatching and fishing. These kits were made possible by generous local donors. Also launched in 2021 were STEAM kits designed for school-aged children to foster an interest in Science, Technology, Engineering, Arts and Mathematics, helping to build problem-solving skills and improve creative and critical thinking.



Thank You To Our Partners:



Freshwater Fisheries
Society of BC



Environment and
Climate Change Canada

CNCL - 32





What were your
favourite reads
this year?

CNCL - 33

Reimagine Space For Our Community

Welcoming Spaces

Every day, we welcome more than a thousand customers through our doors. To make their experience as enjoyable, efficient, safe and comfortable as possible, we introduced a number of technology solutions, such as the new self check in wall, providing customers with a quick and easy returns experience, and eliminating the possibility of missing items as a receipt is provided instantly. The library's new returns sorting system at the Brighthouse branch frees up valuable staff time to serve customers. The new RFID self check out kiosks can check out several items at once, speeding up customer transactions.

We also introduced regular outdoor programs, including StoryWalks® and Storytimes and hosted over 2,800 participants at almost 39 outdoor programs.



CNCL - 34





Thank You To Our Donors

Our donors make a huge difference. Every donation we receive allows us to go above and beyond the core library programs, services and resources that you've come to expect from the library. Simply put, donations help us do more. We appreciate you so much! Thank you for your generosity.

The library gratefully accepts donations year-round. Donate today and help the library reach ever farther!

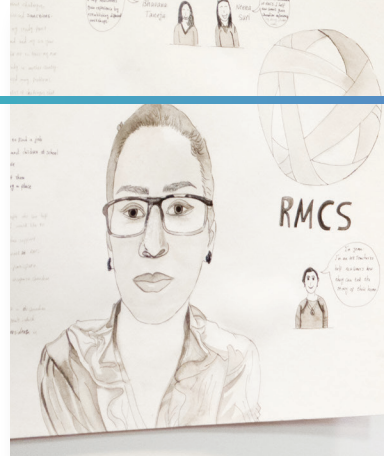
Linda Perron Ukulele Lending Library

To encourage community to experience the mental and physical health benefits of playing an instrument, the library introduced the Linda Perron Ukulele Lending Library for residents to borrow and enjoy. The collection was funded by community donations in memory of Linda Perron, well-known throughout Richmond for her dedication to family and friends, her commitment to volunteerism and passion for grassroots music-making. The collection consists of 25 ukuleles.



Ben And Esther Dayson Judaica Collection

A generous donation from the Dayson Charitable Foundation enabled the library to offer several unique programs, including movie nights that explored Jewish culture and history and a creative writing series for youth led by a local author. Funds from the donation also supported the purchase of three new book club sets about the Jewish experience and a collection of books about Hanukkah for the entire community to enjoy.



Community Art Wall Sponsors: Anar Shariff And Afzal Mangalji

The library introduced a collaborative art wall as a permanent display space for community members to share original art. This space provokes reflection, thoughtful discussion and creates a positive and inviting atmosphere. The first art wall installation featured art created by newcomers to Canada, supported by local artist Jean Bradbury and Richmond Multicultural Community Services, entitled "Stories of Home – Past and Present".

2021 Donations

Thank you to the many generous donors who helped us improve and expand access to essential programs, collections and services.

DONATIONS \$5,000 - \$19,999

Ben & Esther Dayson Charitable Foundation

DONATIONS \$1,000 - \$4,999

Alan Burns; Anar Shariff & Afzal Mangalji; Birds Canada; Raphael and Jacqueline Lui; Renee Aldana; Simon Fraser University

DONATIONS \$500 - \$999

Anonymous(1); Cyndi Mintzberg; Erin Riffel; Linda McPhail; Mike & Munjeet Booton; Robert Perron; Susan Koch; Tina Ippel

DONATIONS \$300 - \$499

Carmen Cousar; David Cameron; Donna J. Wilson; Judith Tait

DONATIONS \$200 - \$299

Anne Devent; Carolyn Holland; Cindy McPherson; Helen Collinge; James Pettifer; Jenna Newman; Linda Hunt; Robbin Greig; Susan and Glenn Guilbault; Susan Johnsen; Susan Walters

DONATIONS \$100 - \$199

Anonymous(3); B. Joan Mann; Caitlyn Lam; Claire Hammer; David Bell; David Xu; Denise Hui; Frances Nakanishi; Jane Pratt; Jacqui Ostergo; Jose Mendoza; Ken Nelson; Lily Lee; Lori Davis; Marilyn Sakiyama; Mary Gardner; Meredith &

Ron Woodward; Michael Bemmels; Romi Fung; Rudy Chiang; Rosemary Nowicki; Sheila Rodgers; Sheila Smart; Sandy Bichard; Vivian Garfinkel

DONATIONS \$50 - \$99

Allisa Ritchie; Anonymous(5); Barbara Corder; Barry Yu; David Hamaguchi; Dorothy Urwin; Hanaye (Frances) Isomura; James Hirayama; Janice Froese; Joseph Tsang; Judith Quinn; Kelvin Higo; Lance Carey; Leslie Diack; Linda Tam; Lingfeng JC Zhu; Lynne Scroggs; Margaret Jane Anderson; Marilyn Sakiyama, Seventh Heaven Book Club; Mary Lou Rossiter; Melissa Clark; Paul Brady; Rana Puj; Sarinda Jayasinghe; Sharon Doucelin; Shelley Ail; Susan Jackson; Toshiko Fujimuro; Toy Chong; Valentina Wojna; Wally Marner; Weibo Qin, c/o 1180669 BC LTD

DONATIONS UP TO \$49

Alicia Borthwick; Anonymous(12); CanadaHelps; Canadian Online Giving Foundation; Carol De Marco; Carole Ringers; Catharine Herb-Kelly; Christine Purling; Constance Magnusson; Denise Aitken; Derril Gudlaugson; Eموke Molnar; Hazel Cusay; Hilary Kariotis; Ivy Liu; Jennifer Anderson; Jianan Song; Jiaxi Liu; Josephine Hwo; Kathy Arnsdorf; Kriste Stolte; Linda Anderson; Linda Gow; Linda Simpson; Marie Blais; Mary Huebner; Maureen Tweedly; Melissa Dowling; Michael A. Kavanagh; Mona Westlands; Myra Lam; Nancy Huntington; Patricia Hamilton; Patti Chabot; Peter Yee Chow; Rachel Eaton; Rick Plumley; Rosita De Souza; Shirley Yap; Shu Leon Sun, c/o Leon Sun PREC; Shu Yu; Wee Nie Tham; Wei Shi; Xiaohua Liu; Ying Lo



Get a
tax receipt
with your
donations!

CNCL - 38

2021 Statement Of Revenue & Expenses

OPERATING REVENUE

Municipal Contribution	\$9,547,950
Donations	\$58,765
Grants	\$376,528
Fines & Miscellaneous	\$39,976
Investment Income ¹	\$13,534

Total \$10,036,753

CAPITAL

Municipal Contribution	\$742,400
Gain on Sale of Assets	\$17,555

Total Revenue \$10,796,708

OPERATING EXPENSES

Salaries & Employee Benefits	\$7,102,396
Supplies & Equipment Services	\$277,979
General & Administration	\$303,754
Building, Lease & Maintenance	\$398,504
Utilities	\$134,107
Library Subscriptions & Databases	\$656,445
Contribution for Capital Improvements	\$0

Total \$8,873,185

CAPITAL

Amortization ²	\$960,196
---------------------------	-----------

Total Expenses \$9,833,381

Annual Surplus (Deficit) \$963,327

¹ Investment income is generated from endowment funds administered by the Vancouver Foundation and the Richmond Community Foundation.

² The cost of an asset, such as a book, is spread over the estimated useful life of the asset or the book and this annual expense is referred to as "amortization".

Coming In 2022

In 2022, the Library Board is supporting some exciting projects that will add innovative new services and spaces, and create an enhanced customer experience.



New Service Points

For a better customer experience, we are adding mobile service points at each branch that will make staff more visible and accessible to customers, creating a more welcoming environment and removing barriers. These changes will provide a single point of contact for customers when they enter the library.



Connect With Our Friendly Staff

Our name tag pilot project supports our organizational customer service strategy and creates increased opportunities to foster curious conversations and create meaningful relationships with customers.

A New Strategic Plan

The library's 2019 – 2021 Strategic Plan was extended through 2022 to ensure that the goals and priorities that were set aside during the pandemic could be achieved. This year, staff will begin formulating the next Strategic Plan which will guide the library through a phase of growth, innovation and responsiveness to community needs.



A StoryWalk® Circuit At McLean Park

The library and the City of Richmond have just opened a permanent StoryWalk® circuit located in scenic McLean Park, funded in part by a Rotary grant. This StoryWalk® will feature a diverse range of stories and illustration styles, with the first story featuring Orca Chief By Roy Henry Vickers and Robert Budd, celebrating Richmond's ties to the sea.



A Play-Based Learning Space





The new Play-Based Learning Space at the Brighthouse branch will provide children and their caregivers with a place to read together, create together and learn together. The new space will have an activity wall and a story wall to engage and delight families.



Visit a library branch today!

 **Richmond
Public Library**
Discover more @yourlibrary.ca

CNCL - 41

 /yourlibraryRichmond
 @RPLBC
 @RPLBC
 RPLYourLibrary



Community Safety Committee

Date: Tuesday, July 12, 2022

Place: Council Chambers
Richmond City Hall

Present: Councillor Linda McPhail, Chair (by teleconference)
Councillor Carol Day (by teleconference)
Councillor Andy Hobbs
Councillor Alexa Loo (by teleconference)
Councillor Bill McNulty
Councillor Harold Steves (by teleconference)

Also Present: Councillor Chak Au
Councillor Michael Wolfe

Call to Order: The Chair called the meeting to order at 4:00 p.m.

ADDITIONS & DELETIONS

It was moved and seconded

That Correspondence Regarding Bylaws and Community Safety be added to the agenda as Item No. 8.

CARRIED

MINUTES

It was moved and seconded

That the minutes of the meeting of the Community Safety Committee held on June 14, 2022, be adopted.

CARRIED

Community Safety Committee
Tuesday, July 12, 2022

COMMUNITY SAFETY DIVISION

1. ANIMAL PROTECTION SERVICES MONTHLY ACTIVITY REPORT - MAY 2022

(File Ref. No. 12-8060-01) (REDMS No. 6897570)

It was moved and seconded

That the staff report titled "Animal Protection Services Monthly Activity Report – May 2022", dated June 10, 2022, from the General Manager, Community Safety, be received for information.

CARRIED

2. PROPERTY USE AND PARKING ENFORCEMENT MONTHLY ACTIVITY REPORT - MAY 2022

(File Ref. No. 12-8060-00) (REDMS No. 6920246)

It was moved and seconded

That the staff report titled "Property Use and Parking Enforcement Monthly Activity Report - May 2022", dated June 20, 2022, from the Director, Community Bylaws & Licencing, be received for information.

CARRIED

3. RICHMOND FIRE-RESCUE MONTHLY ACTIVITY REPORT – MAY 2022

(File Ref. No. 99-Fire Rescue) (REDMS No. 6893633)

A brief discussion ensued with respect to potential sites for emergency shelter services. Acting Chief McGrath noted that all current sites were selected based on geographical location, and that there are no solid agreements in place with these sites. It was suggested that formal agreements be considered to ensure emergency response sites are secured for any potential emergency (e.g. through faith groups and community groups that may have site capacity). The information will be taken under advisement and report back to the Committee.

It was moved and seconded

That the staff report titled "Richmond Fire-Rescue Monthly Activity Report – May 2022", dated June 13, 2022, from the Fire Chief, be received for information.

CARRIED

Community Safety Committee
Tuesday, July 12, 2022

4. **FIRE CHIEF BRIEFING**

(Verbal Report)

Chief Wishlove noted the following:

(i) ***Canada Day***

The Canada Day was a huge success and the weather was ideal for the salmon festival and celebrations. Richmond Fire had two fire prevention officers patrolling and also two community relation officers that had a booth set up, receiving several hundred attendees receiving information on fire education, as well as the red helmets (always popular with children) and had a first line apparatus in service all day from Station 2, with no significant events to report.

5. **RCMP MONTHLY ACTIVITY REPORT - MAY 2022**

(File Ref. No. 09-5000-01) (REDMS No. 6907116)

Discussion ensued with respect to (i) mental health related incidents and resulting hospital wait times, (ii) traffic enforcement and the significant jump in productivity resulting from the recent Canada Road Safety Week and additional weekly initiatives, and (iii) concerns with respect to violations and enforcement for e-bikes and the new e-scooter pilot program, noting the need for continued education to the community to promote awareness and ensure there is an understanding of the limitations and resulting fines (a review and report back on this issue).

It was moved and seconded

That the staff report titled "RCMP Monthly Activity Report- May 2022", dated June 13, 2022, from the Officer in Charge, Richmond RCMP Detachment, be received for information.

CARRIED

6. **RCMP/OIC BRIEFING**

(Verbal Report)

Chief Supt. Chauhan noted the following:

(i) ***Youth Partnership Car 30 (Yankee 30) Pilot Program***

tape

The Richmond RCMP will be embarking on a six month pilot project, anticipated to launch in the fall. The project, "Yankee 30", is in partnership with the Ministry of Children and Family Development (MCFD), involving both Youth Justice and Child Protective Services, and targeted towards identifying and supporting at-risk and vulnerable youth. A Richmond RCMP Youth Section Constable will be partnered half of the time with an MCFD youth probation officer working with and monitoring youth coming into conflict with the law, and preventing youth from becoming involved in youth justice or from being criminally or sexually exploited. The other half of time

Community Safety Committee

Tuesday, July 12, 2022

will be partnered with an MCFD youth social worker with a focus on the welfare and safety of youth and their families, where the MCFD and Richmond RCMP partnership can provide immediate intervention such as high risk domestic violence situations where there is a legislated mandate to be involved with the youth and their families under the *Child Family and Community Services Act*. The pilot program will be monitored on a two month basis with a report at the end of six months.

(ii) *Canada Day*

The 75th anniversary of the Steveston Salmon Festival was well received with approximately 35,000 in attendance, including many community members and volunteers, and RCMP members continued patrol of the area until 1:00 a.m.

7. MANAGER'S REPORT

(i) *MyBusiness – Business License Portal*

The MyBusiness online business licensing system launched on July 11, 2022, streamlining the business licensing process through an online self-service option that provides the public the convenience of applying for, updating and renewing their business licenses online.

(ii) *Official Re-Opening of Animal Shelter*

The official re-opening of the Richmond Animal Shelter takes place on Friday, July 22, at 10:00 a.m., followed by a public open house on Saturday, July 23, for the public to visit and interact with the animals and on-site activities.

(iii) *Correspondence – Safety Concerns*

Councillor Day referenced correspondence from Richmond Resident, Julia Lee, dated May 30, 2022 (copy on file), with respect to safety concerns resulting from the neighbouring RainCity modular housing development. It was suggested it would be prudent to have the General Manager, Community Safety, liaise with the Director, Community Social Development, with respect to the concerns raised and provide an update to the Committee.

Community Safety Committee
Tuesday, July 12, 2022

COUNCILLOR HOBBS

8. CORRESPONDENCE REGARDING BYLAWS AND COMMUNITY SAFETY

(File Ref. No.) (REDMS No.)

Councillor Hobbs referenced recent correspondence from Mr. Jose Gonzales, dated July 5, 2022, expressing concerns with respect to the July 18, 2022 Public Hearing item “Spires Road Area Proposed Rental Tenure & Density Increases”. In particular it was noted that item 1 a) through e) were community safety concerns relating to unsightly premises, overgrown brambles and bushes, house inspections, etc. to be addressed. It was further noted that the neighbourhood is in transition and that the concerns raised were not endemic to the majority of the neighbourhood. As a result of the discussion, the following *referral motion* was introduced:

It was moved and seconded

That staff follow up with Mr. Gonzales, in particular to items 1(a) – (e) of his correspondence that relate to the purview of the Community Safety Committee.

The question on the motion was not called as further discussion ensued noting a previous referral regarding building and construction to be taken under advisement in support of the referral motion. It was further requested that an update be provided at the September Community Safety Committee meeting.

The question on the referral motion was then called and it was **CARRIED**.

ADJOURNMENT

It was moved and seconded

That the meeting adjourn (4:42 p.m.).

CARRIED

Community Safety Committee
Tuesday, July 12, 2022

Certified a true and correct copy of the Minutes of the meeting of the Community Safety Committee of the Council of the City of Richmond held on Tuesday, July 12, 2022.

Councillor Linda McPhail
Chair

Lorraine Anderson
Legislative Services Associate



General Purposes Committee

Date: Monday, July 18, 2022

Place: Council Chambers
Richmond City Hall

Present: Mayor Malcolm D. Brodie, Chair
Councillor Chak Au
Councillor Carol Day
Councillor Andy Hobbs
Councillor Alexa Loo (by teleconference)
Councillor Bill McNulty
Councillor Linda McPhail (by teleconference)
Councillor Harold Steves (by teleconference)
Councillor Michael Wolfe (by teleconference)

Call to Order: The Chair called the meeting to order at 4:00 p.m.

MINUTES

It was moved and seconded

That the minutes of the meeting of the General Purposes Committee held on July 4, 2022, be adopted as circulated.

CARRIED

DELEGATIONS

1. Joanne Morneau, Fabric Bag Solution, advised of events that led to the creation of the volunteer sewing group in 2019 and noted the group has donated thousands of bags made from upcycled fabric to many organizations in an attempt to reduce the quantity of single-use plastics.

General Purposes Committee

Monday, July 18, 2022

Avelie Wa, 9-year-old student, noted she joined Fabric Bag Solutions as a volunteer sewer and her class created artwork for the fabric bags, and Emma Erven-Cook, Gleneagle Secondary Grade 12 student, reported she is encouraging local governments to institute policies to ban single-use plastics.

Ms. Morneau thanked the Committee for implementing a single-use plastic ban in Richmond and requested that they encourage other local governments to implement a similar ban and advocate for change.

Discussion ensued regarding (i) a provincial regulation change permitting communities to implement single-use plastics bans allowed Richmond to implement the policy, (ii) suggestion that Fabric Bag Solution volunteer sewing group provide the presentation to other communities, (iii) bylaws are public knowledge and can be accessed by other communities, (iv) suggestions for grant applications and fundraising opportunities, (v) suggestion to present information to school boards, and (vi) suggestion to encourage schools to create clubs or groups to aid in bag sewing.

In response to questions from the Committee, Ms. Morneau advised (i) Fabric Bag Solutions donates to foodbanks, shelters and other organizations, (ii) Fabric Bag Solutions donates to classrooms in exchange for letters written to local governments regarding single-use plastics bans, and (iii) local governments are being encouraged to create bylaws banning single-use plastics.

ENGINEERING AND PUBLIC WORKS DIVISION

2. TECHNICAL AND ECONOMIC CONSIDERATIONS FOR ROOFTOP SOLAR ENERGY SYSTEMS FOR NEW BUILDINGS

(File Ref. No. 10-6125-07-02) (REDMS No. 6915777)

In response to questions from the Committee, staff advised (i) a net zero energy ready building may also have natural gas connections, (ii) technical limitations can be obstacles to creating a non-gas structure, (iii) the City is incentivizing non-gas options in new buildings, (iv) sloped roofs are capable of generating solar power but the effectiveness is dependent upon location, shade and hours of sunlight, (v) the firehall consumes 500,000 kilowatt hours of energy per year, (vi) batteries for energy storage are not cost competitive, but it is possible to design energy storage on site, and (vii) contractors do provide estimates and feasibility reports for solar conversion to homeowners.

Discussion ensued regarding (i) the need for an accessible version of the proposal to be distributed to homeowners, and (ii) request for information on government subsidies provided to BC Hydro.

General Purposes Committee
Monday, July 18, 2022

It was moved and seconded

That as described in the report titled “Technical and Economic Considerations for Rooftop Solar Energy Systems for New Buildings” dated June 30, 2022, from the Director, Sustainability and District Energy, staff proceed with engaging local builders and developers as part of identifying regulatory and incentive pathways to advance building electrification and on-site low carbon energy systems, including rooftop solar PV systems, and report back.

CARRIED

**3. STEVESTON COMMUNITY CENTRE AND BRANCH LIBRARY –
FORM AND CHARACTER**

(File Ref. No. 06-2052-25-SCCR1) (REDMS No. 6913914)

In response to questions from the Committee, staff advised (i) the site location was determined in 2020, and (ii) the Sustainable “High Performance” Building Policy does not require the building to be net zero ready.

In discussion, the Committee requested that staff include information regarding tree removal when the design is presented to the Committee.

As a result of the discussion, the following **referral motion** was introduced:

It was moved and seconded

That the form and character design for the Steveston Community Centre and Branch Library be referred back to staff to provide information to the public regarding tree removal on the property.

DEFEATED

Opposed: Mayor Brodie

Cllrs. Au

Hobbs

Loo

McNulty

McPhail

Steves

It was then moved and seconded

That the form and character design for the Steveston Community Centre and Branch Library as outlined in the report titled, “Steveston Community Centre and Branch Library – Form and Character Design”, dated June 30, 2022, from the Director, Facilities and Project Development and the Director, Recreation and Sport Services be approved.

CARRIED

Opposed: Cllr. Wolfe

General Purposes Committee
Monday, July 18, 2022

DEPUTY CAO'S OFFICE

4. COUNCIL STRATEGIC PLAN 2018-2022 TERM HIGHLIGHTS

(File Ref. No. 01-0005-01) (REDMS No. 6908395)

Discussion ensued regarding a request to provide an update to the "Council Strategic Plan 2018-2022 Term Highlights" report in October, 2022.

It was moved and seconded

- (1) That the report titled, "Council Strategic Plan 2018-2022 Term Highlights" dated June 7, 2022, from the Director, Intergovernmental Relations and Corporate and Strategic Planning, be received for information; and*
- (2) That the attached reports titled, "Council Strategic Plan 2018-2022: Achievement Highlights" (Attachment 1) and "Council Strategic Plan 2018-2022: Achievement Highlights Overview" (Attachment 2) be made available for download on the City of Richmond website.*

CARRIED

5. PROPOSED NEW FEDERAL ELECTORAL DISTRICT BOUNDARIES - RICHMOND

(File Ref. No. 01-0103-01) (REDMS No. 6905974)

Discussion ensued on (i) the need to address the proposed new federal electoral district boundaries and emphasize support for a small change (ii) the proposed boundary changes include divisions between cities and within cities, (iii) the Canada census data is not an accurate representation, (iv) the need for another Member of Parliament (MP) and Member of the Legislative Assembly (MLA) in Richmond due to increasing population.

In response to questions from the Committee, staff advised that a letter appealing the Statistics Canada census numbers can be written but cautioned that a former census appeal was unsuccessful.

During discussion a request was made that staff collaborate on a joint letter with the City of New Westminster and City of Delta opposing the proposed electoral boundaries changes.

As a result of the discussion the following **motion** was introduced:

It was moved and seconded

- (1) That a letter, with copies to Delta, New Westminster and Local Members of Parliament, be sent to the 2022 Federal Electoral Boundaries Commission for the Province of British Columbia to express Richmond's opposition to the proposed changes to Richmond's electoral boundaries for Richmond East and Richmond West;*

General Purposes Committee
Monday, July 18, 2022

- (2) That the City of Richmond be represented if possible at the Public Hearing on September 12, 2022 in Richmond and speak in opposition to the proposed changes;
- (3) That the letter emphasize the proposed changes the City of Richmond supports and states the importance of dividing within and between cities; and,
- (4) That a letter be sent to Statistics Canada appealing the reported Census figures for the City of Richmond.

CARRIED

PLANNING AND DEVELOPMENT DIVISION

6. HIGHWAY 99 TUNNEL PROGRAM - UPDATE

(File Ref. No. 10-6350-06-03) (REDMS No. 6903210)

In response to questions from the Committee, staff advised (i) the preliminary reports show the existing tunnel will be removed after the project is operational, (ii) staff has requested that power lines be located underground, and (iii) information regarding the Highway 99 Tunnel Program has been shared with Richmond residences and businesses.

It was moved and seconded

That the report titled "Highway 99 Tunnel Program - Update" dated June 21, 2022, from the Director, Transportation be received for information.

CARRIED

NOTICE OF MOTION

7. BANNING MARINE SCRUBBERS

(File Ref. No.)

It was moved and seconded

That Council write to the Federal Government, Minister of Environment and our Local Members of Parliament to ask them to ban marine scrubbers in Canadian waters.

Before the motion was called, discussion ensued regarding (i) the need to educate the community regarding the presence of scrubbers in marine waters and their environmental impact, and (ii) a request for more information on the total impact of marine scrubbers in Canadian waters.

General Purposes Committee

Monday, July 18, 2022

As a result of the discussion, the following **motion** was introduced:

It was moved and seconded

That the matter is referred to staff for further information and that a letter be sent in support of the UBCM resolution on marine scrubbers.

CARRIED

Opposed: Cllrs. Day

Steves

Wolfe

ADJOURNMENT

It was moved and seconded

That the meeting adjourn (5:17 p.m.).

CARRIED

Certified a true and correct copy of the Minutes of the meeting of the General Purposes Committee of the Council of the City of Richmond held on Monday, July 20, 2022.

Mayor Malcolm D. Brodie
Chair

Lorraine Anderson
Legislative Services Associate



City of Richmond

Report to Committee

To: General Purposes Committee
From: Peter Russell, MCIP RPP
Director, Sustainability and District Energy
Date: June 30, 2022
File: 10-6125-07-02/2022-
Vol 01
Re: **Technical and Economic Considerations for Rooftop Solar Energy Systems for New Buildings**

Staff Recommendation

That as described in the report titled “Technical and Economic Considerations for Rooftop Solar Energy Systems for New Buildings” dated June 30, 2022, from the Director, Sustainability and District Energy, staff proceed with engaging local builders and developers as part of identifying regulatory and incentive pathways to advance building electrification and on-site low carbon energy systems, including rooftop solar PV systems, and report back.

Peter Russell, MCIP RPP
Director, Sustainability and District Energy
(604-276-4130)

Att. 1

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Building Approvals	<input checked="" type="checkbox"/>	
Development Applications	<input checked="" type="checkbox"/>	
Policy Planning	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

At the Planning Committee meeting of December 18, 2018, City Council resolved that:

“Staff examine the potential of a comprehensive policy on solar panels, in particular including options for incentives, and the environmental and economic impacts, and report back.”

At the Council Meeting of June 8, 2020, City Council resolved that:

“Staff examine the requirements for increasing the capacity for electric vehicle charging stations for non-residential projects, including a review of rooftop solar panels and rooftop agricultural uses, and report back.”

This report responds to the request for staff to conduct a review of rooftop solar panels. Proposed EV charging infrastructure requirements for non-residential buildings will be covered in a forthcoming report.

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.

2.1 Continued leadership in addressing climate change and promoting circular economic principles.

This report supports the implementation of the City’s Community Energy and Emissions Plan 2050, and OCP emission reduction policies through:

Strategic Carbon Neutral New Buildings

Direction 3:

- | | |
|----------|--|
| Actions: | <input checked="" type="checkbox"/> Advance implementation of low carbon energy systems in new construction
<input checked="" type="checkbox"/> Raise awareness of the benefits of building electrification
<input checked="" type="checkbox"/> Encourage cost-effective on-site renewable energy generation in new construction |
|----------|--|

Analysis

This report presents key findings from technical and economic analysis of rooftop solar photovoltaic (PV) energy systems for new residential, commercial office and industrial buildings, representing the first phase of work on the above referrals. A subsequent report on policy options will be completed following engagement with building design and construction stakeholders in the fall of 2022, subject to Council approval to proceed with the second phase of work.

Background on Solar-Friendly Richmond Framework

On January 28, 2016, Council endorsed a high-level policy approach for utilizing solar energy systems on both City facilities and private buildings within the *Solar-Friendly Richmond Framework*. The report provided conclusions on the applicability of three solar technologies:

- **Solar photovoltaic (PV) systems** (panels producing electricity supplying energy to the building and/or electric grid); and
- **Solar hot water systems** (panels producing thermal energy for domestic hot water use and heating swimming pools); and
- **Solar air heating** (a solar collector is used to pre-heat air, which then provides supplemental heating to conditioned building space).

The staff report noted that solar PV systems have applicability to a wide range of buildings, particularly given continued reduction in the market costs of solar panels and supportive equipment such as PV array racking, wiring, charge controllers and inverters. Staff further note that there are a number of firms in BC with experience designing and installing rooftop PV arrays in a range of sizes and roof configurations.

The City installed a rooftop solar array at Brighthouse Fire Hall No. 1 in 2018. This building hosts 136 PV panel array that produces approximately 60,000 kWh of electric power annually. Excess power not used is sent directly to BC Hydro's electrical grid, and is credited against the building's electricity bill through a standard net-metering arrangement.

City Policy Direction on Building Energy Efficiency, Decarbonisation and Electrification

Community GHG emissions from the operation of buildings represent a significant proportion (41%) of annual citywide emissions, and actions to reduce these emissions are included in the Community Energy and Emissions Plan 2050. Council policy is for all new applicable buildings to meet the top performance level of the BC Energy Step Code (Step Code) at Building Permit by 2027. The Step Code is the primary regulatory tool to achieve more energy efficient new construction, with the top performance level of the Step Code considered 'net zero energy ready'.

In BC, building electrification has been identified as the main pathway to achieve major reductions in emission from buildings. BC's low emission electrical grid provides opportunities to quickly shift from high carbon fuel sources to near zero carbon sources of energy. This entails a large scale transition toward low-carbon mechanical systems, such as high efficiency electric heat pumps for space heating / cooling and domestic hot water, or connecting the building to low-carbon district energy within areas of Richmond being served by these systems.

Solar PV Costs and Grid Parity in BC

Rooftop PV systems can help offset annual electrical demand in buildings, and pairing a sufficiently sized onsite solar PV array on an energy efficient, all-electric building can make it possible to achieve net zero energy and net zero emission performance on an annual basis.

The total cost of solar PV includes the following components:

Hard Costs

- Solar module (i.e., the panel)
- Other hardware (inverters, charge controller, racking / mounting system)
- Financing cost and installer profit

Soft costs

- Permitting, inspection and interconnection (electrical permits, building permits, utility interconnection fee)
- Labour

Implementation of solar PV systems worldwide is accelerating rapidly. Continuous improvements in PV panel manufacturing and generation output, in tandem with decreasing production and installation costs, result in a steep and continuous decline in the cost of panels between 2008 and 2020, as per North American trend analysis done by the US National Renewable Energy Laboratory. As prices have declined, PV panels have become more efficient in converting sunlight to electrical energy (kWh per panel). Improvements to other hardware components, noted above, have further reduced system costs. As a result, solar PV systems have become a low cost power generation technology in many parts of the world. The only change in this 12-year trend has been a modest increase in costs in 2021 (since reaching the lowest price point in 2020) due to economic and supply chain disruptions of the past two years.

Greater Vancouver has lower total annual hours of sunshine than most urban regions in North America. BC also has some of the lowest grid electricity prices in North America. Another factor historically limiting solar energy projects in BC has been less generous incentives for solar energy relative to those available in the United States, although this situation has recently improved. As a result, local solar projects may still have longer payback periods than their counterparts in other areas of America. However, due to the declining cost of PV panels and related components in recent years, solar PV systems are becoming more economically viable in coastal BC.

Staff estimate that the total installed cost of a solar PV array would need to be no more than \$2.00 per Watt to be fully cost competitive with grid-supplied electricity at residential rates. Based upon a review of the engineering study prepared for City staff, as well as costing information provided by solar installers, staff estimate that the current cost per Watt installed for greater Vancouver would range between \$2.75 and \$2.25 per Watt, with larger arrays benefitting from economies of scale.

Interconnection to the BC Electrical Grid

Rooftop solar PV systems within BC Hydro's service area typically connect to the provincial electrical distribution grid via the utility's Net Metering Program. This program has been set up for residential and commercial customers with an onsite solar PV system. Net metering allows a building to draw energy from the electrical grid as needed, but also send excess energy to the grid when generating more kilowatts than the building uses. In effect, local generation offsets a portion of the building's electrical consumption, allowing it to receive a credit on their utility bill (excess generation is credited by BC Hydro to the account at a rate of 9.99 cents per kWh).

BC Hydro also sets a maximum generation limit for 'simple net metering' projects up to 27 kW in size, rated at 425 Watts / panel); and up to 100 kW for 'complex net metering projects, rated at 425 Watts / panel) under BC Hydro's Net Metering Program.

Technical and Economic Analysis – Methodology

To complete the first phase of this project, detailed energy modelling was conducted to predict the level of energy used in a building constructed to a mid level and top level of the BC Energy Step Code, and the Passive House standard. Staff sought to assess the modelled physical size of a PV array, annual generation potential, and estimated total cost of rooftop mounted PV in eleven representative new building archetypes in Richmond.

For purposes of this analysis, each building type, except for industrial, was modelled at three performance levels:

- 1) Mid level of BC Energy Step Code;
- 2) Top level of BC Energy Step Code; and,
- 3) Certified Passive House standard.

Scenario (1) reflects modelled energy demand in a mid-Step Code building, establishing a baseline for comparison. Scenarios (2) and (3) are at the highest levels of building energy efficiency, referred to as ‘net zero energy ready’ performance.

To establish consistent and comparable benchmarks that could inform future policy measures and/or regulatory requirements, energy modelling was conducted for each building archetype using software from the US National Renewable Energy Laboratory (PV Watts Calculator) and Photovoltaic Geographic Information System (PVGIS) by the European Commission. Using these tools, determination was made of array size (number of panels), area of roof coverage, power generation potential and capital cost of an onsite PV system that could offset all, or a portion of, annual grid electricity use for each building type, under the following scenarios:

- a) Offset 100% of the building’s total annual energy requirement;
- b) Offset the building’s annual internal and external electrical lighting load;
- c) Offset the building’s annual external electrical lighting load only;
- d) Offset total modelled annual cooling load only; and,
- e) Offset 10% of modelled annual load (kWh/year) for Level 2 electric vehicle charging.

See Attachment 1 for tables showing modelled solar PV offset potential for each building type, and at the three levels of building energy efficiency noted above.

Key Findings

Analysis indicates that for smaller residential buildings (single-detached, duplexes and townhouses) there is sufficient roof space for solar PV to significantly offset electrical energy demand in these buildings, particularly as they reach the highest levels building energy efficiency (i.e., top level of the BC Energy Step Code or Passive House standard), and with comparatively fewer PV panels than what would be required at the mid level of the Step Code.

For larger multi-unit residential, commercial and industrial buildings, analysis indicated that there is sufficient roof space for solar PV to provide 100% of annual external lighting load in both hotels and mid-rise residential apartment buildings. External lighting loads are more significant in larger buildings, as they have parkades with 24-hour lighting requirements. For both mid rise and taller

multi-unit residential buildings, the model assumes all resident parking stalls have Level 2 charging capability, as per the City's Zoning Bylaw requirement. For mid rise residential buildings, up to 25% of annual EV charging loads could be offset by an onsite PV array, and up to 10% can be offset in a taller multi-unit residential building.

Smaller buildings offer relatively greater potential than larger buildings to offset electricity loads with an onsite solar PV array. This is a reflection of building form factor, where small buildings have more roof area relative to total floor area. For large buildings (other than industrial warehouses), roof area is much smaller relative to total floor area, so the potential to completely offset annual electrical load is more limited. Staff also note that the other factor limiting array size in larger buildings is BC Hydro's cap of 100 kW for net metering projects, which means a maximum array size of 224 to 235 PV panels based upon annual productivity of 430 to 445 kWh per panel.

With respect to integrating onsite solar PV in a building that is also served by low-carbon district energy, both systems would be entirely compatible. The thermal energy delivered by district energy would complement the electrical energy supplied to the building through a combination of onsite solar PV and connection to the BC electrical grid.

Phase 2: Opportunities for Solar PV to Support Building Electrification and Decarbonisation

With Phase 1 analysis completed, staff are requesting Council approval to proceed to the next stage of this work, which would explore policy and regulatory approaches, identify potential incentives, and understand market drivers by answering the following questions:

- **Advancing Net Zero Energy buildings:** What role could onsite solar PV have in supporting the transition toward low energy buildings (top level of the Step Code and Passive House)?
- **Building decarbonisation and electrification:** What are the opportunities for onsite solar to help drive the transition to electric heat pumps for building heating and cooling? Are there 'niche' roles for onsite solar to improve the business case for electrification (e.g., avoiding higher Tier 2 electricity rates in high-demand buildings)?
- **Enhancing energy and climate resiliency:** Do onsite solar PV systems have a role in advancing building resiliency in Richmond? Can they play a role in offsetting a portion of rising grid electricity demand due to electrification of buildings and vehicles?
- **Use of rooftop space and south-facing walls in larger multi-unit residential buildings:** What are the potential friction points in potentially situating a solar PV array within an outdoor residential amenity space or green roof? Could we eventually see building integrated photovoltaic panels (BIPs) in vertical cladding elements in BC?

Staff will engage with building design and construction community, solar PV system installers, affordable housing providers and other subject area experts to further refine the conclusions reached in Phase 1. Three workshops will be convened to facilitate dialogue and exchange ideas on technical and economic considerations, including exploration of opportunities and potential directions with respect to policy, regulation, and incentives. With Council approval, staff will conduct a three-part engagement process that will begin in fall 2022, as shown in Table 1.

Table 1 – Proposed Industry Dialogues on Opportunities and Directions

Explore Ideas and Cost Factors	Options and Trade-Offs	Proposed Approaches	Council Review
Workshop 1	Workshop 2	Workshop 3	
Review results from Phase 1 analysis and explore opportunities for each building type	Deep dive into opportunities and gather feedback on how they could drive building electrification	Identify preferred approaches for proposed policy, incentive and regulatory measures	Present engagement results and recommended approach for Council consideration

With Council approval, staff will proceed with Phase 2 of this work in fall 2022, and report back with options for consideration.

Financial Impact

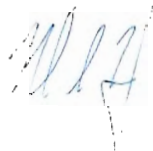
None.

Conclusion

Staff have completed analysis of technical and economic considerations for rooftop solar PV systems for new buildings, with modelling of solar PV offset potential completed for ten building archetypes, and at mid- and high-levels of building energy efficiency. A second phase of work is proposed for Council consideration, beginning in fall 2022. This would engage the building design and construction community in exploration of opportunities and options that would inform proposed policy, regulatory, and incentive drivers for building electrification and decarbonisation, including the role of onsite solar PV systems in supporting these objectives.



Norm Connolly, MCIP RPP
Manager, Sustainability
(604-247-4676)



Nicholas Heap
Project Manager, Sustainability
(604-276-4267)

Att. 1: Solar PV Offset Potential for Modelled New Building Archetypes in Richmond

Solar PV Offset Potential for Modelled New Building Archetypes in Richmond

Modelled Archetypes and Building Characteristics Summary

Archetype	Roof Type	Floor Area (m ²)	Building Height (m)	Total Roof Area (m ²)	Dwelling Units
Single-Detached Home	45-degree slope	202	9	176	1
Single-Detached Home	flat roof	285	9	120	1
Single-Detached Home	low-angle roof	286	9	150	1
Duplex	45-degree slope	234	8	162	2
Townhouse ¹	flat roof	438	10	350	3
Mid-Rise MURB ²	flat roof	14,326	25	2,360	160
14 floor MURB ²	flat roof	29,830	47	895	361
14 floor Hotel ²	flat roof	7,295	47	660	100
10 floor Office ²	flat roof	6,151	35	1,200	-
Light Industrial	flat roof	8,286	16	2,870	-
Large Industrial	flat roof	46,542	15	16,124	-

⁽¹⁾ Townhouse archetype is a 15-unit complex, with a 3-unit building being modelled.

⁽²⁾ Assumes mixed-use building with ground floor retail / restaurant uses, utilizing 381 m² of floor area.

Solar PV Offset Potential for Modelled New Building Archetypes in Richmond

Single-Detached Home (45-degree roof)

Single-Detached Home (45-degree roof)										
Target Scenario	Electrical Load (kWh/year)	Max Solar Capacity (kWp)	Per Panel Productivity (kWh/year)	Solar Output (kWh/year)	% of Target	# of Panels	% of Roof Covered	Cost	Payback Period	IRR
Mid Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	19,277	17.4	479	19,647	102%	41	62%	\$47,919	23	0.98%
Offset Internal and External Lighting	3,317	3.0	479	3,354	101%	7	8%	\$8,181	23	0.98%
Offset External Lighting Load Only	1,253	1.3	479	1,438	115%	3	3%	\$3,506	23	0.98%
Offset Annual Cooling Load	5,656	5.1	479	5,750	102%	12	14%	\$14,025	23	0.98%
Top Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	15,237	13.6	479	15,334	101%	32	36%	\$37,400	23	0.98%
Offset Annual Cooling Load	2,545	2.6	479	2,875	113%	6	7%	\$7,013	23	0.98%
Passive House Standard										
Offset 100% Annual Electrical Load (kWh/year)	14,043	12.8	479	14,376	102%	30	34%	\$35,063	23	0.98%
Offset Internal and External Lighting	2,654	2.6	479	2,875	108%	6	7%	\$7,013	23	0.98%
Offset External Lighting Load Only	1,002	1.3	479	1,438	143%	3	3%	\$3,506	23	0.98%
Offset Annual Cooling Load	2,262	2.1	479	2,396	106%	5	6%	\$5,844	23	0.98%
EV Charging Load										
Offset 10% Annual EV Charging Load (kWh/year)	422	0.4	479	479	114%	1	1%	\$1,169	23	0.98%
Offset 100% Annual EV Charging Load (kWh/year)	4,220	4.0	479	4,790	114%	10	10%	\$11,690	23	0.98%



Modelled building energy loads that could be entirely offset with an onsite solar PV array.


Notes to modelling results table:

- Due to the roof angle in the single-detached sample provided by City staff, 62% of roof coverage is the maximum amount PV array coverage that can be installed on this sample home (or 41 panels) in a home achieving Step 3 of the BC Energy Step Code. The array size drops to 32 panels at Step Code level 5, and 30 panels at a Passive House level of energy efficiency.
- All modelled electrical loads for this home can be fully offset with an onsite solar PV array at the sizes indicated.

Solar PV Offset Potential for Modelled New Building Archetypes in Richmond

Single-Detached Home (flat roof)

Single-Detached Home (flat roof)										
Target Scenario	Electrical Load (kWh/year)	Max Solar Capacity (kWp)	Per Panel Productivity (kWh/year)	Solar Output (kWh/year)	% of Target	# of Panels	% of Roof Covered	Cost	Payback Period	IRR
Mid Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	25,466	14.0	442	14,589	57%	33	83%	\$37,166	22	0.43%
Offset Internal and External Lighting	4,683	4.7	442	4,863	104%	11	28%	\$11,660	22	0.43%
Offset External Lighting Load Only	1,770	2.1	442	2,210	125%	5	13%	\$5,300	22	0.43%
Offset Annual Cooling Load	7,980	8.1	442	8,400	105%	19	48%	\$20,140	22	0.43%
Top Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	19,766	14.0	442	14,589	74%	33	83%	\$37,166	22	0.43%
Offset Annual Cooling Load	3,591	3.8	442	3,979	111%	9	23%	\$9,540	22	0.43%
Passive House Standard										
Offset 100% Annual Electrical Load (kWh/year)	18,081	14.0	442	14,589	81%	33	83%	\$37,166	22	0.43%
Offset Internal and External Lighting	3,746	3.8	442	3,979	106%	9	23%	\$9,540	22	0.43%
Offset External Lighting Load Only	1,416	1.7	442	1,768	125%	4	10%	\$4,240	22	0.43%
Offset Annual Cooling Load	3,192	3.4	442	3,537	111%	8	20%	\$8,480	22	0.43%
EV Charging Load										
Offset 10% Annual EV Charging Load (kWh/year)	422	0.4	442	442	105%	1	3%	\$1,060	22	0.43%
Offset 100% Annual EV Charging Load (kWh/year)	4,220	4.0	442	4,420	105%	10	27%	\$10,600	22	0.43%

 Modelled building energy loads that could be entirely offset with an onsite solar PV array.

Notes to modelling results table:

- Due to the configuration of the roof in the sample provided by City staff, some areas of the roof are not large enough to house PV panels, or are shaded by taller parts of the roof.
- Overall, the maximum PV array roof coverage on this sample home is 83% of the available portion of the roof (or 33 panels), in a home achieving Step 3 of the BC Energy Step Code.
- With the exception of 100% of annual electrical load, all other modelled electrical loads can be fully offset by an onsite PV array.

Solar PV Offset Potential for Modelled New Building Archetypes in Richmond

Single-Detached Home (low angle roof)

Single-Detached Home (low angle roof)										
Target Scenario	Electrical Load (kWh/year)	Max Solar Capacity (kWp)	Per Panel Productivity (kWh/year)	Solar Output (kWh/year)	% of Target	# of Panels	% of Roof Covered	Cost	Payback Period	IRR
Mid Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	25,541	21.3	446	22,282	87%	50	70%	\$58,438	22	0.65%
Offset Internal and External Lighting	4,698	4.7	446	4,902	104%	11	15%	\$12,100	22	0.65%
Offset External Lighting Load Only	1,775	1.7	446	1,783	100%	4	5%	\$4,400	22	0.65%
Offset Annual Cooling Load	8,008	7.7	446	8,022	100%	18	24%	\$19,800	22	0.65%
Top Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	19,821	19.1	446	20,054	112%	45	60%	\$52,594	22	0.65%
Offset Annual Cooling Load	3,604	3.8	446	4,011	111%	9	12%	\$9,900	22	0.65%
Passive House Standard										
Offset 100% Annual Electrical Load (kWh/year)	18,129	17.4	446	18,271	101%	41	54%	\$47,919	22	0.65%
Offset Internal and External Lighting	3,758	3.8	446	4,011	107%	9	12%	\$10,519	22	0.65%
Offset External Lighting Load Only	1,420	1.7	446	1,783	126%	4	5%	\$4,400	22	0.65%
Offset Annual Cooling Load	3,203	3.4	446	3,565	111%	8	11%	\$8,800	22	0.65%
EV Charging Load										
Offset 10% Annual EV Charging Load (kWh/year)	422	0.4	446	446	106%	1	1%	\$1,100	22	0.65%
Offset 100% Annual EV Charging Load (kWh/year)	4,220	4.0	446	4,460	106%	10	10%	\$11,000	22	0.65%

 Modelled building energy loads that could be entirely offset with an onsite solar PV array.

Notes to modelling results table:

- Due to the configuration of the roof in the sample provided by City staff, 70% of roof coverage (50 panels) is the maximum array size that can be installed on this single-detached home achieving Step 3 of the BC Energy Step Code.
- With the exception of offsetting 100% of electrical load at Step Code level 3, all other modeled electrical loads can be fully offset with an onsite solar PV array.

Solar PV Offset Potential for Modelled New Building Archetypes in Richmond

Duplex (flat roof)

Duplex Home (flat roof)										
Target Scenario	Electrical Load (kWh/year)	Max Solar Capacity (kWp)	Per Panel Productivity (kWh/year)	Solar Output (kWh/year)	% of Target	# of Panels	% of Roof Covered	Cost	Payback Period	IRR
Mid Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	25,893	21.3	478	23,889	92%	50	62%	\$58,438	22	0.96%
Offset Internal and External Lighting	3,031	3.0	478	3,344	110%	7	9%	\$8,181	22	0.96%
Offset External Lighting Load Only	637	0.9	478	956	150%	2	2%	\$2,338	22	0.96%
Offset Annual Cooling Load	6,558	6.0	478	6,689	102%	14	17%	\$16,363	22	0.96%
Top Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	21,209	19.1	478	21,500	101%	45	56%	\$52,594	22	0.96%
Offset Annual Cooling Load	2,951	3.0	478	3,344	113%	7	9%	\$8,181	22	0.96%
Passive House Standard										
Offset 100% Annual Electrical Load (kWh/year)	19,824	17.9	478	20,067	101%	42	52%	\$49,088	22	0.96%
Offset Internal and External Lighting	2,424	2.6	478	2,867	118%	6	7%	\$7,013	22	0.96%
Offset External Lighting Load Only	510	0.9	478	956	187%	2	2%	\$2,338	22	0.96%
Offset Annual Cooling Load	2,623	2.6	478	2,867	109%	6	7%	\$7,013	22	0.96%
EV Charging Load										
Offset 10% Annual EV Charging Load (kWh/year)	843	0.9	478	956	113%	2	2%	\$2,338	22	0.96%
Offset 100% Annual EV Charging Load (kWh/year)	8,430	9.0	478	9,560	113%	20	20%	\$23,380	22	0.65%

 Modelled building energy loads that could be entirely offset with an onsite solar PV array.

Notes to modelling results table:

- Due to the configuration of the roof in the sample duplex provided by the City, 62% of roof coverage (or 50 panels) is the maximum array size that can be installed in this duplex achieving Step 3 of the BC Energy Step Code.
- With the exception of offsetting 100% of electrical load at Step Code level 3, all other modeled electrical loads can be fully offset with an onsite solar PV array.

Solar PV Offset Potential for Modelled New Building Archetypes in Richmond

Townhouse (3 units, flat roof)

Townhouse (3 units, flat roof)										
Target Scenario	Electrical Load (kWh/year)	Max Solar Capacity (kWp)	Per Panel Productivity (kWh/year)	Solar Output (kWh/year)	% of Target	# of Panels	% of Roof Covered	Cost	Payback Period	IRR
Mid Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	60,067	38	442	39,785	66%	90	77%	\$101,363	22	0.84%
Offset Internal and External Lighting	5,424	5.5	442	6,189	114%	13	11%	\$14,641	22	0.84%
Offset External Lighting Load Only	946	1.3	442	1,326	140%	3	3%	\$3,379	22	0.84%
Offset Annual Cooling Load	12,268	11.9	442	12,378	101%	28	24%	\$31,535	22	0.84%
Top Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	51,304	38.3	442	39,785	78%	90	77%	\$101,363	22	0.84%
Offset Annual Cooling Load	5,520	5.5	442	5,747	104%	13	11%	\$14,641	22	0.84%
Passive House Standard										
Offset 100% Annual Electrical Load (kWh/year)	48,713	38.3	442	39,785	82%	90	77%	\$101,363	22	0.84%
Offset Internal and External Lighting	4,339	4.3	442	4,421	102%	10	9%	\$11,263	22	0.84%
Offset External Lighting Load Only	757	0.9	442	884	117%	2	2%	\$2,253	22	0.84%
Offset Annual Cooling Load	4,907	5.1	442	5,305	108%	12	10%	\$13,515	22	0.84%
EV Charging Load										
Offset 10% Annual EV Charging Load (kWh/year)	2,740	2.8	442	2,878	105%	7	6%	\$7,420	22	0.84%
Offset 100% Annual EV Charging Load (kWh/year)	27,400	28.0	442	28,780	105%	21	18%	\$22,260	22	0.84%

 Modelled building energy loads that could be entirely offset with an onsite solar PV array.


Notes to modelling results table:

- Due to roof configuration and various rooftop equipment on the sample townhouse development, 77% of roof coverage (or 90 panels) is the maximum sized PV array that can be installed in a 3-unit townhouse project achieving Step 3 of the BC Energy Step Code.
- With the exception of offsetting 100% of electrical load in these townhouses, all other modeled electrical loads can be fully offset with an onsite solar PV array.

Solar PV Offset Potential for Modelled New Building Archetypes in Richmond

Mid-Rise MURB (6 floors, flat roof)

Mid-Rise MURB (6 floors, flat roof)										
Target Scenario	Electrical Load (kWh/year)	Max Solar Capacity (kWp)	Per Panel Productivity (kWh/year)	Solar Output (kWh/year)	% of Target	# of Panels	% of Roof Covered	Cost	Payback Period	IRR
Mid Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	2,479,816	100	432	101,500	4%	235	32%	\$235,000	22	1.38%
Offset Internal and External Lighting	215,358	100	432	101,500	47%	235	32%	\$235,000	22	1.38%
Offset External Lighting Load Only	68,949	68	432	69,106	100%	160	20%	\$159,800	22	1.38%
Offset Annual Cooling Load	401,118	100	432	101,500	25%	235	32%	\$235,000	22	1.38%
Top Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	2,193,303	100	432	101,500	5%	235	32%	\$235,000	22	1.38%
Offset Annual Cooling Load	180,503	100	432	101,500	56%	235	32%	\$235,000	22	1.38%
Passive House Standard										
Offset 100% Annual Electrical Load (kWh/year)	1,535,569	100	432	101,500	7%	235	32%	\$235,000	22	1.38%
Offset Internal and External Lighting	172,286	100	432	101,500	59%	235	32%	\$235,000	22	1.38%
Offset External Lighting Load Only	55,160	54	432	55,285	100%	128	16%	\$127,840	22	1.38%
Offset Annual Cooling Load	160,447	100	432	101,500	63%	235	32%	\$235,000	22	1.38%
EV Charging Load										
Offset 10% Annual EV Charging Load (kWh/year)	33,720	34	432	34,104	101%	84	11%	\$78,960	22	1.38%
Offset 25% Annual EV Charging Load (kWh/year)	84,300	85	432	85,260	101%	210	28%	\$197,400	22	1.38%

 Modelled building energy loads that could be entirely offset with an onsite solar PV array.

Notes to modelling results table:

- BC Hydro's net metering program limits onsite power generation to a maximum system size of 100kWp. The solar modelling results reflect that cap (which translates to 235 panels for this mid-rise residential building, at the rated panel efficiency).
- The mid-rise residential archetype has relatively large external lighting loads due to 24/7 parking garage lighting operation.
- 100% of external lighting load from this building can be fully offset with on onsite PV array.
- Up to 25% of total annual EV charging load in this building can be fully offset with on onsite PV array.

Solar PV Offset Potential for Modelled New Building Archetypes in Richmond

Tall MURB (14 floors, flat roof)

Tall MURB (14 floors, flat roof)										
Target Scenario	Electrical Load (kWh/year)	Max Solar Capacity (kWp)	Per Panel Productivity (kWh/year)	Solar Output (kWh/year)	% of Target	# of Panels	% of Roof Covered	Cost	Payback Period	IRR
Mid Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	4,693,919	100	431	101,339	2%	235	79%	\$235,000	22	1.37%
Offset Internal and External Lighting	728,516	100	431	101,339	14%	235	79%	\$235,000	22	1.37%
Offset External Lighting Load Only	222,040	100	431	101,339	46%	235	79%	\$235,000	22	1.37%
Offset Annual Cooling Load	835,239	100	431	101,339	12%	235	79%	\$235,000	22	1.37%
Top Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	4,680,943	100	431	101,339	2%	235	79%	\$235,000	22	1.37%
Offset Annual Cooling Load	375,857	100	431	101,339	27%	235	79%	\$235,000	22	1.37%
Passive House Standard										
Offset 100% Annual Electrical Load (kWh/year)	3,311,360	100	431	101,339	3%	235	79%	\$235,000	22	1.37%
Offset Internal and External Lighting	582,813	100	431	101,339	17%	235	79%	\$235,000	22	1.37%
Offset External Lighting Load Only	177,632	100	431	101,339	57%	235	79%	\$235,000	22	1.37%
Offset Annual Cooling Load	334,096	100	431	101,339	30%	235	79%	\$235,000	22	1.37%
EV Charging Load										
Offset 10% Annual EV Charging Load (kWh/year)	81,602	81	431	81,934	100%	190	64%	\$189,763	22	1.37%

 Modelled building energy loads that could be entirely offset with an onsite solar PV array.


Notes to modelling results table:

- BC Hydro's net metering program limits onsite power generation to a maximum system size of 100kWp. The solar modelling results reflect this cap (which translates to 235 panels for this mid-rise residential building, at the rated panel efficiency).
- The tall multi-unit residential building archetype has significantly larger external lighting loads due to 24/7 parking garage lighting operation.
- Up to 10% of total annual EV charging load in this building can be fully offset with on onsite PV array (190 panels).

Solar PV Offset Potential for Modelled New Building Archetypes in Richmond

Hotel (14 floors, flat roof)

Hotel (14 floors, flat roof)										
Target Scenario	Electrical Load (kWh/year)	Max Solar Capacity (kWp)	Per Panel Productivity (kWh/year)	Solar Output (kWh/year)	% of Target	# of Panels	% of Roof Covered	Cost	Payback Period	IRR
Mid Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	948,402	84	429	84,939	9%	198	90%	\$197,753	22	1.53%
Offset Internal and External Lighting	102,168	84	429	84,939	83%	198	90%	\$197,753	22	1.53%
Offset External Lighting Load Only	24,813	25	429	24,881	100%	58	26%	\$57,928	22	1.53%
Offset Annual Cooling Load	204,271	84	429	84,939	42%	198	90%	\$197,753	22	1.53%
Top Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	875,448	84	429	84,939	10%	198	90%	\$197,753	22	1.53%
Offset Annual Cooling Load	91,922	84	429	84,939	92%	198	90%	\$197,753	22	1.53%
Passive House Standard										
Offset 100% Annual Electrical Load (kWh/year)	437,724	84	429	84,939	19%	198	90%	\$197,753	22	1.53%
Offset Internal and External Lighting	97,205	84	429	84,939	87%	198	90%	\$197,753	22	1.53%
Offset External Lighting Load Only	19,851	20	429	20,162	102%	47	21%	\$46,941	22	1.53%
Offset Annual Cooling Load	81,708	81	429	81,936	100%	191	87%	\$190,761	22	1.53%

 Modelled building energy loads that could be entirely offset with an onsite solar PV array.


Notes to modelling results table:

- BC Hydro's net metering program limits onsite power generation to a maximum system size of 100kWp. The solar modelling results reflect this cap.
- Due to some rooftop space being occupied by mechanical equipment (HVAC) and elevator access, 90% of rooftop area is the maximum coverage for a solar PV array (198 panels) for this sample hotel.
- Hotels have relatively larger external lighting loads due to 24/7 parking garage lighting operation.
- 100% of external lighting load from this building can be fully offset with on onsite PV array (190 panels).
- EV charging load was not modelled for hotels, as the City has not yet established by-law requirements on minimum Level 2 charging capability in non-residential buildings. This analysis will be covered in a subsequent report.

Solar PV Offset Potential for Modelled New Building Archetypes in Richmond

Office (10 floors, flat roof)

Office (10 floors, flat roof)										
Target Scenario	Electrical Load (kWh/year)	Max Solar Capacity (kWp)	Per Panel Productivity (kWh/year)	Solar Output (kWh/year)	% of Target	# of Panels	% of Roof Covered	Cost	Payback Period	IRR
Mid Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	1,045,736	100	431	101,339	10%	235	59%	\$235,000	22	1.37%
Offset Internal and External Lighting	160,815	100	431	101,339	63%	235	59%	\$235,000	22	1.37%
Offset External Lighting Load Only	25,423	25	431	25,443	100%	59	15%	\$58,926	22	1.37%
Offset Annual Cooling Load	172,239	100	431	101,339	59%	235	59%	\$235,000	22	1.37%
Top Level Step Code										
Offset 100% Annual Electrical Load (kWh/year)	615,139	100	431	101,339	16%	235	59%	\$235,000	22	1.37%
Offset Annual Cooling Load	77,508	77	431	77,621	100%	180	45%	\$179,775	22	1.37%
Passive House Standard										
Offset 100% Annual Electrical Load (kWh/year)	3,311,360	100	431	101,339	27%	235	59%	\$235,000	22	1.37%
Offset Internal and External Lighting	133,297	100	431	101,339	76%	235	59%	\$235,000	22	1.37%
Offset External Lighting Load Only	24,983	25	431	25,011	100%	58	15%	\$57,928	22	1.37%
Offset Annual Cooling Load	68,896	68	431	68,997	100%	160	40%	\$159,800	22	1.37%

 Modelled building energy loads that could be entirely offset with an onsite solar PV array.


Notes to modelling results table:

- BC Hydro's net metering program limits onsite power generation to a maximum system size of 100kWp. The solar modelling results reflect this cap. Therefore, 59% of rooftop area is the maximum coverage for a solar PV array (235 panels) for this archetype.
- The Office archetype has comparatively lower external lighting loads than mid-rise and taller MURBs, due to the common practice of turning off lighting when businesses do not require it (assumed run time is based on Vancouver Energy Modelling Guidelines and National Energy Code for Buildings).
- EV charging load was not modelled for commercial office buildings, as the City has not yet established by-law requirements on minimum Level 2 charging capability in non-residential buildings. This analysis will be covered in a subsequent report.

Solar PV Offset Potential for Modelled New Building Archetypes in Richmond

Light Industrial Warehouse (flat roof)

Light Industrial Warehouse (flat roof)										
Target Scenario	Electrical Load (kWh/year)	Max Solar Capacity (kWp)	Per Panel Productivity (kWh/year)	Solar Output (kWh/year)	% of Target	# of Panels	% of Roof Covered	Cost	Payback Period	IRR
20% more energy efficient than current BC Building Code										
Offset 100% Annual Electrical Load (kWh/year)	1,034,711	100	431	101,373	10%	235	25%	\$225,000	20	1.91%
Offset Internal and External Lighting	205,448	100	431	101,373	49%	235	25%	\$225,000	20	1.91%
Offset External Lighting Load Only	4,394	4.7	431	4,745	108%	11	1%	\$10,519	20	1.91%
Offset Annual Cooling Load	139,205	100	431	101,373	73%	235	25%	\$225,000	20	1.91%
70% more energy efficient than current BC Building Code										
Offset 100% Annual Electrical Load (kWh/year)	415,980	100	431	101,373	24%	235	25%	\$225,000	20	1.91%
Offset Annual Cooling Load	92,803	92	431	93,177	100%	216	23%	\$206,550	20	1.91%

 Modelled building energy loads that could be entirely offset with an onsite solar PV array.

Notes to modelling results table:

- BC Hydro's net metering program limits onsite power generation to a maximum system size of 100kWp (235 panels covering 25% of available rooftop space). The above solar modelling results reflect this cap.
- EV charging load was not modelled for industrial buildings, as the City has not yet established by-law requirements on minimum Level 2 charging capability in non-residential buildings. This analysis will be covered in a subsequent report.
- Currently, the BC Energy Step Code does not cover industrial warehouse uses, so energy performance scenarios were set at 20% and 70% better than current (2018) BC Building Code requirements.
- For this study, light industrial warehouse buildings were not modelled at a Passive House level of energy performance.

Solar PV Offset Potential for Modelled New Building Archetypes in Richmond

Large Industrial Warehouse (flat roof)

Large Industrial Warehouse (flat roof)										
Target Scenario	Electrical Load (kWh/year)	Max Solar Capacity (kWp)	Per Panel Productivity (kWh/year)	Solar Output (kWh/year)	% of Target	# of Panels	% of Roof Covered	Cost	Payback Period	IRR
20% more energy efficient than current BC Building Code										
Offset 100% Annual Electrical Load (kWh/year)	5,799,596	100	431	101,373	2%	235	3%	\$225,000	20	1.91%
Offset Internal and External Lighting	1,150,728	100	431	101,373	9%	235	3%	\$225,000	20	1.91%
Offset External Lighting Load Only	23,613	23.4	431	23,726	100%	55	1%	\$52,594	20	1.91%
Offset Annual Cooling Load	780,386	100	431	101,373	13%	235	3%	\$225,000	20	1.91%
70% more energy efficient than current BC Building Code										
Offset 100% Annual Electrical Load (kWh/year)	2,331,899	100	431	101,373	4%	235	3%	\$225,000	20	1.91%
Offset Annual Cooling Load	520,257	100	431	101,373	19%	235	3%	\$225,000	20	1.91%

 Modelled building energy loads that could be entirely offset with an onsite solar PV array.

Notes to modelling results table:

- BC Hydro's net metering program limits onsite power generation to a maximum system size of 100kWp (235 panels covering 3% of available rooftop space). The above solar modelling results reflect this cap.
- EV charging load was not modelled for industrial buildings, as the City has not yet established by-law requirements on minimum Level 2 charging capability in non-residential buildings. This analysis will be covered in a subsequent report.
- Currently, the BC Energy Step Code does not cover industrial warehouse uses, so energy performance scenarios were set at 20% and 70% better than current (2018) BC Building Code requirements.
- For this study, large industrial buildings were not modelled at a Passive House level of energy performance.



City of Richmond

Report to Committee



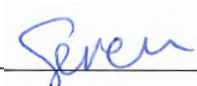
To: General Purposes Committee **Date:** June 7, 2022
From: Jason Kita **File:** 01-0005-01/2022-Vol
Director, Intergovernmental Relations and
Corporate and Strategic Planning
Re: **Council Strategic Plan 2018-2022 Term Highlights**

Staff Recommendation

1. That the report titled, "Council Strategic Plan 2018-2022 Term Highlights" dated June 7, 2022, from the Director, Intergovernmental Relations and Corporate and Strategic Planning, be received for information; and
2. That the attached reports titled, "Council Strategic Plan 2018-2022: Achievement Highlights" (Attachment 1) and "Council Strategic Plan 2018-2022: Achievement Highlights Overview" (Attachment 2) be made available for download on the City of Richmond website.

Jason Kita
Director, Intergovernmental Relations and Corporate and Strategic Planning
(604-276-4091)

Att. 2

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Animal Protection & Contract Administration	<input checked="" type="checkbox"/>	
Arts, Culture & Heritage	<input checked="" type="checkbox"/>	
Building Approvals	<input checked="" type="checkbox"/>	
City Clerk	<input checked="" type="checkbox"/>	
Communications	<input checked="" type="checkbox"/>	
Community Bylaws & Licencing	<input checked="" type="checkbox"/>	
Community Safety Policy & Programs	<input checked="" type="checkbox"/>	
Community Social Development	<input checked="" type="checkbox"/>	
Corporate & Strategic Planning	<input checked="" type="checkbox"/>	
Corporate Business Service Solutions	<input checked="" type="checkbox"/>	
Development Applications	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	
Facility Services & Project Development	<input checked="" type="checkbox"/>	
Finance Department	<input checked="" type="checkbox"/>	
Fire Rescue	<input checked="" type="checkbox"/>	
Human Resources	<input checked="" type="checkbox"/>	
Information Technology	<input checked="" type="checkbox"/>	
Intergovernmental Relations	<input checked="" type="checkbox"/>	
Parks Services	<input checked="" type="checkbox"/>	
Policy Planning	<input checked="" type="checkbox"/>	
Public Works Operations	<input checked="" type="checkbox"/>	
RCMP	<input checked="" type="checkbox"/>	
Real Estate Services	<input checked="" type="checkbox"/>	
Recreation & Sport Services	<input checked="" type="checkbox"/>	
Sustainability & District Energy	<input checked="" type="checkbox"/>	
Transportation	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO 

Staff Report

Origin

On June 24, 2019, Council adopted the Council Strategic Plan 2018-2022, which identifies the collective strategic focus and priorities for Richmond City Council for this term of office. The plan reflects Council's desire for proactive and forward-thinking leadership that remains rooted in Richmond's distinct history and identity.

The setting of a strategic plan is an integral process to establish the strategic vision for Council and allows the City to accomplish a visionary agenda while also being flexible and responsive to new opportunities, issues, and circumstances that may emerge during the term. Once established, staff work plans align with the outcomes identified in the strategic plan in order to achieve a productive and successful term of office.

Analysis

Council adopted eight strategic focus areas in the Council Strategic Plan 2018-2022 with additional priorities identified for each focus area.

The eight strategic focus areas include:

1. A Safe and Resilient City - *Enhance and protect the safety and well-being of Richmond.*
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.*
3. One Community Together - *Vibrant and diverse arts and cultural activities and opportunities for community engagement and connection.*
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. .*
5. Sound Financial Management - *Accountable, transparent, and responsible financial management that supports the needs of the community into the future.*
6. Strategic and Well-Planned Growth - *Leadership in effective and sustainable growth that supports Richmond's physical and social needs.*
7. A Supported Economic Sector - *Facilitate diversified economic growth through innovative and sustainable policies, practices and partnerships.*
8. An Engaged and Informed Community - *Ensure that the citizenry of Richmond is well-informed and engaged about City business and decision-making.*

During this term of office, many achievements were made to advance these eight strategic focus areas and related priorities, including a number of new initiatives resulting from the COVID-19 pandemic. The Council Strategic Plan 2018-2022: Achievement Highlights report (**Attachment 1**) provides key highlights demonstrating the progress made in Council's term. A brief overview report is also included in **Attachment 2**.

Staff recommend that the Council Strategic Plan 2018-2022: Achievement Highlights and Council Strategic Plan 2018-2022: Achievement Highlights Overview reports be made available for download on the City of Richmond website.

Financial Impact

None.

Conclusion

The Council Strategic Plan 2018-2022 forms the basis of a focused and productive work program for the City's operations and services. The attached reports provide Council with information on some of the key work that was completed in this term to advance the eight focus areas identified in the plan. Staff recommend that the attached reports be made available for download on the City of Richmond website.



Daisy Byrne
Manager, Corporate Strategic Initiatives
(604-204-8683)

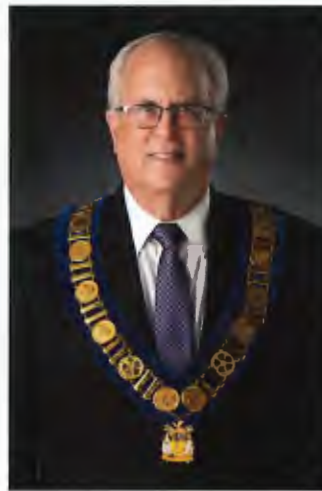
DB:db

Att. 1: Council Strategic Plan 2018-2022: Achievement Highlights

Att. 2: Council Strategic Plan 2018-2022: Achievement Highlights Overview



Council Strategic Plan 2018–2022: **Achievement Highlights**



Richmond City Council

Top Row (Left to Right):

Councillor Chak Au, Councillor Carol Day, Councillor Andy Hobbs, Councillor Alexa Loo

Middle Row:

Mayor Malcolm Brodie

Bottom Row (Left to Right):

Councillor Bill McNulty, Councillor Linda McPhail, Councillor Harold Stevens, Councillor Michael Wolfe

City of Richmond Council Strategic Plan 2018–2022

The Council Strategic Plan identifies the collective strategic focus and priorities for Richmond City Council for the 2018–2022 term of office. The plan reflects Council’s desire for proactive and forward-thinking leadership that remains rooted in Richmond’s distinct history and identity.

Council adopted eight strategic focus areas for the 2018–2022 term with additional priorities identified for each focus area. The Council Strategic Plan allows the City to accomplish a visionary agenda set by Council while also being flexible and responsive to new opportunities, issues, and circumstances that may emerge during the term.

This report provides highlights of achievements made towards the advancement of the Council Strategic Plan strategic focus areas throughout 2018–2022.





Table of Contents

1. A Safe and Resilient City	1
2. A Sustainable and Environmentally Conscious City	10
3. One Community Together	18
4. An Active and Thriving Richmond	26
5. Sound Financial Management	33
6. Strategic and Well-Planned Growth	38
7. A Supported Economic Sector	45
8. An Engaged and Informed Community	50
Awards and Recognition	55



Sea to Sky by Thomas Cannell

1. A Safe and Resilient City



Enhance and protect the safety and well-being of Richmond.

Richmond is a safe community, and ensuring that it remains safe is a top priority for Council. This term, a focus is placed on enhancing safety services and partnerships to ensure the City can continue to respond quickly and effectively to community needs. Council is committed to future-proofing Richmond's infrastructure and maintaining effective networks that are essential to a safe community. These measures will support preparation and ensure Richmond is ready in the event of a disaster or emergency of any kind. Coming together as a community to plan for emergencies is a priority and will help to ensure Richmond remains resilient.

Priorities include:

- 1.1 Enhance safety services and strategies to meet community needs.
- 1.2 Future-proof and maintain city infrastructure to keep the community safe.
- 1.3 Ensure Richmond is prepared for emergencies, both human-made and natural disasters.
- 1.4 Foster a safe, caring and resilient environment.

1. A Safe and Resilient City

1.1 Enhance safety services and strategies to meet community needs.

Council completed implementation of the Safe Community Strategy which included a total of 107 new positions for Richmond Fire-Rescue and Richmond's RCMP Detachment. Over the course of three years, Richmond has added:

- 51 additional police officers;
- 20 municipal employees to support policing services; and
- 36 firefighters.

In 2021, the City procured a rescue truck and an additional fire engine to enhance response capacity. Council also endorsed the procurement of a land-based high-flow industrial fire engine using funds from the Vancouver Airport Fuel Facilities Corporation (VAFFC). The added resources will support current and future community safety priorities identified by Council.



New Richmond Fire-Rescue Recruits

Community outreach initiatives included:

- In support of cultural harmony and diversity, the Richmond RCMP launched a variety of community awareness initiatives, including the Safe Place Program, Project Rainbow and the Hate Has No Place campaign. In addition, outreach to local religious communities and regular police patrols at places of worship built trust while offering assurance and safety to members of the faith communities.
- The Richmond RCMP promoted crime prevention education through volunteer deployments, the Block Watch Program and "Pop-Up Detachment" events throughout the community. Tips and information were also shared through enhanced public communications including social media and the Community Safety mobile app.
- The Richmond RCMP worked with local students on an expanded road safety awareness campaign to promote safe driving behaviors. As a reminder to drivers not to drink and

drive, students decorated paper bags with artwork and messages for the "Think of Me" campaign.

- "The World Is Not Your Ashtray" campaign continues to raise awareness about preventable fires caused by improperly discarded cigarette buds. Multilingual signs are used to mark the location of preventable cigarette fires, and local businesses place signs as deterrents in known problem areas. Over the years, the campaign has seen increased engagement on social media and cigarette fires have followed a downward trend throughout the term.
- The City continues to support the Camp Ignite Youth Firefighter Mentorship Program, which focuses on giving female youth the chance to explore firefighting as a career. In 2021, the City sponsored two students to participate in the program. In addition, two of Richmond's firefighters volunteered as camp mentors.
- Through a collaboration between the City, Minoru Seniors Society, Richmond RCMP, Richmond Fitness and Wellness Association, ICBC, Richmond Cares, Richmond Gives (RCRG), and TransLink, a Road Safety Series for seniors was offered, with the support of a grant awarded to the Minoru Seniors Society by the ICBC Provincial Community Grants Program.
- In 2021, Richmond RCMP resumed outreach with money service businesses, which had previously been suspended due to COVID-19. Through this initiative, officers conduct money laundering outreach and education. In addition, officers conduct gang suppression patrols which include commercial business checks. These patrols serve as both an enforcement initiative and deterrent to criminal activity.

Richmond made amendments to the *Unightly Premises Bylaw No. 7162* which expanded the defined terms for unsightliness related to noxious weeds, derelict vehicles, discarded materials, and garbage. The minimum timeline for compliance was also reduced from 14 days to 10 days and the minimum fine for court prosecutions was set to \$1,000. It is anticipated that these changes will provide enforcement staff additional means to gain compliance within a timely matter.

The City implemented a drone inspection program for a variety of applications including asset inspections, public engagement, project tracking and emergency response. Aerial inspections allow staff to access locations that would previously be difficult to access and mitigate potential hazards by eliminating the need to physically climb on to areas that could have potential fall risks. For example, in 2021 the City conducted its first drone inspection of the dike around the island at low tide. Data gathered from drone flights is stored for future use, allowing for data comparison and analysis to identify potential deficiencies in City assets, as well as use in future public outreach.

Richmond Fire-Rescue undertook a variety of reviews and updates to ensure continued service excellence to the community, such as:

- A turnout time study and analysis to improve the response time for emergency calls resulting in an updated working methodology that can be applied to all fire halls;
- A review and upgrade of all fire suppression training material in alignment with the Office of the Fire Commissioner's competency standards for "Full Service" fire departments in preparation for anticipated new hires;
- Training and testing for all existing staff in the most advanced emergency response skills; and
- Thorough and comprehensive training for new hires to ensure all staff can operate at a very high competency level.

Each winter, the City pre-treats and/or de-ices an average of 32,400 lane kilometres and plows an average of 6,500 lane kilometres of first, second and third priority routes.

In order to operate a Food Truck or other Mobile Outdoor Food Service Unit (MOFSU) in Richmond, operators must obtain a valid Richmond Fire-Rescue proof of fire and safety inspection decal that is issued annually. In April 2022, Richmond Fire-Rescue partnered with the Greater Vancouver Fire Chief's Association to host a single-day Mobile Outdoor Food Service Unit (MOFSU) Inspection Event, providing free MOFSU Fire and Life Safety Inspections for the day. Working with other lower mainland fire departments, there were a total of 77 inspections carried out in the single day, which was an increase over the previous two years.

The City's updated and improved procedures for identifying contaminated sites at the time of development permit-related applications resulted in greater adherence to senior regulatory requirements and improved mitigation of potential contaminant exposure.

As of February 2022, the City installed approximately 476 closed-circuit television (CCTV) cameras to provide low-resolution video with recording capabilities at 119 intersections. Traffic cameras help improve road safety and manage traffic congestion. Traffic camera footage is available for the public to purchase online through the MyRichmond portal to assist with insurance claims. The total number of requests from the public and ICBC between the project launch in May 2021 and December 2021 was 116 requests. Phase 3 of

the project is ongoing, and will be completed gradually with the expansion of the fibre optic cable network.

Richmond was among the first municipalities in Canada to implement an advertising ban on vaping and vaping-related products on City property.

In April 2022, Council endorsed the Richmond RCMP Detachment's Annual Performance Plan, which outlines local priorities. This plan ensures policing initiatives are aligned with the City and RCMP strategic priorities. The following five areas of focus were identified:

- Property Crime
- Organized Crime
- Vulnerable Persons
- Road Safety
- Fighting Racism

Throughout the term, property crimes followed a downward trend. For example, in 2021 compared to the previous year:

- Overall property crimes were down 7%
- Residential break and enters were down 27%
- Commercial break and enters were down 13%
- Auto thefts were down 9%

To provide an increased police presence in the Hamilton neighbourhood, Richmond Fire-Rescue and Richmond RCMP established a cooperative relationship based out of Fire Hall No. 5. This has allowed for more patrols, visibility and faster response time within the area.

In 2021, Richmond's Animal Services provider changed to the BC SPCA. Under the new contract, the BC SPCA provides the full-range of animal services including operating Richmond's animal shelter, enforcing Richmond's animal control bylaws, and proactively patrolling the City's parks and school grounds. Under this new model, the BC SPCA provides enforcement between the hours of 7:00am–9:00pm, seven days a week.

The City became a member of the British Columbia Crime Prevention Association (BCCPA) to participate in the Stolen Auto Recovery (SAR) program. The partnership program involves the BCCPA, RCMP, ICBC, and Canadian Police Information Centre (CPIC) and assists to identify stolen vehicles. Information is updated daily and shared to officers in the field.

1. A Safe and Resilient City

1.2 Future-proof and maintain city infrastructure to keep the community safe.

Guided by the City's Flood Protection Management Strategy updated in 2019, Council continues to invest in strengthening and upgrading the City's flood protection infrastructure, including \$12.2 million in 2022 flood protection projects approved by Council as part of the 2022–2026 Capital Program. The City was also awarded \$15.7 million in funding from various levels of senior government grant programs throughout the term to support flood protection improvements.



Richmond's South Dyke

The City's flood protection program was accelerated to a 50 year implementation period in order to provide additional flood resilience for the City. Throughout the term, significant work was completed as part of the City's ongoing efforts to protect Richmond from potential flooding. Initiatives include:

- The Steveston Island Flood Risk Assessment and Sea Gates Concept Study was completed to assess the alternative dike alignment proposed in Dike Master Plan Phase 1. Following this assessment, a preliminary design for the Steveston Island Dike was also completed to support the Council endorsed work plan for Steveston Island.
- Dike Master Plan Phase 3, targeting the south dike between No. 2 Road and Boundary Road, and Phase 5, targeting Sea Island dike from the Sea Island Connector Bridge to the south end of 3800 Cessna Drive, Mitchell Island and Richmond Island, were completed.
- Dike Master Plan Phase 4, which focuses on Richmond's north dike between No. 6 Road and Boundary Road, was endorsed by Council in 2021 for public and stakeholder engagement which took place in 2022.
- The Drainage Pump Station Condition Assessment report was finalized and significant progress was made in upgrading the City's drainage pump stations, including work on the Shell Road North Pump Station, No. 7 Road South Pump Station, Horseshoe Slough Pump Station, Steveston Highway at No. 3 Road Pump Station and Steveston Highway at Gilbert Road Pump Station.
- The south dike between Gilbert Road and No. 3 Road was upgraded, widened and raised by 1.4 meters and the south dike between No. 3 Road to near No. 4 Road was upgraded, widened and raised by 1.6 meters. Both of these projects are located in the Dike Master Plan Phase 3 area.
- Phases 1 and 2 of the Burkeville Area Drainage, Watermain and Sanitary Sewer Upgrades project were completed to upgrade storm sewer capacity and ageing watermain and sanitary sewers.
- The City's drainage, water and sanitary models were updated with current infrastructure, population and rainfall data. The models are a mathematical representation of the City's drainage, water and sanitary systems that are used to analyze the performance and guide long-term infrastructure planning.
- The City's flood protection community engagement initiatives were advanced with new informational videos, an update to the City's flood protection webpage, and participation in numerous public presentations promoting flood protection throughout the term.

Six road and weather information stations were installed providing full remote communications and analytic capabilities to support winter operations response.

Configuration changes and site improvements were made at the Richmond Recycling Depot to update ageing infrastructure and improve operations. The improvements include a new site layout, expansion of the hazardous waste materials area

inclusive of tent covering, a new steel awning spanning the centralized large recycling bins, new heavy equipment, and a classroom for depot tours and recycling workshops. Throughout the pandemic, safety protocols were in place to protect the health and safety of all users.

The enhanced City Centre Community Police Office (CPO) was opened in September 2021 and front counter services for the public launched in April 2022. Located on the corner of Gilbert Road and Granville Avenue, the 10,000 square foot facility will provide the public centralized policing services and improved police response times for Richmond residents.



Councillor Carol Day, Councillor Chak Au, Councillor Bill McNulty, Superintendent Will Ng, Mayor Malcolm Brodie, Assistant Commissioner Maureen Levy, Councillor Linda McPhail, Councillor Alexa Loo, and Councillor Andy Hobbs at the City Centre Community Police Office Opening.

The Richmond Community Animal Shelter will be re-opening in 2022 with the BC SPCA managing the operations of the Shelter. The renovation and expansion project upgraded the previous existing facility and added additional space in order to accommodate more animals and provide a higher quality of care.

The City improved ammonia detection systems and processes at Minoru Arenas, Richmond Ice Centre, and the Richmond Curling Club. Staff from Community Services, Richmond Fire-Rescue, and the Richmond Olympic Oval also participated in an extensive safety training workshop on emergency response plans and the unlikely event of a “live-fire.”

Condition assessments for the City’s pressure reducing valve (PRV) stations, which deliver water throughout Richmond, and 51 of the City’s sanitary pump stations were completed to identify required rehabilitation and plan for replacement work.

1.3 Ensure Richmond is prepared for emergencies, both human-made and natural disasters.

In partnership with OPTA Information Intelligence Corp, the City began work on the implementation of a Fire Risk Prediction Modelling system. The system uses fire incident, inspection and property data to develop predictive models of structure fire and inspection risks in the City. The solution will result in an intelligence-led, data-driven predictive model to prioritize property inspections to protect properties at the greatest risk of fire and more efficient use of inspection resources.

The City transitioned Emergency Support Services to the Canadian Red Cross (CRC), which provides the City with access to a wider network of resources. Through the direction of Emergency Programs, CRC’s provision of services has met the standard of service excellence and has resulted in the delivery of critical emergency support services to residents in a functional, efficient and supportive way.

In order to more effectively provide Emergency Support Services in the field, the City implemented a digital evacuee registration and referral tool through Emergency Management BC’s Emergency Support Services Modernization project in 2020. In 2021, the City received a \$15,200 grant from Union of British Columbia Municipalities (UBCM) for the purchase of portable equipment and power supply to enhance the provision of these services through mobile computer registration access, allowing staff to support evacuees remotely when they need shelter and assistance.

In 2019, the City facilitated 10 inter-departmental and inter-agency emergency training exercises with 30 response partners.

Following the extensive damage caused by wildfires in 2018, Richmond Fire-Rescue, in collaboration with WASP Manufacturing, designed a Structure Protection Unit (SPU) Type II Trailer that meets requirements set by BC Wildfire Service to protect Richmond against wildfire threat. The SPU trailer unit provides wildfire protection for up to 30 homes, carrying over 16,000 feet of fire hose, 130 sprinklers, multiple pumps, water tanks and supporting firefighting equipment. During the summer of 2021, the SPU and firefighters were deployed upon request to the BC interior to help with the wild fires in that region. In addition, the City provided Emergency Support Services to the Emergency Support Services Regional Wildfire Operations and Emergency Management B.C. (EMBC) – Provincial Regional Emergency Operations Centre (PREOC) to

1. A Safe and Resilient City

assist with evacuee management from several wildfire events in the interior of the Province and developed a support plan for the Mass Care and Evacuee Support in collaboration with Richmond School District No. 38 and BC Housing in the event that more evacuees were displaced into the lower mainland.

The City participated in regional emergency response planning, including:

- The Greater Vancouver Integrated Response Plan's expanded coverage, which involved working with the Marine Emergency Response Coordination Committee (MERCC) to accurately communicate the City's role, capabilities and equipment in order to align a regional response in the event of a water-based incident.
- The Metro Vancouver regional exercise for Disaster Debris Management, which resulted in a number of learnings and best practices that would be invaluable in a real disaster.

The City developed a robust, three-pronged Hazardous Materials and Dangerous Goods Management program, encompassing compliance monitoring, training and procedural development and documentation. A Corporate Hazardous Materials Management Training program was established to centralize all hazardous materials information management through customized staff training and data management. This initiative not only ensures the City meets its compliance obligations, but also reduces the use of hazardous waste in the workplace while mitigating the potential for safety-related incidences.

In 2021, the City publicly launched a new Emergency Notification System (ENS), "RichmondBCAlert." Within two weeks of the launch, new subscriptions reached 2,344 for Emergency Notifications and 1,174 for the Crime Prevention Newsletter. The system is also fully integrated with the MyRichmond public portal, providing easy access to update subscription and emergency contact information. Residents may choose between email, SMS, and automated phone calls for emergency notification.

Every year, the City participates in the Great BC Shake-Out event. In 2021, the City successfully tested the ENS, opened the Department Operations Centre (DOC), and implemented a Multi-Agency Emergency Response exercise that included various departments, Vancouver Airport Authority and E-Comm 9-1-1. Learnings from this exercise will help the City and other agencies be better prepared in case of a large earthquake.

In 2019, over 250 community facility staff received training to respond to potential safety threats and keep community members and staff safe.

In response to the unprecedented "heat dome" experienced in June 2021, the City developed a Hot Weather and Poor Air Quality Operations Guide. The plan sets out a coordinated approach across City departments to enable responsive mobilization in situations, including roles and responsibilities, facilities that will be available for the public, and other public amenities such as misting stations. This plan will enable the City to proactively respond to extreme heat and poor air quality events, improving the community's resilience and ability to weather environmental changes.

In November 2021, Richmond experienced a record-setting rainfall event receiving upwards of 138 mm of rain. The City quickly organized to address drainage system challenges and support residents, responding to over 600 calls from residents and distributing over 20,000 sandbags to those with low-lying properties. In addition, City staff were deployed to support the City of Abbotsford's Emergency Operations Centre (EOC) at the request of the Province in response to the floods and mudslides following the Atmospheric River Events that impacted the Lower Mainland. The Richmond team provided support to their Logistics, Agricultural Operations, Building Assessments, and Planning sections while also building a planning framework to develop a recovery plan for the flood-ravaged Sumas Valley and providing some respite to the emergency response personnel from Abbotsford.

Water quality is monitored by testing samples from 40 sites around Richmond and analyzing real-time PRV data, allowing for a quick response if needed – 24 hours a day, seven days a week.

In 2021, the City worked with GHL Consulting to host a demonstration of a Mass Timber Building under Fire Conditions at the Richmond Fire-Rescue Lafarge training site. The demonstration was part of a project funded by National Resources Canada, the National Research Council, Ontario's Ministry of Natural Resources and Forestry and British Columbia's Forestry Innovation Investment to complete a series of demonstration fire tests to support and expand the use of mass timber in tall buildings in Canada. The project culminated with two demonstrations; one in Richmond and one in Ottawa.

1.4 Foster a safe, caring and resilient environment.

The Richmond RCMP, in collaboration with Vancouver Coastal Health (VCH), launched the Fox 80 Mental Health Car (Fox 80) to provide a joint-response to mental health-related calls for service in Richmond. Fox 80 provides assistance to frontline policing units by conducting wellness checks and police apprehensions under the Mental Health Act. In 2021, the program launched an online platform for referrals through the Richmond Detachment's internal website which made the referral process for frontline police officers easier and more accessible in the field. In addition, the Richmond RCMP's Vulnerable Persons Unit (VPU) collaborated with the Ministry of Social Development and Poverty Reduction to conduct outreach for individuals who are experiencing homelessness. This includes assisting vulnerable persons experiencing homelessness during Extreme Weather Alerts.

Over 1,500 students a year participate in the Richmond RCMP's Drug Abuse Resistance Education (D.A.R.E.) for grade 5 students.

The City worked closely with other organizations in order to have a wider public reach on important safety issues. For example:

- The City worked with community organizations such as S.U.C.C.E.S.S. and Chinese Christian Mission to ensure that emergency preparedness information is translated and preparedness presentations are updated with cultural considerations. In 2020, an online course for the Resilient Richmond Community Program was developed to provide the Richmond community with multi-linguistic emergency preparedness information and tools.
- On-site fire safety education materials were provided to local faith groups at religious events including the annual Burning of the Chametz at Brighthouse Fire Hall No.1 and the Lingyen Mountain Temple 20th anniversary event for a 500-year-old ceremonial burn.
- Richmond Fire-Rescue collaborated with local health groups to carry out home inspections for vulnerable seniors to address safety risks. Seniors and their support person were provided a checklist to address any safety concerns that would be reviewed by a representative of the local health group on a subsequent visit.

The annual Richmond Fire-Rescue community toy drive received 1,000 donated toys for Richmond Cares Richmond Gives in 2021.

- The RCMP Vulnerable Persons Unit, Community Bylaws, Richmond Fire-Rescue and the Ministry of Social Development Outreach Program work collaboratively to respond to calls-for-service related to homeless camps on public property and individuals living in vehicles. As part of this effort, in 2019/2020 the City conducted outreach and distributed resource guides to support the health and safety of vulnerable persons in the community.

In-person volunteer policing programs were resumed in 2021 with enhanced health and safety protocols to support various crime prevention and road safety public education efforts. These included: Pedestrian Safety, Speed Watch, Lock Out Auto Crime, Distracted Driving, Fail to Stop, Crime Watch and Pop Up Detachments. Volunteers distributed:

- 954 Speed Watch information letters
- 2,897 Lock Out Auto Crime information letters
- 632 Fail to Stop information letters
- 7,107 Pedestrian Safety reflectors




The City implemented a new licensing and enforcement procedure for boarding and lodging programs to curb illegal short-term rentals in Richmond. The new measures brought Richmond in line with best practices in regulating short-term rental properties, ensuring adequate long-term rental supply and curbing nuisances such as "party houses".

1. Maintaining a Safe and Resilient City During the COVID-19 Pandemic

When the COVID-19 pandemic reached Richmond, a number of safety programs and strategies were put in place that guided the City's response. Throughout 2020, the following measures enhanced Richmond's ability to meet community needs and remain safe and resilient:

- The City participated in the Richmond COVID-19 Community Task Force (RCCTF), which provided a forum for Richmond community stakeholders, including all levels of government, to regularly connect during the COVID-19 pandemic, share relevant information, and explore collaboration opportunities. The task force was co-chaired by Mayor Malcolm Brodie and the Richmond Chamber of Commerce's Board Chair, Fan Chun.
- Council declared an emergency, which provided Council the authority to quickly and effectively address emerging issues as a result of the COVID-19 pandemic and make decisions in the best interest of Richmond.
- Community facilities and amenities were temporarily closed, including City Hall, the Public Works Yard, community centres, pools and arenas, arts, culture and heritage sites, and park and sport amenities where it would be difficult to maintain physical distancing. Many programs and services were transitioned online to continue to meet the needs of the community.
- Council endorsed the City of Richmond Plan for the Restoration of Programs and Service Affected by the COVID-19 Pandemic (the Restoring Richmond Plan). This plan guided the restoration of programs and services along a continuum of five steps from lower risk, lower potential for exposure, to higher risk, higher impact services from the perspective of health outcomes, financial realities, and public expectations.
- In coordination with the Restoring Richmond Plan, several upgrades and modifications were completed in civic facilities. For example:
 - Touchless automatic door openers and a touchless elevator control panel were installed in select facilities to decrease the need for high-touch surfaces.
 - HVAC systems were switched to 100% outside air where possible for improved air ventilation and filters were upgraded at select facilities, and HVAC upgrades at Thompson Community Centre were supported by a \$900,000 grant from Investing in Canada Infrastructure Program – COVID-19 Resilience Infrastructure Stream (CVRIS) from the Government of Canada and the Province of British Columbia.
 - In preparation for re-opening, facilities adjusted their floor plans to ensure participants could maintain physical distancing and barriers, such as plexiglass, were installed.
- A number of plans and protocols were established to reduce the risk of spread of COVID-19 and to prioritize the health and safety of City facility users. This included the Pandemic Exposure Control Plan, COVID-19 Safety Plans for all civic facilities, and updated plans and guidelines to provide continuity of services while remaining adaptable to the pandemic.
- The City stopped accepting cash payments at City Hall starting March 2020 to minimize touch points. Numerous electronic payment options were provided to taxpayers to encourage safe and efficient bill payments.
- Council adopted a COVID-19 Vaccination Policy in late 2021 to complement other workplace health and safety measures in a commitment to taking every reasonable precaution to protect the health and safety of its workforce and the community from the transmission of the COVID-19 virus. Following Council's adoption, third-party service contractors regularly engaged by the City also confirmed that their staff and subcontractors would be fully vaccinated when entering City facilities and worksites.
- The City procured and distributed critical personal protective equipment (PPE) supplies (such as cleaning supplies, face masks and hand sanitizer) throughout City facilities, including community centres, fire halls, libraries, ice arenas and aquatic facilities.



In the community, a number of initiatives were implemented to prevent the spread of the virus and support vulnerable populations:

- In partnership with BC Housing and Turning Point Recovery Society, the City opened the Emergency Response Centre (ERC) at Minoru Place Activity Centre in May 2020 to provide up to 45 safe spaces for vulnerable people during the COVID-19 pandemic.
- The City received a total of \$3.35 million in funding from UBCM through the Strengthening Communities' Services program to address the needs of Richmond residents experiencing homelessness during the COVID-19 pandemic. Projects under this initiative include:
 - ♦ The creation of a drop-in centre and shower program at the Brighthouse Pavilion at Brighthouse Park for people experiencing homelessness in partnership with Turning Point Recovery Society.
 - ♦ The establishment of a warming centre at South Arm Pool that provided basic accommodation for residents in need during the cold winter months (December-April) during the 2021/22 Winter Season in partnership with The Salvation Army.
 - ♦ A series of community homelessness dialogue sessions to increase understanding and awareness of homelessness and discuss opportunities to foster inclusive communities.
 - ♦ A new homelessness training program for City staff to enhance service provision to individuals experiencing homelessness.
- The City provided space at Minoru Park for VCH to open a drive-thru COVID-19 Assessment Centre with the goal of increasing community assessment and testing to the general public at a central location. With the assistance of the City, VCH later relocated the Assessment Centre to a site near YVR Airport.
- To support VCH's COVID-19 vaccination campaign, the City provided clinic space at East Richmond Community Hall and Minoru Centre for Active Living. City staff also assisted by helping the public navigate the clinics and provide input to VCH on community engagement strategies to better reach target populations.

- The City launched a Community Ambassador program from May–October 2020 to provide public education regarding the provincially and federally mandated Public Health Orders and guidelines. Over 150 City staff were redeployed from all departments in the City to patrol parks, outdoor facilities and businesses.
- Temporary road changes were implemented in Steveston Village in the summer of 2020 to provide increased space for physical distancing, with the addition of supplementary signage, electronic display boards, wayfinding kiosks and planters.

In May 2020, Council endorsed a statement against racism and violence related to the COVID-19 pandemic. In August 2020, the City and Richmond RCMP distributed anti-hate posters throughout Richmond, urging individuals to reach out to police if they experience or witness any hateful behaviour. The poster campaign addressed racially- and hate-motivated incidents.

In alignment with the City's Digital Strategy, online service options were launched or enhanced to ensure business continuity while protecting the health and safety of the public and staff. Some examples include:

- The City enhanced and expanded the electronic building permit submission system to accept applications, process, and issue permits electronically, and introduced measures to conduct inspections in a safe manner.
- In the MyRichmond portal, the MyHome section was enhanced to provide the public with additional transaction details and history related to payments for taxes and utilities.
- Online collaboration and web-conferencing tools were launched and systems were implemented to enable staff to provide remote and virtual service delivery. In addition, mobile and tablet-based applications were enhanced allowing for work to be completed in the field.
- A number of internal business processes were digitized to enable streamlined efficiencies within the City in the pursuit of providing the best service to the community and customers, and safety protocols were adopted for areas that conduct off-site work, such as inspections.

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.

Council views continued leadership in sustainability as a high priority. To be effective in this goal, Council intends to apply new, forward-thinking, and innovative approaches to the way the City conducts business. This includes prioritizing "green" initiatives and circular economic principles where appropriate, and prioritizing sustainability in a holistic sense, including but not limited to environmental concerns. Council's priorities for a sustainable and environmentally conscious city also extend to the community, with a focus on ensuring citizens have access to nature and to resources necessary to make sustainable choices.

Priorities include:

- 2.1 Continued leadership in addressing climate change and promoting circular economic principles.
- 2.2 Policies and practices support Richmond's sustainability goals.
- 2.3 Increase emphasis on local food systems, urban agriculture and organic farming.
- 2.4 Increase opportunities that encourage daily access to nature and open spaces and that allow the community to make more sustainable choices.

2. A Sustainable and Environmentally Conscious City

2.1 Continued leadership in addressing climate change and promoting circular economic principles.

In 2020, the Ministry of Environment and Climate Change Strategy announced approval of the City's Single-Use Plastic and Other Items Bylaw No. 10000, marking a critical milestone in Richmond's goal to promote more sustainable waste management to protect the environment. Extensive engagement was held in preparation of the Bylaw to support businesses as they work towards replacing single-use plastics and other items with products that are compostable or can be used multiple times before being recycled. Council adopted the Single-Use Plastic and Other Items Bylaw No. 10000 in September 2021 and it came into effect in March 2022.

In March 2019, Council declared a climate emergency. Richmond joined hundreds of cities across the globe, representing more than 20 million citizens, who have declared a climate emergency. The movement was in response to a warning from the Intergovernmental Panel in Climate Change (IPCC) in fall 2018 that drastic action is needed immediately to offset the risks of accelerating global warming. At this time, Council directed staff to update the 2014 Community Energy & Emissions Plan.

Following extensive community engagement between July 2019 and September 2021, the City's new Community Energy and Emissions Plan 2050 was adopted by Council in February 2022. The plan will see the City furthering its commitment and investments to realize a net-zero carbon city by 2050. With 200 actions within eight strategic direction areas and an implementation roadmap, these initiatives will chart the path for Richmond to achieve the ambitious targets of 50% reduction in community greenhouse gas (GHG) emissions by 2030, setting the stage for a net-zero carbon city by 2050.

Tree material from the annual Richmond Firefighters Charitable Society Drive-Thru Tree Chipping event is recycled and used for City operations.

In alignment with the OCP amendments made in 2018, work continued on the implementation of the BC Energy Step Code (ESC) to achieve more energy-efficient buildings in Richmond. In 2020, staff engaged over 200 industry stakeholders on extending the requirements that already applied to new residential buildings and most larger commercial buildings to new hotels and motels, and increasing ESC requirements for new detached residential homes and duplexes, matching the current requirement for townhomes. The Building Regulation

Bylaw amendment also introduced a 'two-option' approach for ESC compliance, where applicants can receive a one-step relaxation in Bylaw requirements by incorporating a low-carbon energy system into their project.

In 2019, Council adopted the Public Tree Management Strategy 2045 (A Plan for Managing Richmond's Public Urban Forest), which outlines the goals and objectives for the sustainable stewardship of City-owned trees. In support of this, almost 3,600 trees were planted from 2019-May, 2022. The City also administers regulations to manage the privately-owned portion of the urban tree canopy, upholding the principle that primarily trees are to be retained and those lost to development are replaced at a greater rate than removed. The Tree Protection Bylaw No. 8057 was updated to enable better enforcement along with additional public education for residents and the building industry on tree preservation.

The City's LED light replacement program upgraded 2,870 street lights to LED, reducing energy consumption by 50%.

A Council-endorsed mechanical upgrade was completed at the Richmond Cultural Centre and Library which will reduce the building's greenhouse gas (GHG) emissions by 60% (or 160 tonnes of GHG's) annually. The City received \$139,000 in funding from BC Hydro and was awarded \$750,000 from Federation of Canadian Municipalities (FCM) to complete this project and support Council's target to reduce GHG emissions from civic buildings.



Richmond Cultural Centre and Library

In an effort to complete canal stabilization works in more eco-friendly and efficient ways, the City has undertaken pilot programs where canal stabilization is done with Bio-Engineered solutions rather than traditional rock-based riprap. The solution allows for construction of a protected slope while enabling vegetation to grow on the wall face. The City continues to monitor the pilot program and the results have been positive. These Bio-Engineering solutions have been incorporated into several other recent canal stabilization projects.

2. A Sustainable and Environmentally Conscious City

The City received and recycled over 74,600 tonnes of used asphalt and concrete construction materials to be reused in City construction projects.

2.2 Policies and practices support Richmond's sustainability goals.

The City launched the Mitchell Island Environmental Stewardship Initiative in the spring of 2019 to protect the local environment on the island, which is on the ecologically-sensitive Fraser River Estuary and is one of Metro Vancouver's major industrial hubs. Throughout the term, the City hosted information sessions for businesses; had regular meetings with Federal, Provincial, and regional regulators; and encouraged compliance with environmental best practices. For example, in 2021, *Metamorphosis*, a new mural by artists Karen Yurkovich and Tristesse Seeliger, was painted along Mitchell Road to bring awareness to some of the island's native plant species. Ongoing storm water monitoring has demonstrated improvements in water quality since the program's initiation. In 2020, the City was awarded \$75,000 from the Federation of Canadian Municipalities' (FCM) Green Municipal Fund to support this ongoing work.



Metamorphosis Mural by Karen Yurkovich and Tristesse Seeliger

Council adopted Soil Deposit and Removal Bylaws No.10200 in April 2021 to strengthen the pre-existing regulatory framework related to soil movement in the City. The enhanced regulations serve to better safeguard Council-endorsed strategies such as the Environmentally Sensitive Areas Management Strategy, Agricultural Viability Strategy, and the Invasive Species Action Plan, and ensure that the fees collected reflect the cost to the City.

In 2021, Council endorsed a one-year trial ban of rodent poison products on City property in response to concerns about the harmful effects they may have on local ecosystems and wildlife. During this period, the City also conducted

outreach with residents, provided a 24-hour hotline, and offered preliminary site assessments to residents. In addition, practices shifted to pesticide-free, prevention-first rodent control for City facilities.

Community recycling programs and services were expanded:

- The City's Recycling Depot operating hours expanded to seven days a week in 2021, increasing from five days a week in 2018. The expanded operating schedule increased user traffic by 44%, or by more than 75,000 users per year.
- The scope of materials accepted at the depot was expanded to include lead-acid batteries, fire extinguishers, smoke and carbon monoxide alarms, motor oil and antifreeze, propane tanks, butane canisters, electronics, upholstered furniture, tires, thermostats, and baby car seats as a pilot. This initiative resulted in an additional 2,600 tonnes of materials being diverted for recycling or proper disposal in from 2019–2022.
- Curbside collection for the Large Item Pick Up Program increased from four to six items in 2019. These additions have resulted in an average of 250 tonnes of additional materials being collected each year, while increasing convenience for residents to dispose of unwanted large or awkward items. Through this program, more than 18,500 items are collected on average annually.

By increasing accessibility to recycling services, the City is making recycling easier and more convenient for residents, while supporting a more circular economy. From 2019–2022, the City's Recycling Depot hosted an average of 220,000 customers per year, or one visitor for every 48 seconds that the facility was open. The Recycling Depot represents approximately 12% diversion of the City's overall 79% single-family residential recycling rate. On average, over 6,000 tonnes of materials are received for recycling at the Recycling Depot each year.

136 solar panels were installed on the roof of Brighthouse Fire Hall No.1, which are projected to generate around 60,000 kilowatt-hours of electricity per year.

Through the 2020 Green Fleet Action Plan, the City has applied multiple solutions to realize emission reductions and achieve more sustainable fleet operations. The City exceeded its goal to reduce GHG emissions from the corporate fleet by 20% by 2020, achieving a 28% reduction. Additional achievements include:

- In support of more electric vehicles (EVs) in the City's fleet, the corporate charging infrastructure has grown to include 24 level-two charging ports. In 2021, the City was also awarded a \$420,000 grant from Natural Resources Canada which will contribute to the City's future plans to add 54 level-two and three level-three corporate charging ports.



Electric City Fleet Vehicle

- City Council endorsed the West Coast Electric Fleets Diamond Lane pledge which commits the City to replace above 10% zero emission vehicles for all new corporate passenger fleet vehicle procurements annually.
- Various pilot projects were launched to assess the feasibility and effectiveness of alternative options:
 - 15 City fleet vehicles were converted to use propane from gasoline. This initiative is expected to produce a 30% offset in GHG related fuel emissions. In total, there are 77 lower emissions vehicles in the City's fleet: 34 hybrid, 18 electric, one hydrogen, nine plug-in hybrid electric, and 15 propane.
 - Solar panels were installed on five work trucks to charge auxiliary batteries used for equipment and lighting which would otherwise require vehicles to idle to recharge the power while in the field.
 - A modular hydrogen system was incorporated into three heavy duty vehicles to determine if the modification reduces fuel consumption and emissions by burning diesel more efficiently. The City received matching funding under the Clean BC Heavy-Duty Vehicle Efficiency Program for the conversion cost.
 - Three fully electric power pack generators with solar trickle chargers were added to the fleet to allow for power on work sites and events with no emissions.

As part of the transition away from gas-powered equipment, the City began implementing a replacement program for parks operations equipment that includes the use of electric chain saws, line trimmers and other small equipment.

Through digitization of services and the adoption of new technologies, the City has also reduced the use of materials, increased efficiency and services, and reduced costs. For example:

- Adoption of electronic processes included an Electronic Plan Review system for building permit applications, the Bylaw Violation Dispute adjudication system, and the Monthly Parking Permit and Richmond Resident Veteran Parking Permit application and renewal processes. In addition, the MyRichmond online portal was enhanced to allow for a permitting application, review and approval process for business licensing permits.
- Predictive and remote technologies allowed for more efficient deployment of parking enforcement officers to geographically modelled "hot-spot" locations, remote dispatching of contracted hydro-excavation equipment for field-based reporting and responses, and administration of the Facility Energy Management Program through direct digital controls (DDC) at City Facilities for the monitoring and optimization of energy consumption.

Richmond continues to demonstrate its leadership in water conservation by providing a number of initiatives. For example, during the term:

- The fixed-base water meter reading network was expanded to add additional data acquisition points. In addition, the City implemented remote collection of approximately 94% of the water metering data, reducing the need for vehicle-based mobile readings by 75%.
- The water pressure management program save the City an average of \$1.8 million in avoided water losses annually by reducing the system's pressure during low demand periods to reduce potential leakage.

2. A Sustainable and Environmentally Conscious City

2.3 Increase emphasis on local food systems, urban agriculture and organic farming.

Richmond partnered with FoodMesh, a Vancouver-based company that facilitates food redistribution, in 2019 to launch the Richmond Food Recovery Network and engage local food businesses to divert their unsold surplus food from waste streams to higher value uses. In 2020, FoodMesh expanded their platform nationwide and named Richmond as one of the founding partners. Fifty-nine organizations participated in the Richmond Food Recovery Network, and the original program targets were exceeded:

- 414,555 kg food diverted from waste streams;
- 644,800 meals created;
- \$2.2 million dollars in savings to local food brands and charities; and
- 17,532 kg of food provided to local hobby farmers for animal feed.

For this initiative, the City won the 2021 Community Project Award from the British Columbia Economic Development Association.

The City received \$3,500 from Tree Canada to plant 93 fruit bearing trees, 235 shrubs and 110 ground covering plants at Paulik Park.



Paulik Park

Through a partnership between the City and Urban Bounty (Richmond Food Security Society) and funding by the United Way, a Match Maker/Food Hub project was launched in May 2020. Chefs prepared meals at the East Richmond Hall and the Terra Nova Red Barn and food vouchers were provided to community organizations who managed delivery to families. About 500 meals per week were delivered through a range of community organizations and public-sector sites such as

Cambie Secondary School, Healthiest Babies Possible, McNeely Elementary School. In addition to this, they also supported the Richmond School District with 300-bagged lunches per week. The Richmond Food Security Society was awarded the 2021 British Columbia Recreational and Parks Association (BCRPA) Provincial Award for Community Leadership for the innovative meal program and partnership with the City of Richmond.

The City currently boasts 572 individual community garden plots at 12 City-owned sites that are managed by Urban Bounty, including 200 new individual plots recently constructed at the Garden City Lands. In December 2021, following a community engagement process to receive input from the public on potential future community garden locations, Council approved three new community garden sites along the Railway Greenway, adding up to over 100 new individual plots planned to be constructed in spring 2022. Community gardens promote enjoyment of the outdoors, enhance community social connectedness, and improve food security.

The City was awarded a \$175,000 grant from the Federation of Canadian Municipalities' Green Municipal Fund to support its ongoing studies on the Garden City Lands. The purpose of the studies is to fully identify, characterize and locate contaminants on the project site and secure a Certificate of Compliance from the provincial government. The certificate will certify that the site's contaminants have been safely managed to allow for use as an organic farm.

In support of the native pollinator populations, a number of initiatives were launched or expanded. For example:

- Pollinator Meadows and apiaries were installed in Terra Nova in partnership with Border Free Bees, along with educational material to provide community members information on the importance of pollinators and pollinator habitat.
- The Richmond Nectar Trail Project was launched and piloted in partnership with Border Free Bees in 2020. In response to the positive acceptance from the community, the program continued into 2021. The Nectar Trail promotes community awareness and increase and connect habitats with a series of 'stepping stone' garden plots for insects to rest and forage while en-route between isolated habitat hubs.
- In January 2022, Council endorsed an application for Richmond to be designated a "Canadian Bee City" by Pollinator Partnership Canada, a registered charity that is dedicated to the protection and promotion of pollinators and their ecosystems through conservation, education, and research. Certification as a Canadian Bee City acknowledges Richmond's continued dedication to protect pollinators and pollinator habitat in the community.



Apiaries at the Terra Nova Rural Park

A number of initiatives were launched in the term to support Riparian Management Areas (RMAs), which are important ecosystems where terrestrial and aquatic environments meet. For example:

- The City adopted a stewardship model for single family development reviews of properties with a RMA designation and supported applicants throughout each phase of development to make the process easier for residents.
- The City provided a Municipal Update for the Real Estate Board of Greater Vancouver to help realtors locate RMA designated properties, understand the requirements for single- family residential development, and understand opportunities to enhance the RMA setback.
- The City began developing an engagement and community activation plan to support landowners in implementing practices that enhance biodiversity, reduce GHGs, restore soil resiliency, and increase the sustainability of farms.

Recognizing the importance of access to local fresh food, between 2020 to 2022, Council allocated over \$61,000 to support and enhance farmers' markets. This funding supported an extension of the Kwantlen St. Farmers Market into the fall season, enabled the Sharing Farm to plant a fall crop to supply the extended market dates, and in 2021, helped to re-launch the Steveston Farmers and Artisans Market. The 2022 funding will also support a pilot pocket farmers market in Hamilton coordinated by Urban Bounty, and community events related to food security and/or promotion of local food and food producers, such as the return of The Sharing Farm's Garlic Festival.

2.4 Increase opportunities that encourage daily access to nature and open spaces and that allow the community to make more sustainable choices.

In July 2021, Council endorsed the new Community Environmental Enhancement Grants Program, in recognition that access to nature and healthy, local ecosystems can improve the quality of life for residents. The program grants registered non-profit organizations access to up to \$2,500 annually in funding for materials needed to enhance Richmond's natural environment, including improving boulevards, watercourses and natural parks areas. In March 2022, Council approved the disbursement of \$30,100 to 13 different non-profit societies.

Richmond became the first city in the Lower Mainland to receive a Bat Friendly certification. Related initiatives include the installation of a large bat house in Terra Nova Rural Park, participation in the Bat Matters 2020 Conference which brought together bat citizen scientists, educators, and enthusiasts to discuss issues related to bat education and habitat management, bat education programs for elementary school students, and the addition of information about the protection and preservation of bat species in outreach material for development.

The City's Nest Box Program engages volunteers to monitor and maintain nest boxes for barn owls, chickadees and tree swallows. Nesting boxes have been installed at Garden City Lands, Garden City Park, Paulik Park, Terra Nova Rural Park and Terra Nova Natural Area, with a total of:

- 43 tree swallow boxes
- 30 chickadee boxes
- 15 barn owl nesting box

Creative and innovative programs and services connect members of the community with nature and enhance Richmond's natural environment. For example:

- The City of Richmond GeoTour encourages all ages to explore Richmond on foot or by bike to look for 50 hidden geocaches (treasure boxes). In 2021, 588 geocachers from 14 different countries logged 2,829 geocache finds. New in 2022, the Geocaching Adventure Lab app offers adventure seekers virtual caches at Terra Nova Park and the Richmond Nature Park.
- Richmond Public Library's Storywalks® program expanded in 2019 to offer events for both children and adults. This outdoor literacy program offers a unique active outdoor reading experience. In May 2022, in partnership with the

2. A Sustainable and Environmentally Conscious City

Rotary Club of Richmond Sunrise and the City of Richmond, the Richmond Public Library will launch the permanent McLean Neighbourhood Park Storywalk.

- A series of ExplorePACKS were launched at Richmond Public Library, including 25 birdwatching kits, six fishing kits, and 14 hiking kits. The packs provide opportunities for residents of all ages to explore the community and natural environment and were made possible by community partner donations.
- The City collaborated with Richmond School District No. 38 to participate in the annual iNaturalist City Nature Challenge, which encourages people from all over the world to observe their natural environment by documenting and sharing information about their local ecosystems. In 2020 and 2021, Richmond collected an average of 1,394 observations and 408 different species of organisms were identified per year.
- The 2021 Richmond Earth Day Youth (REaDY) Summit was adapted due to COVID-19. The City collaborated with Richmond School District No. 38 to create an Earth Day Design and Colouring Initiative for Kindergarten to Grade 12 students. Students participated by showcasing their ideas about Richmond's biodiversity in colourful and creative ways. Students in the City's Green Ambassador Program helped create the poster designs by participating in a Richmond Biodiversity and Graphic Design Workshop, led by local artist Laara Cerman.
- In 2022, Richmond Earth Week took place from April 16 to 24. The City hosted over 25 free programs ranging from beekeeping and tree planting to birdwatching and harnessing wind power. Over 550 participants attended Earth Week Programs across the City. The Signature Tree

Plant at Garden City Park saw approximately 90 trees and 1000 shrubs planted by 60 volunteers. Eight community groups supported the City in hosting these programs.

In 2019, the free Wheel Watch bicycle parking program was offered at 11 community events, serving almost 2,100 people.

The City undertook educational and promotional initiatives throughout the term to encourage cycling in the community. For example:

- Free cycling skills training was provided to Richmond students and newcomers. Approximately 1,600 students from 18 elementary schools received the training. In addition, bike maintenance courses were offered in 2019 to promote cycling as a mode of active transportation.
- A Cycling Art Tour self-guided map was developed to encourage residents of all ages to get outdoors and discover community and public art. The artworks highlighted in the tour celebrate the power and resilience of community, connection, togetherness, home and place.
- The free Richmond Recreational Trails & Cycling Map was updated and distributed in 2019 in partnership with Tourism Richmond to promote active transportation.

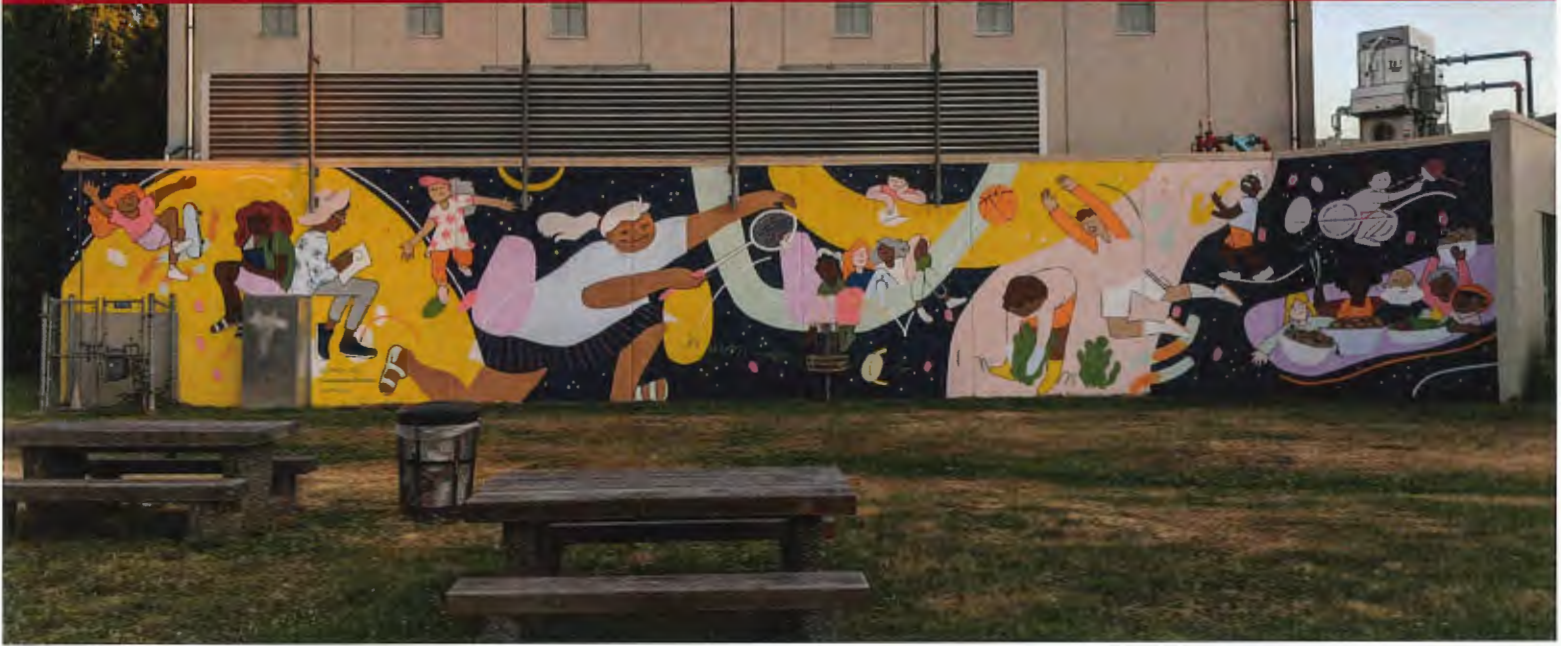
In 2019, the free, family-oriented Island City, by Bike Tour event had over 100 participants.



Railway Greenway



3. One Community Together



Vibrant and diverse arts and cultural activities and opportunities for community engagement and connection.

Council recognizes that as a community we are stronger when we come together. A range of opportunities for the community to meet and connect, particularly through arts, cultural and heritage programs and activities helps to sustain Richmond's vibrancy. Forming a unified Richmond also involves working with community partners and taking an intercultural and interagency approach where possible to best meet the wide-ranging needs and interests of the community.

Priorities include:

- 3.1 Foster community resiliency, neighbourhood identity, sense of belonging, and intercultural harmony.
- 3.2 Enhance arts and cultural programs and activities.
- 3.3 Utilize an interagency and intercultural approach to service provision.
- 3.4 Celebrate Richmond's unique and diverse history and heritage.

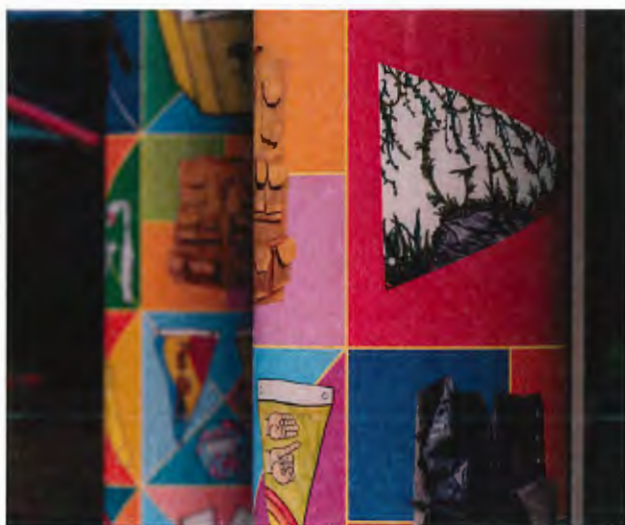
3. One Community Together

3.1 Foster community resiliency, neighbourhood identity, sense of belonging, and intercultural harmony.

Council adopted the first Cultural Harmony Plan (2019–2029) for the City. The plan guides the City's approach to enhancing cultural harmony amongst Richmond's diverse population by identifying innovative and collaborative approaches for intercultural connections. Over 370 individuals, including representatives from 35 organizations, actively participated in the development of the plan through public open houses, focus groups and LetsTalkRichmond.ca.

Pride Week continued to be actively celebrated across Richmond throughout the term to bring together members of Richmond's Lesbian, Gay, Bisexual, Transgender, Queer and Two-Spirit plus (LGBTQ2S+) community and their allies. For example:

- In 2019, Council approved the installation of the first rainbow crosswalk on Minoru Boulevard between the Richmond City Hall Annex and the Richmond Cultural Centre as an ongoing reminder of the City's commitment to recognizing diversity and inclusiveness across the community.
- Throughout the COVID-19 pandemic, various online activities were offered during Pride Week. Some examples include online film screenings, poetry and art workshops, drag queen story times, online dance parties, and informative workshops.
- *Signs of Pride*, a community art project by artists Sam McWilliams, Paige Gratland, Phranc and local youth artists was unveiled at West Richmond Community Centre. In addition, Pride window challenges and other public displays shared supportive and vibrant messages throughout the community.



Signs of Pride by Sam McWilliams, Paige Gratland, Phranc and local youth artists

In 2020, the annual ERASE Bullying campaign celebrated five years of promoting connection, belonging and a respectful city.



Mayor Malcolm Brodie, Councillor Chak Au, Councillor Carol Day, Councillor Alexa Loo, Councillor Bill McNulty, Councillor Michael Wolfe, Councillor Linda McPhail, Councillor Harold Steves and Councillor Andy Hobbs for Pink Shirt Day.

The annual Diversity Symposium was re-imagined into a virtual format spanning a week starting in 2020. In addition, new accessibility measures were implemented for participants with visual or hearing disabilities including providing voiceover welcome information for sessions, live closed captioning during each session and screen-reader compatible instructions during the registration process. The annual event discusses topics to support building diverse, inclusive and equitable communities. Since 2019, 841 individuals from throughout BC, Canada and internationally have registered in 26 engaging sessions.

The City launched the updated Newcomer's Guide to Richmond in 2020 to provide a resource for newcomers seeking information on how to settle into life in Richmond. The guide was first launched in 2009 and revised in 2012 and 2015. This latest iteration was updated in consultation with the Richmond Intercultural Advisory Committee, the Richmond School District and immigrant-serving agencies. The guide is available online in English as well as Traditional and Simplified Chinese.

The One Book, Four Cities program launched in 2019 in partnership with the Sister City Advisory Committee and continued to grow throughout the term. Unique online and in-person programs and activities were offered each year to keep the community connected to reading through learning and community conversations. In 2021, participants had the opportunity to connect with residents in Qingdao and Xiamen, China and Wakayama, Japan which joined in 2021. Over 100 people participated in an online event to hear internationally recognized Canadian author Michael Ondaatje speak live.

3. One Community Together

In 2022, the Neighbourhood Celebration Grant Program was re-launched to support grassroots community efforts with funding up to \$2,500.

Throughout 2021, community programs and initiatives provided opportunities for age-friendly community building. For example:

- The *Artful Aging Enrichment Project* provided art-based and wellness literacy programs in which participants could move beyond the labels of 'youth' and 'seniors' to interact as peers in learning. This program offered at the City Centre Community Centre was funded by an \$11,500 New Horizons Grant from the federal government.
- The City Centre Community Centre Intergen Youth Group leveraged opportunities during Youth Week and Seniors Week to offer two *Aging and the Community* seminars to combat ageism and promote positive intergenerational relationships. These discussion-based sessions fostered interactive dialogue where youth and older adults listened to each other about what ageing means to them.
- The annual *Positive Aging Campaign*, as part of National Seniors Day on October 1, showcased positive images of Richmond seniors to help reduce ageism and stereotypes. In 2021, the theme, *How Aging Positively Spreads*, highlighted the impact and rippling effect one person can have in creating positivity across a community.

In January 2021, the City launched the Youth Civic Engagement Program, a free eight-week education to action program that creates opportunities for youth to engage with one another, develop new skills, and learn about local government. The final session provides participants with the opportunity to present project ideas to the Mayor and Council Members in teams at a virtual mock City Council Meeting. In 2021 and 2022, three cohorts completed the program with a total of 33 participants between the ages of 15 and 23.

On March 23, 2020, the City demonstrated its commitment to promoting inclusion and supporting refugees by signing the United Nations High Commissioner for Refugees (UNHCR) Cities #WithRefugees pledge. This global initiative seeks to amplify the efforts of cities who are creating inclusive communities where everyone can live in safety and contribute to and participate in their local community.

*170 participants took part in two expert panel discussions about the film *The World is Bright*, which explores the prevalence and challenges of mental illness experienced by new immigrants.*

Through a provincial government multiculturalism grant, Richmond Public Library partnered with Connections Community Services to purchase podcasting kits and develop a podcasting program to reduce barriers for Black, Indigenous, and People of Colour (BIPOC) teens and young adults looking to enter the dynamic world of podcasting. The kits and training provided gives participants access to the technology and skills needed to start their own podcast.

In 2019, Gateway Theatre's production of *China Doll* in English included subtitles for both Cantonese and Mandarin speakers at every performance for the first time. Subtitles in simplified and traditional Chinese were also added for 2022's *In Wonderland*.

The new Inter-Faith Prayer and Meditation Space at the Richmond Public Library's Brighouse Branch has been designed for customers to have a quiet area for prayer and reflection.

3.2 Enhance arts and cultural programs and activities.

In 2019, Council adopted ArtWorks: Richmond Arts Strategy 2019–2024, demonstrating leadership in prioritizing the arts as a contributor to a vibrant, appealing and livable community. Rooted in local context, the strategy positions the arts as a means to achieve community goals in economic development, health and well-being, infrastructure and tourism.

The annual Richmond Arts Awards recognized the achievements and contributions to the arts by Richmond residents, artists, educators, organizers and business leaders. In 2022, the awards returned to an in-person format at the Gateway Theatre where award recipients for 2020, 2021 and 2022 were celebrated.

Various public art installations were unveiled across Richmond throughout the term. Major installations include:

- *Sea to Sky* by Thomas Cannell at the corner of No. 3 Road and Cook Road.
- *Together* by David Jacob Harder in front of Minoru Centre for Active Living.
- *Wind Flowers* by Alyssa Schwann and Michael Seymour along the Gilbert Road Greenway.



Wind Flowers by Alyssa Schwann and Michael Seymour

The Community Mural Program saw the installation of 10 murals throughout the term. Murals activate public areas by adding beauty and colour, while the images foster community dialogue and help people connect with places. As well, the process of designing community murals fosters social connections as project participants share ideas to co-create a collaborative vision. The murals can be found at a variety of locations throughout Richmond.

In 2021, Richmond Culture Days returned to in-person programming at the Richmond Cultural Centre with the support of 40 volunteers and many of Richmond's local arts organizations. Overall, 63 unique activations were offered in Richmond both in-person and virtually. As a result, Richmond was once again recognized as one of the top 10 most engaged cities in Canada overall, and top five for mid-size cities across the nation.

In January 2022 the Council-endorsed Blue Cabin Floating Artist Residency arrived at Imperial Landing. The historic cabin will host artist residencies and public programs that connect to the complex histories of the area. Musqueam artist Debra Sparrow and Richmond-based artist Keely O'Brien will be the Blue Cabin's first artists-in-residence in Steveston in 2022.

Throughout the term, the Engaging Artists in the Community (EAC) program fostered cross-cultural exchange, inclusive community building, and education on community issues by collaborating with artists with socially-oriented art practices. Various community programs, workshops and initiatives were offered in collaboration with local artists, including:

- Richard Campbell, Sandra Guerin, Gary Point, Martin Sparrow and Tsatsu Stalqayu (the Coastal Wolf Pack) for *Celebration of Musqueam Expression*;

- Wen Wen (Cherry) Lu for *The Interpreter Project*;
- Julie Hammond for *Minoru Manifesto*;
- Popo and Lola (April dela Noche Milne and Dawn Lo) for *Thompson Community Centre Mural Project*;
- Lori Weidenhammer, supported by Lois Klassen, Crystal Lee, Jenn Pearson, Catherine Shapiro and Lori Snyder for the *Victory Gardens for Diversity Project*;
- Rachel Rozanski for *Exploring Ecology Through Place*;
- J Peachy, along with Pat Calihou, Melissa West Morrison, Yolanda Weeks and Tiffany Yang for *Whimsical Garden*;
- Jean Bradbury for *Stories of Home – Past and Present*;
- Sam McWilliams, Paige Gratland and Phranc for *Signs of Pride* at West Richmond Community Centre;
- Edward Fu-Chen Juan for *Art Cultivation from Nature*;
- Sebnem Ozpeta for *WALK*; and
- Mickey L.D. Morgan for *Wayfinding Art Studio*.

The Writer-in-Residence program continued to foster community connection to reading, through learning and community conversations. The annual series delivers hands-on programming for local emerging and aspiring writers. A number of free programs and workshops were offered by writers:

- Cynthia Sharp (2019)
- Lindsay Wong (2020)
- Sonya Lalli (2021)

The annual residency position runs from September through November each year.

The Richmond Art Gallery (RAG) launched a free digital public portal of the Art Gallery's permanent collection of over 300 works of art representing the history of artistic practice in Richmond and BC. The portal allows residents of Richmond and beyond to learn about and enjoy artworks created by some of the most renowned artists from Richmond and BC, including Susan Point, Bill Reid, and Greg Girard.

The Linda Perron Ukulele Lending Library was created in memory of a Richmond resident who was well-known for her passion for music-making, commitment to family and friends, and connection to volunteerism. This community-led donor campaign was initiated by a team of ukulele-loving older adults who wanted to share the many benefits of music. The 35 ukulele kits are available to borrow from Richmond Public Library.

3. One Community Together

In 2022, an immersive Lunar New Year lantern installation, *Into the Light*, was created at Gateway Theatre by artists Marina Szijarto and Stephanie Wong. The all ages, immersive, walk-through experience brought a unique approach to Lunar New Year, a holiday celebrated by many in the community.



Into the Light by Marina Szijarto and Stephanie Wong

3.3 Utilize an interagency and intercultural approach to service provision.

In this term, Council approved the allocation of approximately \$3.6 million through various community grants:

- Arts and Culture: Approximately \$467,700 was allocated for operating and project grants for cultural non-profit organizations.
- Child Care: Approximately \$238,300 was allocated to non-profit organizations that support or deliver licensed child care in Richmond.
- Health, Social and Safety: Almost \$2.5 million was allocated to non-profit community service organizations.
- Parks, Recreation and Community Events: Approximately \$446,700 was allocated to non-profit organizations that deliver programs and services that support the health, well being, and community connection of Richmond residents.

In 2019, the Belonging Matters Symposium was held at the Richmond Public Library in partnership with the Community Action Team (CAT) Overdose Response Committee for service providers across Richmond to learn from community members with lived experiences. In 2020, the City and VCH received a Community Action Initiative Harm Reduction Grant to support Health Champion Conversations between health service providers and people with lived experience of substance use to further reduce stigma and increase understanding.

A variety of programs engaged youth through the arts:

- Transgender, gender diverse, and queer youth participated in a media arts training program that empowered them to express their stories. The participants created a magazine

that reflects the experiences of living as a LGBTQ2S+ youth in Richmond, entitled *Just Like You*. This program was hosted by City Centre Community Centre and the Richmond Youth Media Program through grant funding from Trans Care BC.

- Participants of the Richmond Youth Media Program joined professional filmmaker Glen Andersen to film and edit a 20-minute video of *Hope Beyond Homelessness*, a play created and performed by Richmond community members with lived experience of poverty and unstable housing.
- The Richmond Art Gallery partnered with Emily Carr University to provide youth with opportunities for hands-on and interactive sessions with artists, art professionals and instructors. Over 40 students learned about topics such as creating professional portfolios and exploring post-secondary options in the arts.

In 2021, the fourth biennial ArtRich juried exhibition for local artists was hosted at the Richmond Art Gallery in collaboration with the Richmond Arts Coalition. Over 320 artwork submissions from 178 local artists were received. The final exhibition presented 53 artworks by Richmond and Lower Mainland artists, and three artists were selected to be featured in a public art exhibition for the No. 3 Road Art Columns in 2022.

The Richmond Art Gallery School Art Program created new Classroom Art Kits which bring hands-on art education from professional artists to the classroom. Each kit consists of comprehensive video instruction by contemporary Canadian artists, high-quality art supplies and tools, and lesson plans for students to create a curriculum-based art project. The first two kits, focused on the topic of Indigenous art, were created in partnership with artist Michelle Sound, who is Swan River First Nation Cree and Red River Métis born, and raised in Coast Salish territory. The program has been very successful with schools across the lower mainland with over 900 student participants.

During the 2019/2020 school year, the Art Truck visited six Richmond elementary schools to deliver 60 sessions of arts education.

The annual Winter in the Village event invites the public to experience a number of holiday-themed activities in Steveston Village throughout the month of December in partnership with Tourism Richmond. Over 40 organizations and businesses animate the village with holiday cheer, even when in-person events and activities were limited.

The City of Richmond and the Britannia Shipyards National Historic Site Society entered into a partnership with the *Providence*, naming it the official flagship for Britannia Shipyards National Historic Site. This agreement secures the participation of the active working vessel at City events and other programming opportunities, which generates interest from the classic wooden boat community.

3.4 Celebrate Richmond's unique and diverse history and heritage.

The Richmond Boat Builders at Britannia Shipyards National Historic Site reopened in August 2021 allowing visitors to explore the building for the first time since 2018. A temporary exhibit featured stories of the Kishi family experience and history, boat building skills, tools and methods, and showcased the vessels *MV Burnaby* and *Mukai Princess*. Restoring access to this facility enables the community to preserve knowledge about and celebrate the people who contributed to Richmond's boat building heritage.

In 2021, the *Voyage of the Gikumi* river boat tour was launched to introduce passengers to the Fraser River's history of rum running, rescued whales, salmon cannons, and the namesake of Lulu Island. The three-hour boat tour begins at the Britannia Shipyards National Historic Site, aboard the *MV Gikumi*, a 67-year old restored work boat, and travels the Fraser River.



Voyage of the Gikumi river boat tour

A number of programs and initiatives were developed to share the history and culture of Indigenous communities locally and across Canada. For example:

- The Indigenous Perspectives collections at Richmond Public Library was expanded in 2020 to responsibly represent

Indigenous cultures, history and issues. The library also partnered with Connections Community Services to offer a 10-installment podcast series that featured Indigenous Storytellers and offer two library programs connecting local Indigenous artists with children and families.

- The City introduced a training program for staff to learn about the history and culture of Indigenous communities in Canada, the history of residential schools, and treaties around the country.
- A number of virtual events and learning opportunities were shared in honour of National Indigenous Peoples Day which encouraged participants to listen, reflect and learn about the history, heritage and contributions of vibrant and diverse First Nations, Inuit, and Métis communities.
- In 2019, the Lulu Series hosted a talk by Indigenous knowledge keeper and weaver Debra Sparrow. Over 100 people attended the event to hear the stories shared about the history of Richmond, the links between Musqueam ancestors, her creative practice, and our modern city.

The Nikkei Memorial public art project was unveiled in Steveston Community Park in 2019. This public memorial acknowledges the departure of Japanese Canadians from Steveston and their subsequent return after the period of internment. Commissioned by the City, in partnership with the Steveston Japanese Canadian Cultural Centre Advisory Committee, the project was designed by Hapa Collaborative with input from stakeholder groups and individuals who shared their experiences from before, during, and after the internment period.

Launched in 2019, the Living History Program at Steveston's historic sites is supported by local volunteers, with a peak of over 700 volunteer hours in 2019.

In celebration of Black History Month, various events, programs, and exhibits were featured throughout the term. For example:

- In 2019, eight free events and activities offered for all ages, including an opening ceremony, an art exhibition featuring artists Akem and Odera Igboke, storytelling for children, dance performances, a film screening, presentations on notable historical figures, and book displays.

3. One Community Together

- In 2020, the “Are We” exhibition by Chrystal Johnson explored concepts of identity and vulnerability through sculptures made of three-dimensional soapstone carvings.
- In 2021, a series of programs and panels discussion was offered to create awareness about the history and contributions of black community members. Panelists shared how their cultural history has informed their lives and their lived experiences. *Afrofuturism*, an exhibition by artist Eric Mazimpaka, explored the rich history of East African art and classical Renaissance painters within a contemporary African frame.
- In 2022, the exhibition *Black Artists and Creators in our Community*, by artists Sade Alexis and Joella Daniela, portrayed depictions of the Black community that highlight the individuality, multidimensionality and diversity of Black people.

The Richmond Museum developed three new feature exhibitions to inspire curiosity about the community’s history while exploring our place in the world:

- In 2018, *Obsessions: Every Collector Has A Story* provided a peek into the world of collecting;
- In 2019, *City at Work* allowed visitors to explore the invisible inner workings of the City; and
- In 2021, *Reinventing Richmond* explored how the city’s identity has been created—and recreated—over time.

In February 2020, the Richmond Olympic Oval celebrated the 10-year anniversary of the 2010 Vancouver Winter Olympic Games and welcomed over 1,500 students from Richmond schools at the festivities.

The City continued to support the annual Steveston Salmon Festival, which transitioned online during the COVID-19 pandemic. In 2021, the City and Steveston Community Society presented “Canada Day at Home presented by the Steveston Salmon Festival” to celebrate the decades-long tradition. The primarily online program shared and celebrated the traditions and cultural richness of Steveston and Richmond through performances, demonstrations, storytelling and interactive activities that showcased local talent and highlighted the community’s history, diversity and resilience.

With the support of a \$48,900 grant from the Department of Canadian Heritage, the City, Britannia Shipyards National Historic Site Society and the Richmond Arts Coalition re-imagined the annual Richmond Maritime Festival as a hybrid event in 2021 featuring a blend of online and on-site programming. In-person attendance at the festival was estimated at 9,000 visitors over the two-day event.



Net Mending Demonstration at the Richmond Maritime Festival

In 2021, Britannia Shipyards National Historic Site introduced a new activity booklet aimed at children 6–10 years of age to enhance the visitor experience. The guide will be an on-going part of the experience at the historic site for the coming years to foster curiosity and learning about Richmond’s maritime heritage.

3. Demonstrating One Community Together During the COVID-19 Pandemic

The #RichmondHasHeart campaign continued to bring residents, businesses and stakeholders together during the COVID-19 pandemic. A variety of virtual and neighbourhood-scale activities were provided through the initiative aimed at connecting residents in a manner consistent with provincial health directions, while supporting local artists, businesses and community organizations. Some examples include: Eating in the Time of COVID, an exhibit for the No. 3 Road Art Columns, and the *Reconnecting* video produced using LEGO mini-figures created by Culture Days participants.

The City, Minoru Seniors Society with support from six community centre Community Associations and Societies, and Richmond Public Library collaborated with RCRG to expand existing virtual programming available for seniors 55+ years to include phone-in programming options. Supported by a \$10,000 COVID-19 Response Grant from the United Way's Safe Seniors, Strong Communities (SSSC) initiative, over 30 phone-in programs were delivered to 150 participants who may not have been able to participate in online virtual programs.

Eight commemorative signs were installed at picturesque locations throughout the community to serve as backdrops for fun and safe grad photo opportunities.

A number of events, programs and services were transitioned online in response to the COVID-19 pandemic. For example:

- Youth Week: Virtual activities ranged from virtual U-ROC (Richmond Outstanding Community) Youth Awards, online dance parties, photo and video challenges, youth podcasts, and a Careers in Media Arts workshop featuring professionals in animation, music and graphic design. The @CityofRichmondYouth Instagram account encouraged youth to socialize, learn new things and connect with peers while remaining physically distant.
- Doors Open Richmond: Each June, the Doors Open Richmond event gives individuals the opportunity to explore the community through a variety of tours and activities at unique cultural and civic sites. While normally offered in person, during 2020 and 2021, the event was hosted online due to the COVID-19 pandemic. The virtual version of the event was a great success with hundreds of experiences and over 100 minutes of video content shared through social media platforms using #DoorsOpenRichmond. In 2021, public

participation reached over 160,000 views of social media posts and over 13,000 video views making it one of the most engaging events in Doors Open Richmond history.

- Additional virtual events included the Grand Plié event, Ramadan celebrations, and Easter celebrations. Community programs also transitioned online, such as exhibitions, arts classes and workshops, and library programs and services.

New initiatives were launched to continue to provide community services during the temporary closure of facilities and amenities:

- A Self-Guided Historical Walking Tour map series was developed as a means to engage the community in learning about Richmond's history while being physically active outdoors during the COVID-19 pandemic. The Richmond Museum Society received the 2020 Richmond Heritage Award for the tours in the Terra Nova and Brighthouse neighbourhoods. A map featuring Sea Island's aviation history was introduced in 2021.
- The Art Truck program, Richmond Art Gallery, and Richmond Museum worked with Richmond School District No. 38 provide a variety of new programming options to teach students arts, culture and heritage lessons.
- An online eServices library card was created for community members who did not already have a library card but wished to utilize the library's digital resources, which were also expanded.
- For the first time, two outdoor concerts were held on the lawn in front of Gateway Theatre in 2021 as part of the *Songs of Summer* series, featuring performers Amanda Sum, Tiana Jung and Jason Sakaki.
- Various arts, culture and heritage programs, exhibits and classes moved online, such as Art at Work, theatre academy programs, music classes and virtual art gallery displays.
- Free online mental health Zoom meet-ups were hosted by writer-performer and mental health advocate JD Derbyshire. The program provided participants an opportunity to take a break from their day-to-day to hang out and participate at their own comfort level.

Throughout the term, partner organizations received grants and funding from a variety of sources to support operations and the provision of programs and services. Some examples include the Province of BC, British Columbia Arts Council, Canada Council for the Arts, and Department of Canadian Heritage.

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.

Richmond provides opportunities and access to programs and services that support overall health and well-being. This includes support for active living, sport and recreation participation, access to parks spaces and to social services and support networks for individuals and families. Council is committed to planning for community facilities and infrastructure that represents best practices and meet the needs of citizens today and into the future. Equitable access to programs and services is a high priority and Council seeks to work with partners and other agencies to reduce barriers and increase access for those in need.

Priorities include:

- 4.1 Robust, affordable, and accessible sport, recreation, wellness and social programs for people of all ages and abilities.
- 4.2 Ensure infrastructure meets changing community needs, current trends and best practices.
- 4.3 Encourage wellness and connection to nature through a network of open space.

4. An Active and Thriving Richmond

4.1 Robust, affordable, and accessible sport, recreation, wellness and social programs for people of all ages and abilities.

The Recreation Fee Subsidy Program (RFSP) with expanded program eligibility continued to provide residents of all ages who are facing financial hardship opportunities to participate in various parks, recreation and cultural programs offered by the City and Community Associations and Societies. Since its implementation in the fall of 2018, program participation continued to increase and despite the impacts of the COVID-19 pandemic, the 2020-21 program year saw more than 1,200 RFSP clients participate in 1,100 registered programs and use their Active Passes more than 25,700 times for drop-in activities such as swimming, fitness and skating.

Richmond celebrated World Leisure Day for the first time in April 2022 with more than 30 free and low-cost structured and unstructured activities across the city for all ages and interests. For example, Richmond residents danced, jumped and sang at World Leisure Day Storytime hosted by the Richmond Public Library; learned how to attract pollinators to their gardens at Terra Nova Rural Park; and joined in family play using free equipment available year-round in Live 5-2-1-0 Playboxes located in six City parks. This global initiative of the World Leisure Organization (WLO) promotes the importance of participation in leisure for health, well-being and community development. Benefits of participation in leisure activities include stress reduction, mood improvement, and ways to connect with family and friends. In 2017, Richmond became a designated World Leisure Community of Excellence, in recognition of its rich arts and cultural communities, outdoor green spaces, unique heritage and waterfront roots, and breadth of recreation and sport opportunities.

In February 2021, library late fines were permanently removed to ensure services and resources remain accessible for everyone in the community, regardless of circumstance. Library fines created a barrier for many and represented only 1% of the library's operating budget.

In 2021, a multitude of parks, recreation and cultural opportunities were offered across City facilities which saw over 1.3 million visits throughout the year.

Seniors Week was celebrated across the community in a variety of ways throughout the term:

- In 2019, Seniors Week kicked off with the 55+ Activate! Fair hosted at the Seniors Centre at Minoru Centre for Active Living. Featuring 40 booths, 21 workshops, presentations and "Try-It" activities focusing on transportation, mobility, health and safety, the event drew in 1,000 participants. An additional 500 participants also attended the 20 events held across the City throughout the week.
- In 2020, events were held virtually, including a greeting from Mayor Malcolm Brodie, an over 90's fancy hat challenge, a Keeping Your Brain Active with Music workshop, virtual tea, and technology one-on-one services.
- In June 2021, seven days of free outdoor, virtual and phone-in activities were offered to celebrate and recognize the contributions seniors bring to the community. More than 285 seniors participated in over 20 programs themed *Reconnect, Restore and Reactivate*.



Intergenerational Wood Carving Program at Minoru Centre for Active Living

Thirty-two Olympic and Paralympic athletes who trained at the Oval competed in the 2020 Tokyo Summer Olympic Games.

The annual Child Care Symposium for early childhood educators, child care providers, and parents continued to be offered virtually to celebrate Child Care Month in May. The annual symposium offers low-cost and accessible professional development opportunities for participants, including presentations on various topics relating to children's development.

4. An Active and Thriving Richmond

The Forever Young 8K event returned in-person in 2021 for runners and walkers aged 55 and over. Nearly 200 seniors took part in the 7th annual race, with the eldest finisher, Delia Visscher, aged 90 years old.

In April, 2021, Council adopted the Outdoor Sport Facilities and Amenities Policy and an accompanying administrative procedure. The policy includes clear expectations for users to make sure outdoor sports facilities and amenities are managed with the goal of maintaining a fair and sustainable allocation of facilities and ensuring that the City's existing sport fields and amenities are used effectively and efficiently.

Richmond's delivery of virtual fitness classes prioritized quality, safety and excellence despite remote participation by instructors and participants. Interactive live-streamed sessions enhanced participant safety as fitness instructors could see all participants on-screen and provide specific feedback to participants on form or posture, respond to questions about the exercises, and offer alternate movements to tailor the experience for varying skill levels or health situations. In June 2021, the City was invited by the BC Recreation and Parks Association to present to colleagues across the province on the best practices developed in delivering safe and engaging virtual fitness programming.



Fitness Program Taught Virtually

To minimize social isolation, various letter and card-writing programs were implemented, such as:

- A digital Pen Pal Project to create intergenerational community connections between youth from the Richmond Public Library and seniors from the Seniors Centre at Minoru Centre for Active Living. Over 200 letters were exchanged through this program between June 2021 and February 2022.
- The Supporting Seniors During the Holidays program that encouraged the community, including preschool participants, youth council, senior volunteers, schools, community groups and individuals, to create handmade cards. Over 250 cards were submitted and delivered to seniors living in Richmond in 2021.
- The delivery of handmade cards from the Interact Club at Hugh Boyd Secondary School to the Seniors Centre at Minoru Centre for Active Living to include in the Meals to Go in the week leading up to Valentines Day in 2021.

Since the Inspire Curiosity Library Card campaign began in 2018, 1,730 cards have been issued to Richmond students.

In 2021, the Walk Richmond program engaged 815 participants through 41 guided walking opportunities led by 153 volunteer walk leaders, with participation on the rise. In the first four months of 2022 alone, over 400 walkers have joined 92 volunteers on 17 walks.

Richmond actively promoted ParticipACTION's Community Better Challenge, a nation-wide initiative throughout June. To encourage Richmond residents to participate in the challenge, the City coordinated over 100 free online and in-person workshops, events, and activations city-wide, including:

- A Virtual Family Fitness Challenge featuring playful and inclusive workouts led by a certified fitness instructor with a background in Early Childhood Education to raise awareness about the importance of being active as a family.
- Outdoor 'Get Active' Stations featuring posters with physical activity prompts throughout Steveston Park. The posters provided photos demonstrating specific body weight exercises, providing the public with immediate strategies on how to take a spontaneous activity break as they walk through the area.

Participants living in Richmond logged over 9,000,000 minutes of physical activity through the month of June 2021.

The Neighbourhood Free Play program is a free, outdoor, recreation outreach initiative to connect with residents in smaller neighbourhood parks and spaces across the City. In 2019, the program hosted over 130 sessions at 10 sites with an estimated reach of approximately 800 participants. In 2021, the program was offered on a smaller scale due to COVID-19 restrictions. Outdoor play opportunities were enjoyed by approximately 150 participants across 7 sites.

In 2021, the Richmond Olympic Oval offered 50 different summer sports camps; the most camps offered in the Oval's history with a record 2,351 registrants.

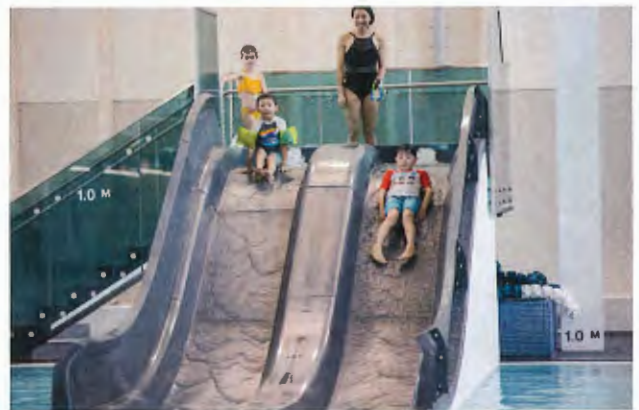
The Richmond Olympic Oval launched a new enhanced fitness program in June 2019, called OVALfit ATHLETIC. This contributed to record group fitness class attendance prior to the COVID-19 pandemic. In 2020, OVALfit at Home was launched to provide on-going programs and services during the COVID-19 pandemic, and by 2021 the program had a library of over 110 professional quality workouts with enhanced video and audio quality. Additionally, a virtual membership was created for individuals that were not ready to return to fitness activities in an indoor setting.

The Richmond Olympic Oval continued to be a training and event hub for adaptive sports. For example in 2021, the Oval was used regularly by groups including Wheelchair Rugby Canada, Wheelchair Basketball Canada, BC Wheelchair Basketball Society and BC Wheelchair Sports Association. School groups were also provided the opportunity to try wheelchair sports with the support of athletes and coaches from the provincial organizations.

To provide support for people experiencing homelessness, a variety of activities were offered at The Salvation Army Richmond House Emergency Shelter throughout 2021, including movie nights and computer classes. This innovative, customized programming was made possible by a Provincial Technology Grant and which funded the purchasing of dedicated technology for use by residents.

The 2021 Summer Reading Club welcomed 3,892 children and teens, and 247 adult participants.

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



Aquatic Centre at Minoru Centre for Active Living

Minoru Centre for Active Living, a state-of-the-art facility conveniently located in Richmond's city centre, opened to the public offering recreation and wellness opportunities for all ages. The spacious and accessible facility includes a Seniors Centre, Aquatic Centre, Fitness Centre, and Event Centre. Throughout 2021 as COVID-19 restrictions were eased and lifted, the centre became a hub for wellness and physical activity in Richmond. For example:

- Over 400,000 participants attended the centre for swimming or fitness;
- Over 18,000 participants engaged in registered programs; and
- Over 1,100 facility pass memberships for the Seniors Centre were active by the end of the year.

The City acquired Richmond Ice Centre in 2019 and the Richmond Curling Club facility in 2021. Replacement of the ammonia ice plant at the Curling Club, which will improve energy efficiency and public safety, was completed in February 2022. The facility is scheduled to reopen for the 2022/23 curling season. The City will continue to work with the Richmond Winter Club to deliver curling programs and services to the public. This new relationship will ensure the long-term sustainability of the sport in Richmond.

4. An Active and Thriving Richmond

Two of the first Early Childhood Development (ECD) Hubs, secured through community amenity contributions, were transferred to the City in 2021. These ECD Hubs are the City's 11th and 12th City-owned, purpose built child care facilities and will provide Richmond families with support services, community programming, and access to 199 new licensed child care spaces. The facilities are:

- Sprouts, located in Capstan Village, leased to the YMCA of Greater Vancouver.
- Seedlings, located in Brighthouse Village, leased to Aspire Richmond, formerly known as the Richmond Society for Community Living.

In addition, the Hummingbird Child Care Facility located in the Oval Village is under construction and is anticipated to be complete and transferred to the City in the fall of 2022. The facility will be leased to the YMCA of Greater Vancouver and will provide 37 spaces of licensed child care for infants, toddlers and preschool aged children.

In 2019, the City launched a new Parks, Recreation and Culture registration system for program registration, drop-in admissions, facility bookings, memberships and point of sale transactions.

The new Railway Bike Park opened in June 2021, providing opportunities for beginner and intermediate riders to develop their skills on varied terrain, complementing the more advanced Garden City Bike Terrain Park. The bike park features terrain and obstacles built for all ages and rider abilities, such as a pump track, ramps, teeter-totters and other features that teach and enhance essential skills. Connected to existing trail networks and located near the Thompson Community Centre, the Railway Bike Park provides a new outdoor physical activity space for all ages.

The 2016–2026 Major Facilities Priority Projects continued to progress through the design and development process. For example:

- Bowling Green Community Activity Centre: A new, 4,900 sq. ft. multi-purpose facility is envisioned to replace the Lawn Bowling Clubhouse that will support a wide range of programs and activities including community meetings, special events and sport hosting. The detailed design phase was completed in 2021.
- Steveston Community Centre and Branch Library Replacement: Following approval of the site and concept design, the project moved forward to the detailed design

phase. Construction of the 60,350 square foot facility is anticipated to be complete in 2026. This facility will meet the health and wellness needs of the community for generations to come.



Railway Bike Park

- Capstan Community Centre: Following approval of the program for the two-story, 33,000 square foot community centre, the project is in the detailed design phase. Planned for the second phase of the YuanHeng Development as a developer amenity contribution, the facility will include a large gymnasium, an indoor activity track, studios and spaces for arts and creative pursuits, and a children's exploratorium, enhancing community health and well-being and opportunities to develop social connections.

A number of sports facilities and amenities were improved, for example:

- The Hugh Boyd Park Artificial Turf was replaced with an all new surfacing system, including a shock absorbency base layer to improve long term performance, play experience and durability.
- In Minoru, the Clement Track was resurfaced, a fence was added around the perimeter and the Oval Artificial Turf was replaced.
- Tennis Courts were repaired and resurfaced at Minoru Park and King George Park. In addition, the Hugh Boyd tennis courts were upgraded with sports surfacing and fencing with three of the tennis courts converted into six new dedicated Pickleball Courts.

- The McNair and London-Steveston sand fields were upgraded to address deteriorating natural lawn surfacing.
- Construction of the Richmond Olympic Oval's climbing wall was completed. The climbing wall is suitable for climbers both new and seasoned, and features the three disciplines of climbing: lead, speed and bouldering, making it suitable for international competition. In 2020, the Richmond Olympic Oval partnered with Climbing Escalade Canada (CEC) to become the National Training Centre for Canadian sport climbers.

The City received \$1 million from the provincial government's Community Economic Recovery Infrastructure Program (CERIP) – Destination Development Stream for the Sport and Event Plaza at the Richmond Olympic Oval project.

4.3 Encourage wellness and connection to nature through a network of open spaces.

Construction on Phase 2 of the Aberdeen Neighbourhood Park is underway with completion anticipated in summer 2022. The second phase of the park features the Chinese Exchange Garden, an all ages playground, a stage canopy, and public washrooms.

Construction was completed on the new Alexandra Neighbourhood Park, which has an ecological focus while accommodating the expansion of the geothermal Alexandra District Energy Utility; retaining existing trees; improving accessibility; and introducing a variety of recreational features and spaces. The project was supported by \$1 million in funding from the Community Economic Recovery Infrastructure Program (CERIP) – Community Economic Resilience Stream grant from the provincial government. Along the adjacent Alexandra Greenway, the public art project *From Water to Earth* by Bagua Artists Association brings together local ecology and natural heritage to raise awareness and celebrate a sustainable and connected Richmond.



From Water to Earth by Bagua Artists Association

The Minoru Lakes Renewal project began construction to improve their function, environmental benefits and reduce maintenance requirements. Part of the Minoru Park Vision Plan, the Minoru Park Lakes District serves as a place for individuals to connect with nature, be close to the water's edge, and seek respite from the surrounding city centre.


In 2019, the London-Steveston Neighbourhood Park site was regraded to include a hill and storm water detention basins, a 640 m walking loop was added, and 285 trees were planted. In 2020, park enhancements continued with a new playground, half-court basketball court, and picnic shelter. The park is being enhanced in phases in order to meet the needs of the growing and densifying local community.

Phase 1 of Capstan Neighbourhood Park was completed in 2019. The park includes a children's playground, water features, seating, an urban plaza, extensive tree and shrub plantings, and open lawn areas. The 2.1 acre park will be fully realized when the future Capstan Canada Line station along No. 3 Road is completed, and will become the central open space of this new neighbourhood in the Capstan Village area of city centre.



Capstan Neighbourhood Park

The Gardens Agricultural Park opened in early 2019. The ponds, walkways, and garden-like landscape are reminiscent of the original "Fantasy Gardens," with the addition of native plant species to provide more pollinator and bird habitat.



4. Encouraging an Active and Thriving Richmond During the COVID-19 Pandemic

In response to the COVID-19 pandemic, a number of new programs, services and initiatives were launched in a variety of formats to help the Richmond community remain active, connected and thriving:

- The Richmond Connects online hub (www.richmond.ca/connect) was created to help community members stay connected and active during the temporary facility and amenity closures. Virtual activities included wellness, fitness, arts, and stay-at-home challenges for citizen of every age.
- The Meals to Go program at the Seniors Centre at Minoru Centre for Active Living provided healthy and affordable meal options. Through a partnership between Minoru Seniors Society and Steveston Rotary Club, 20 isolated seniors who had limited access to fresh, healthy food benefited from a bi-weekly lunch delivery program. Additionally, a Christmas meal program provided 203 holiday meals to vulnerable seniors.
- Support services were launched to reach vulnerable seniors, including a Seniors Resource Guide; online information and resources; virtual engagement opportunities; wellness and support calls; and one-on-one technology support. For example, throughout 2021, 3,500 birthday and wellness phone calls to seniors were made, with 500 wellness check calls specifically reaching isolated seniors.
- To prevent social isolation, homebound library customers continued to be supported with the Home Services Delivery program. From March to December 2020, over 2,100 items were circulated to 64 customers, and in 2021 over 3,200 items were circulated to over 50 customers.
- While the Richmond Public Library was closed to the public from May to August 2020, a Curbside Holds Pickup service was introduced for customers to safely pick up their holds. Over 35,000 requests were fulfilled during that time.
- A three-part Pandemic Parenting series was developed for parents and caregivers to learn ways to help their children and teens respond to depression, anxiety

and other mental health issues during the pandemic and other times of crisis. Almost 150 people attended these programs, which were made possible by a Democracy Spark Grant.

Following the temporary closure of City facilities and amenities in response to the COVID-19 pandemic, the restoration of services across the City was implemented in a carefully phased approach with strict adherence to health and safety guidelines. Protocols and safety guidelines were developed and updated throughout the pandemic for each area in alignment with WorkSafeBC, the British Columbia Parks and Recreation Association (BCRPA), ViaSport and other relevant authorities.

With the rollout of Step 3 of BC's Restart Plan, sporting events and tournaments resumed in 2021 with robust safety plans in place, providing athletes and spectators the opportunity to compete and enjoy the benefits of sports.

- At the Richmond Olympic Oval, major tournaments included the North American Cup climbing competition, Wheelchair Rugby National Training Camps, City Shred, Western Canadian Powerlifting Championships, Wheelchair Basketball Canada U23 Training Camp, the North American Cup Climbing Series, Taekwondo Provincials, Karate BC Provincials, Pinnacle Cheer Pink, and BC Senior Boys Highschool Volleyball Provincials.
- Watermania hosted 18 events since the restart, including the BC School Sports Aquatics Provincials, Lower Mainland Regional FAST Swim Classic, Waterpolo National Championship League Games, and other regional meets for swim clubs associated with Swim BC and swim clubs associated with BC School Sports.
- Richmond Arenas hosted 15 events since October 2021, beginning with the Richmond Jets U11 & U13 Ice Breaker. Other tournaments to note include the U18 Female Hockey Provincials hosted by BC Hockey and the Richmond Ravens, and the new opportunity to use the dry floor at Minoru Arenas as a venue for the 17U & 18U Volleyball Provincial Championships.

5. Sound Financial Management



Accountable, transparent, and responsible financial management that supports the needs of the community into the future.

Council is committed to the effective management of tax-payers' dollars and ongoing diligence and transparency in decision-making. Rigorous planning and processes will continue to be applied to balance current needs with those of the future. Council intends to take a proactive approach to advocating for Richmond's interests by applying for grants, working with other levels of government, and optimizing strategic opportunities as they arise.

Priorities include:

- 5.1 Maintain a strong and robust financial position.
- 5.2 Clear accountability through transparent budgeting practices and effective public communication.
- 5.3 Decision-making focuses on sustainability and considers circular economic principles.
- 5.4 Work cooperatively and respectfully with all levels of government and stakeholders while advocating for the best interests of Richmond.

5. Sound Financial Management

5.1 Maintain a strong and robust financial position.

The City maintained a solid financial position with cash and investment balances of \$1.3 billion and an accumulated surplus that reached \$3.5 billion in 2021. The City's investment portfolio is diversified in a safe manner while earning a reasonable return.

From 2019–2021, over 80 transactions involving real estate acquisitions and leasing were completed involving over \$65 million of land and buildings, as well as over 1.4 million square feet of commercial and industrial space. These acquisition and dispositions support the City's strategic planning and positioning for the future in regards to land and real estate.

Development Cost Charges (DCC) are collected on new developments to ensure required infrastructure is funded to support population growth. From 2019–May, 2022, the City collected \$110.6 million in DCC. A Major Development Cost Charges Update is also underway to ensure that infrastructure is constructed on a timely basis and the costs that are attributable to growth are paid by development in a fair and equitable manner.

Utility Rates were reviewed and updated in 2021 to allow for full cost recovery. This supports the City's strong financial position and ensures that tax payers pay lower utility rates compared to other municipalities in the Lower Mainland.

Council endorsed a \$96 million Loan Authorization Bylaw to fund the Steveston Community Centre and Branch Library construction project. The use of external funding allows the City to maintain a healthy level of reserve balances without any additional tax impact to taxpayers.



Steveston Community Centre and Branch Library

In 2021, Richmond provided the fifth lowest average residential property taxes in Metro Vancouver and a business to residential tax ratio of 2.46.

5.2 Clear accountability through transparent budgeting practices and effective public communication.

The public was invited to provide feedback on the Consolidated 5 Year Financial Plan (2022–2026) Bylaw No. 10327 which outlines how spending will align with the needs of the community and plan to maintain civic service levels for the coming five years.

The City was awarded an "A" in a report card compiled by the C.D. Howe Institute for the financial presentation of the budget and financial statements. The report grades the most recent budgets and financial statements of major Canadian municipalities on financial reporting standards based on transparency, usefulness and timeliness.

To improve public awareness and understanding of the City's budgeting practices, the City produced Financial Statement Discussion and Analysis (FSD&A) reports to be read in conjunction with Consolidated Financial Statements. The FSD&A reports explain key financial information to non-financial readers and explains the significant differences in the financial statements between the reported year and the previous year, as well as between budgeted and actual results.

The City launched a new online eProcurement platform to advertise bid opportunities and establish a user-friendly online portal for the receipt of submissions from suppliers. When fully implemented, the platform is expected to provide improvements to the City's procurement workflow, enable more effective contract administration and provide data analytics on procurement activities.

In cooperation with the Financial Transactions and Reports Analysis Centre of Canada, the maximum cash amount accepted at City Hall was limited to less than \$10,000 per transaction starting in 2019. This aligned with the federal government's large cash transaction standards as a method to address money laundering. In 2020, cash transactions were suspended in response to the COVID-19 pandemic.

5.3 Decision-making focuses on sustainability and considers circular economic principles.

Council endorsed changes to the City's Procurement Policy to integrate circular economic practices into the procurement process. This supports best practices as part of a wider organizational commitment that intends to advance circular economy principles while maximizing value for money through procurement activities.

The City continued the pilot High Recycled Asphalt Pavement Project to increase the recycled asphalt used for paving from the current 10% to 40%. Launched in partnership with

Lafarge Canada and the National Zero Waste Council, the program includes a controlled and well-documented process for sourcing materials, stock piling and keeping inventory. Over 20 pathways throughout the City were paved with this product. The pilot project results will help inform staff on the continuation of the project and the implementation of high reclaimed asphalt pavement in future road paving projects and other asphalt applications around the City.



Recycled Asphalt Paving on No. 5 Road

The City used excess material from excavation sites as bulk fill for dike upgrade projects. This excavated material is ideal for building up the diking infrastructure while also limiting the amount of fill material that needs to be mined or otherwise transported from longer distances. Road and pathway upgrades adjacent to the dike are completed by reusing material from stripped asphalt and road base. This has provided both cost savings and significantly limited the amount of waste generated.

The City identified opportunities to use low impact trenchless pipe installation techniques for the Steveston Sanitary Sewer Replacement project. This technology can reduce carbon emissions for each project compared to the open cut alternative. Besides reducing emissions, the trenchless method minimizes disruption on the surface resulting in fewer road closures, less noise, and reduced impact to existing structures and vegetation.

5.4 Work cooperatively and respectfully with all levels of government and stakeholders while advocating for the best interests of Richmond.

The City and Metro Vancouver strongly endorsed a new eight lane immersed tube tunnel (ITT) for the George Massey Crossing, with multi-use pathways and two transit lanes as the preferred option. The provincial announcement of the new ITT took place at Richmond's City Hall with Mayor Malcolm Brodie and a number of stakeholders present, including Musqueam First Nation's Chief Wayne Sparrow, Tsawwassen First Nation's Chief Ken Baird, and the City of Delta's Mayor George Harvie. The provincial government also announced Hwy 99 corridor improvements, including the Bridgeport Road bus only southbound on-ramp and the Steveston Interchange Project.



Councillor Andy Hobbs, Councillor Carol Day, Mayor Malcolm Brodie, the Honourable Rob Fleming, Minister of Transportation and Infrastructure, Councillor Bill McNulty, City of Delta Mayor George Harvie, and MLA Kelly Greene

Represented by Mayor Malcolm Brodie, the City was appointed to serve on the Local Government Policing Modernization Roundtable, which serves as an advisory body on provincially-identified policing priorities for the identified focus areas:

- Efficiency and effectiveness;
- Public trust;
- Roles and responsibilities; and,
- Systemic racism and reconciliation.

The City was awarded approximately \$15.7 million in funding from various levels of senior government grant programs throughout the term to support flood protection improvements. This includes:

- \$13.8 million in senior government grant funding through Infrastructure Canada's Disaster Mitigation and Adaptation Fund.
- \$1 million from the National Disaster Mitigation Program.
- \$750,000 from the UBCM Community Emergency Preparedness Fund (CEPF) for Structural Flood Mitigation.
- \$150,000 from the UBCM CEPF for Flood Risk Assessment, Flood Mapping and Flood Mitigation Planning.

Richmond has established one of the most advanced flood protection programs in the region and continues to provide valuable input while advocating for the best interests of Richmond.

Richmond was the recipient of almost \$20.3 million in 2019–2022 in external agency cost-share funding, which offsets City funding, including:

- TransLink: \$19 million for projects to improve bus speed and reliability and active transportation projects, with the most awarded across all municipalities in 2020.

5. Sound Financial Management

- ICBC: \$695,000 for projects to improve road safety.
- Transport Canada: \$547,200 towards a new road-rail warning system at Williams Road and Shell Road.

Richmond City Council has been a strong advocate for a new Acute Care Tower at Richmond Hospital. In July 2021, the provincial government announced that it will move ahead with an approved business plan for the expansion. The four-phase project will add 113 new beds to the hospital, bringing the total to 353, and will include a new nine-floor patient care tower, an intensive care unit, a fully equipped medical imaging department, a pharmacy, short-stay pediatrics, new inpatient psychiatry and psychiatric emergency units, maternity ward and neonatal intensive care unit, a new cancer care clinic, outpatient clinics, and the UBC school of medicine. Construction will begin in 2022 and is anticipated to be completed by 2029 with a cost of approximately \$860.8 million shared by the provincial government and the Richmond Hospital Foundation.

The City continued to work with Port Metro Vancouver and Gateway Transportation Collaboration Forum on projects to enhance goods movement in Richmond and the region, including:

- The Portside Road–Blundell Road overpass and upgrade project, which received \$39.4 million in grant funding from the federal government;
- The development of a short sea shipping concept, which received \$1.6 million in grant funding from the federal government; and
- A supply chain visibility program, which received \$6.0 million in grant funding from the federal government.

The City actively advocated for Richmond's interests on issues regarding the environment. Some examples include:

- The Vancouver Airport Fuel Delivery and Wespac Jetty Projects;
- Metro Vancouver's Air Quality Regulatory Program, Inter-Ministry Invasive Species Working Group, and Soils and Invasive Species Working Group; and
- YVR's Aeronautical Noise Management Committee and YVR Environment Committee.

The City continued to work with various external agencies on topics relating to growth, development, and planning. Some examples include:

- Ministry of Transportation and Infrastructure;
- Metro Vancouver's Regional Planning Advisory Committee, and participation in the update to the Metro Vancouver Regional Growth Strategy;
- Port Metro Vancouver;

- Urban Development Institute;
- Richmond Centre for Disability; and
- Richmond Small Builders.

The City called on the provincial government to take responsibility for licensing and regulating Money Services Businesses (MSBs) to address illegal money laundering.

Richmond works closely with various organizations, stakeholders and committees on social issues that impact the community. Some examples include:

- Ministry of Social Development and Poverty Reduction;
- BC Housing;
- Vancouver Coastal Health;
- Richmond School District No. 38; and
- Local health, social and safety non-profit organizations.

Sister City Initiatives strengthened Richmond's relationship with other cities around the world. For example:

- In November 2021, Mayor Malcolm Brodie and Mayor Masahiro Obana of Wakayama, Japan met virtually to sign a new Memorandum of Understanding, which commits to actively promote educational, cultural, artistic, tourism and economic exchange between both cities over the next five years. Richmond and Wakayama have been Sister City partners since 1973.
- In 2022, Richmond and Pierrefonds, Quebec celebrated 55 years as Sister City partners. The relationship first began on July 29, 1967, when the two cities pledged to promote cultural, tourist, social and economic exchanges between their residents.

During this term, the following UBCM resolutions were carried:

- B42 regarding Comprehensive Provincial Single-Use Item Reduction Strategy;
- B74 regarding Lobbyist Registration;
- B83 regarding Conflict of Interest Complaint Mechanism;
- B129 regarding Transparency and Legislative Reform of Beneficial Ownership of Land and Corporations; and
- B149 regarding Compostable Single-Use Items and C2 Provincial Climate Action Funding After CARIP.



5. Continuing Sound Financial Management During the COVID-19 Pandemic

At the onset of the COVID-19 pandemic, the City established a Financial Resiliency Plan to reduce, eliminate, and defer expenses, as well as reduce the tax burden on residents and businesses. Examples of the decisions made to mitigate impacts include:

- Increased the City's line of credit to provide an additional option for cash flow in case it is needed.
- Halted discretionary spending.
- Implemented a system to track all pandemic-related costs in order to be able to clearly identify and claim back funds wherever possible.
- Digitized services and functions such as invoice approvals and the purchasing and procurement process.
- Deferred large remittances to other agencies.
- Continued the capital program where advantageous in order to leverage pricing incentives.
- Continued to support the City's grants program through responsible and prudent financial

management despite the significant reduction in gaming revenue.

- Savings and efficiencies realized from flexible and remote work arrangements while continuing with service delivery.

In addition, a number of measures were put in place to support the community while remaining in alignment with the City's sound financial practices:

- Reduced the 2020 property tax increase by 2.01%.
- Delayed the property tax penalty date to September 30, 2020 for all classes.
- Withheld the enforcement and collection of unpaid business licenses.
- Established a rent relief program for City-owned facilities with minimal tenant loss and interruption to the City's rental revenue.
- Deferred flat-rate and quarterly metered utility bill deadlines.

6. Strategic and Well-Planned Growth



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

As Richmond continues to grow, a significant priority for Council is to ensure that growth-related decisions are made holistically and sustainably with the needs and best interests of the community in mind. Planning for growth and development will take into account "green" and environmental practices, maximizing opportunities to connect nature to the urban environment. The continued development of mobility networks and active transportation options is a priority. The preservation and celebration of the city's history and heritage remains an essential part of Richmond's evolution. Ensuring the people that live and work in Richmond have access to affordable and diverse housing options is also at the forefront of Council's attention and opportunities that involve collaboration and partnership to best meet the community's needs will be explored.

Priorities include:

- 6.1 Ensure an effective OCP and ensure development aligns with it.
- 6.2 "Green" and circular economic growth and practices are emphasized.
- 6.3 Build on transportation and active mobility networks.
- 6.4 Recognize Richmond's history and heritage through preservation, protection and interpretation.
- 6.5 Ensure diverse housing options are available and accessible across the housing continuum.
- 6.6 Growth includes supports and/or services for Richmond's vulnerable populations, including youth, seniors, individuals with health concerns, and residents experiencing homelessness.

6. Strategic and Well-Planned Growth

6.1 Ensure an effective OCP (Official Community Plan) and ensure development aligns with it.

Through the City's Servicing Agreement process, approximately \$74 million of improvements to City infrastructure and off-site works were secured through new development from 2019– May, 2022. All new development is reviewed to ensure required City infrastructure improvements are constructed to meet current standards. For example, during that period, approximately 8.6 km of watermain, 2.7 km of sanitary sewer main and 5.9 km of storm sewer main were constructed or upgraded through new developments.

Council endorsed the Master Land Use Plan for Lansdowne Centre, which will introduce 10 acres of City-owned park, more than 2 acres of additional secured public open space and greenlinks, improved cycling infrastructure, on-site mobility hubs, engineering servicing improvements and new infrastructure, new roads, an on-site low carbon district energy system, and an obligation to construct more than 53,000 sq. ft. of City-owned community amenity space, or provide an equivalent cash contribution. Redevelopment will require incremental rezoning and development permit applications and would be subject to Council approval and required to comply with all City amenity contributions and infrastructure requirements that are in place at the time of future redevelopment.

17 Artist Residency Tenancy Units and 4 artist studios were completed and rented out to low-income professional artists in the Capstan Village in alignment with the OCP's City Centre Area Plan.

Building in Richmond reached a construction value of \$719 million in 2021. By administering the Building Regulation Bylaw and working closely with industry, the City ensures that the resulting spaces are safe and meet all applicable codes, standards, regulations, and planning objectives.

Construction of the Hamilton Sanitary Pump Station and installation of new sanitary force main in the area neared completion. This project will support population densities projected by the Hamilton Area Plan.

The OCP Bylaw Preparation Consultation Policy No. 5043 was amended to revise Richmond Board of Education referral criteria to improve decision-making based on projected student enrolment. The City also consulted with the Richmond School District No. 38 for the development of a new policy for referring independent schools to the Richmond Board of Education.

Between 2019 and May 2022, 492 Development Applications were received, including 108 Rezoning, 92 Development Permits, 67 Subdivisions and 92 Servicing Agreements.

In March 2022, the City completed the process of establishing the underlying zoning for the remaining Land Use Contracts (LUCs), consistent with the Local Government Act. All LUCs will expire on June 30, 2024 and municipalities are required to establish underlying zoning for LUC properties by June 30, 2022. Council reviewed and approved underlying zoning bylaws for properties developed under 15 LUCs in the Blundell, Seafair, and Steveston areas, as well as in the north portion of City Centre.

6.2 "Green" and circular economic growth and practices are emphasized.

Lulu Island Energy Company (LIEC)'s Alexandra District Energy Utility (ADEU) and the Oval Village District Energy Utility (OVDEU) continued to expand and provide affordable, low carbon energy to new customers. The \$6.2 million grant received from the CleanBC Communities Fund helped expedite the design and construction of the OVDEU's permanent energy centre. Once completed, the OVDEU will be able to produce up to 80% of low-carbon energy from the Gilbert Trunk sanitary force main sewer.

LIEC obtained ownership of the first onsite low carbon energy plant in the City Centre District Energy Utility (CCDEU) service area. The onsite energy plant is designed to decrease GHG emissions by over 70% compared to conventional natural gas boiler-based systems. Negotiations for the development of the overall CCDEU service area continued to advance at an accelerated pace. Once fully developed, the CCDEU could reduce 45,000 tonnes of GHG emissions annually.



Alexandra District Energy Utility

6. Strategic and Well-Planned Growth

District energy systems expanded by the Lulu Island Energy Company:

- ADEU: One new residential development was connected to the ADEU, bringing the total to 14 developments and 2.4 million sq. ft. of connected floor area.
- OVDEU: One new development connected to the OVDEU, increasing the connected floor area by over 275,000 sq. ft., and bringing the total to 11 developments and 2.9 million sq. ft. of connected floor area.
- CCDEU: One new development was secured to contribute an on-site low carbon energy plant, bringing the total to 11 buildings with expected 5.1 million sq. ft. of serviced floor area at build out.

The City continues to administer the BC Energy Step Code which requires new construction to achieve enhanced levels of energy efficiency. In 2021, Council adopted a suite of incentives including associated zoning bylaw amendments that provide incentives to encourage the construction of new single-family and duplex dwellings that meet Passive House Certification and the top levels of the Step Code. The City is in continuous contact with applicants, the building industry, and residents to provide technical support, and administration of this program to promote high performance construction.

The House Moving and Salvage Program encourages the salvaging of reusable materials and reduction of demolition waste.

The City saw enthusiastic attendance at the 'Builder Breakfast' series for the local design and development community, updates are provided on the BC Energy Step Code and the latest Provincial and City policies and incentives. For example, in 2021, the City offered three free 90-minute virtual Builder Breakfast events, attended by over 500 builders, trades and designers. The events also feature keynote speakers who deliver technical information on building envelope performance and low-carbon mechanical systems.

Council endorsed the City's participation in the Circular Cities and Regions Initiative (CCRI) to identify focused solutions and specifications to advance towards Richmond's circular economy by building capacity, sharing knowledge and best practices, facilitating collaborative activities and learning how to overcome common barriers. Through this participation, a Richmond Circular Roadmap will be developed with the intent of accelerating the transition to a circular economy in

Richmond, including information, guidelines, implementation toolkits, and indicators.

A change order agreement was finalized with Recycle BC for increased incentives starting January 1, 2022 for light-weight material such as Styrofoam, flexible plastic packaging and plastic bags and overwrap that is collected at the City's Recycling Depot. It is estimated that this will result in an increase in material revenue of over \$100,000 for 2022.

The City and Richmond School District No. 38's flexible plastics recycling awareness campaign in 2019 resulted in over 61 kg of recycled material.

6.3 Build on transportation and active mobility networks.

Through extensive collaboration between the City and TransLink, the new Capstan Canada Line Station project moved forward into construction, which was initiated by ground-breaking ceremony with Council in September 2021. Approximately \$31.1 million of developer contributions was forwarded to TransLink for the project. The station is an important component in planning transit-oriented development for residents and businesses in the City Centre surrounding the Canada Line. Completion is anticipated for Fall 2023.

The new Beckwith Parking Lot opened in summer 2021 to alleviate parking strain near the SkyTrain line.

A new, 10-bay, off-street bus exchange opened in November 2020 south of the Richmond-Brighouse Canada Line Station. An important transfer point for bus customers connecting with Canada Line, the exchange provides a smoother transition from bus to rail, reduces the impact of transit vehicles on road users in the area, and allows for future bus service in Richmond. The \$8.5 million investment for the project was paid for through the Public Transit Infrastructure Fund (PTIF), with an additional \$2 million contribution by the City.

87.8% of 722 active bus stops have been upgraded to be accessible, which is above the regional average of 81.4%.



Brighouse Off-Street Bus Exchange

Several improvements were made to active transportation networks and road safety systems. Examples include:

- Opening of the new River Parkway, improving the movement of traffic through the north-end of the City Centre, including protected on-street bike lanes and asphalt walkways. The unveiling was supported by an informative and engaging video showcasing the benefits to traffic movement, as well as pedestrian cyclist safety.
- Installation of Multi-Use Pathway (MUP) in primarily industrial, commercial and mixed use areas increase, such as the Garden City Road MUP, Westminster Highway MUP, Charles Street MUP, and Alderbridge Way MUP. These projects provide a new, safer and more comfortable connection between the City's cycling, pedestrian networks and regional SkyTrain rapid-transit network, while also reducing travel times.
- Development of new bike routes, using local streets and off-street pathways, such as the Crosstown Neighbourhood Bike Route and Woodward-Saunders Neighbourhood Bike Route.
- Completion of a multi-year program to upgrade all City-owned traffic signals and special crosswalks to include accessible pedestrian signal (APS) features to improve safety for all pedestrians, particularly those who are living with disabilities.
- Completion of a Network Screening Study to identify the top 20 collision prone signalized intersections, and substantial completion of short-term improvements, including new pavement markings and signage, green paint in crosswalks for cyclists, and traffic signal modifications to enhance intersection safety. Long-term improvements include project scope confirmed and currently in detailed design for three locations.

- Launch of the Shell Road and Williams Road signalized intersection project to interconnect and upgrade the railway warning system.

During the term, Richmond's active transportation network was expanded by 13.8 km to a total of 88.3 km.

Council endorsed a major expansion of the public EV charging network, combining the City's annual Gas Tax Provision with \$440,000 in funding from Natural Resources Canada's Zero Emission Vehicle Infrastructure Program. Richmond has 46 existing public EV charging ports, with an additional 10 ports planned for future expansion. 24 charging ports meet wheelchair accessible standards, making Richmond the first municipality in Canada to incorporate accessibility into its EV charging network. EV charging capacity within the Oval's parkade was also doubled in 2021.

Richmond secured two new Mobility Hubs through the approval of the Richmond Centre Development.

Phase 2 of public and stakeholder engagement for the Cycling Network Plan Update was completed in November 2021 to seek input to validate findings from the route-level evaluation, and refine feedback from Phase 1 on the existing network and recommendations for future improvements. The final plan will include a prioritized implementation strategy and recommended policy updates.

In 2021, Council endorsed increasing sidewalk widths on arterial roads from 1.5 m wide to 2.0 m wide to improve walkability.

Council endorsed Richmond's participation in and adoption of amended bylaws to support the provincial government's Electric Kick Scooter Pilot Project. The e-scooter pilot project supports a new low-carbon mobility option for Richmond residents, employees and visitors. Richmond is one of eight municipalities in BC participating and will be only municipality in Metro Vancouver to have a shared e-scooter system.

6. Strategic and Well-Planned Growth

90 intersections in Richmond have uninterrupted power supply (UPS), which provides continuous power in the event of an outage.

6.4 Recognize Richmond's history and heritage through preservation, protection and interpretation.

A number of heritage planning initiatives were completed or reached key milestones during the term. These initiatives ensure sustainability of Richmond's heritage resources and promote public access through interpretative initiatives. For example:

- A new master plan for London Farm was approved by Council in February 2021. Created in partnership with the London Heritage Farm Society, this plan will guide future work in the park in the coming years. Site improvements, new heritage elements and signage will increase the ability of the site to share the stories of Richmond's farming history.
- The Steveston Heritage Interpretive Framework was endorsed in principle by Council in September 2021. Through consultation with key stakeholder groups in Steveston, the Framework identifies key themes and stories that shape the telling of Steveston's story and will guide future heritage initiatives across Steveston and at the City-owned heritage sites. Further engagement will take place in 2022 to inform the final Framework for Council endorsement.
- In 2021, the City's artefact collections team worked with the London Heritage Farm Society to review the over 5,000 artefacts that had been collected over the last 30 years. This collaborative effort will see many items transferred into the City's collection, and the City provided guidance on the future care and use for artefacts remaining with the society.



London Heritage Farm

Additional improvements to heritage sites were supported by funding from different levels of government. For example:

- A \$310,000 grant from the provincial government to the Britannia Shipyards National Historic Site Society

will support the conservation of the operational marine slipways at Britannia Shipyards. Restoration of the slipways will preserve the rich cultural heritage of the site and allow future demonstration programs to interpret key activities that took place in the shipyard. The conservation project is expected to be completed in 2023.

- The City received three grants totaling approximately \$270,000 from the federal Department of Canadian Heritage to support the operations of the Richmond Museum and Steveston heritage sites. In 2021, this funding was used to develop two new teacher education kits and complete a review of the London Farm artefact collection. Remaining funding will support the creation of a new website for the Richmond Museum, the refit of the Steveston Museum, and the implementation of interpretive projects identified in the Steveston Heritage Sites Interpretive Framework aimed at destination development in 2022.



Steveston Museum and Post Office

The City awarded the first Steveston Village Heritage Conservation Grant this term and processed five additional applications which were endorsed by Council from 2019–2021. The grant program is available to provide financial assistance to property owners for conserving the exterior of identified heritage buildings in the Steveston Village Heritage Conservation Area. Public information meetings were held with residents and business owners in Steveston to raise awareness of the grant opportunity available for the 17 identified heritage buildings.

The Phoenix Net Loft building at Britannia Shipyards National Historic Site was deconstructed and heritage materials that remained in good condition were salvaged and stored for future use.

The City issued 30 Heritage Alteration Permits in from 2019–2021, which serve to ensure preservation of heritage character in new development and signage in Steveston and other areas in Richmond.

In June 2021, Council adopted changes to the Richmond Heritage Commission to strengthen the review of proposed development projects city-wide and within the Steveston Village. The terms of reference was amended to include new members with heritage design experience to facilitate the review of development applications.

Work continued on the update to the Heritage Inventory; a list of resources that contribute to a community's heritage character. Richmond currently has 93 sites in the inventory, which is a useful planning document to identify and understand local heritage resources and help increase awareness about Richmond's history.

6.5 Ensure diverse housing options are available and accessible across the housing continuum.

In November 2021, Council approved an increase to the Low End Market Rental (LEMR) contribution rate from 10% to 15% for developments with more than 60 units located within the City Centre Area Plan. This increased from 10% of overall residential floor area to 15% of overall residential floor area. This change ensures that the City maximizes the number of affordable housing units built in new developments. Council also approved an update to the LEMR cash in lieu rates to reflect current construction costs.

The City continued to deliver the LEMR program, which has secured more than 900 units since 2007. From 2019–2021, the LEMR program secured an additional 328 units for Richmond residents. In addition, the City secured over \$3.9 million towards affordable housing in cash-in-lieu contributions through new development from 2019–2021, which will be used to support affordable housing developments in the future.

The City's market rental housing policy provides incentives such as density bonusing, parking reductions, and amenity fee reductions in exchange for market rental housing on a voluntary basis. In June 2022, Council adopted an update to the policy to introduce a mandatory 15% market rental construction requirement in apartment developments with more than 60 units and associated cash-in-lieu for apartment developments less than 60 units and for all townhouse developments. Since the policy was first implemented, approximately 740 purpose-built market rental units have been approved by Council through development applications.

In 2019, Richmond's first modular supportive housing opened its doors on Alderbridge Way and was quickly fully occupied. This building provides 40 units of much-needed affordable housing for Richmond residents who were experiencing homelessness, and is managed by RainCity Housing. In 2021, construction began on the Bridgeport Supportive Housing development which, in partnership with BC Housing, will provide 40 temporary supportive units for people experiencing homelessness in Richmond.

In 2021, the City issued 1,391 Building Permits with an overall construction value greater than the 10 year average.

In November 2021, Council endorsed a Housing Needs Report in keeping with new legislative requirements which will provide key insights into Richmond's housing needs and reflect on affordability trends common in the region as well as conditions unique to Richmond.

The City conducted consultation with the Urban Development Institute, local developers, residents and interested stakeholders regarding potential approaches to implementing residential rental tenure zoning, a means of preserving the stock of existing market rental housing in Richmond. The new rental tenure zoning power can also be used to increase the supply of rental housing in the City. In February 2022, Council adopted bylaws to apply rental tenure zoning to 60 existing rental properties which includes over 4,500 rental units to preserve rental housing.

In 2021, Council adopted a policy measure to restrict all future residential strata units from the ability to impose restrictions on age of occupants or rental restrictions. This would be implemented through a condition of rezoning.

6.6 Growth includes supports and/or services for Richmond's vulnerable populations, including youth, seniors, individuals with health concerns, and residents experiencing homelessness.

In September 2019, Council adopted the Richmond Homelessness Strategy 2019–2029 to guide community actions for homelessness service provision over 10 years. The recommended actions are informed by the principles of collaboration, partnership-building, and shared funding responsibility.

6. Strategic and Well-Planned Growth

Richmond's new emergency shelter located on Horseshoe Way opened its doors, offering 30 beds for men and women experiencing homelessness. The shelter was the result of a partnership between the City of Richmond, The Salvation Army, and BC Housing. The facility also meets an immediate need for drop-in shelter spaces for women, and was built to replace the former Salvation Army men's shelter on Shell Road, which offered 10 beds for men only.

In March 2022, Council approved the draft Seniors Strategy 2022–2032, which builds on previous plans and strategies supporting seniors in Richmond. Public engagement on the draft strategy took place in April 2022 and the final strategy, along with a summary of public input, will be presented to Council in the fall.

In 2019, Council adopted the Dementia-Friendly Community Action Plan for Richmond which identifies actions to support people living with dementia, their families and caregivers. This project was funded by a \$25,000 UBCM 2018 Age-Friendly Community Grant. Richmond also received an additional \$25,000 from the UBCM 2019 Age-Friendly Community Grant to engage seniors in the creation of age-friendly neighbourhoods that support successful ageing in place.

In April 2021, City Council adopted the 2021–2031 Richmond Child Care Action Plan, which was developed utilizing a \$25,000 Child Care Planning Grant from the UBCM the City of Richmond received in 2020. The Plan updates the inventory of child care spaces in Richmond and outlines space creation targets for the next 10 years. In addition, work will begin on a new child care needs assessment and strategy before the end of 2022.

In December 2021, City Council adopted the 2021–2031 Collaborative Action Plan to Reduce and Prevent Poverty in Richmond (Collaborative Action Plan). Developed with a grant from the UBCM, the Collaborative Action Plan builds on the City's ongoing commitment to increase social equity and will guide the City's approach, in collaboration with the community, to reducing and preventing poverty in Richmond over the next 10 years.

Council endorsed a stakeholder engagement and community activation program designed to combat "energy poverty." The program's purpose is to create a toolkit in collaboration with participating non-profits to assist low-income households in reducing their energy expenses and reduce community GHGs.



Accessible Pedestrian Crosswalk Signal

7. A Supported Economic Sector



Facilitate diversified economic growth through innovative and sustainable policies, practices and partnerships.

Economic development plays an important role in the well-being and financial sustainability of a city. Council's focus for the economic sector this term is on encouraging a diversified economic base with emphasis on clean sectors and strategic collaborations. Richmond is committed to being a business-friendly city, ensuring goals around growth align with economic goals and that workers' needs for transportation, housing, and training are all supported.

Priorities include:

- 7.1 Demonstrate leadership through strategic partnerships, collaborations and exploring innovative and emerging economic practices and technical advancements.
- 7.2 Encourage a strong, diversified economic base while preserving agricultural land and maximizing the use of industrial land.
- 7.3 Attract businesses to locate in Richmond and support employment and training opportunities in Richmond as we grow.
- 7.4 Inspire the farming and fishing cultures of tomorrow.

7. A Supported Economic Sector

7.1 Demonstrate leadership through strategic partnerships, collaborations and exploring innovative and emerging economic practices and technical advancements.

The City partnered with the City of Surrey, Township of Langley and the BC Tech Association to deliver a provincially funded \$400,000 Supply Chain Resiliency Program to track and enhance the capabilities of the region's manufacturing businesses. As part of this program, a De-risking Emerging Market Opportunities (DEMO) toolkit was created to support future business pivots. This program also encourages technology adoption by manufacturing businesses to help them remain competitive despite challenges such as the shortage of space and workers, and supply chain disruptions.

The Richmond RCMP's Economic Crime Unit conducted outreach to local businesses to raise awareness about fraud.

In 2021, the City renewed its Tourism Partnership Model and agreements with the Richmond Hotel Association and Tourism Richmond, including the development of a 5-Year Strategic Business Plan. The 2022–2027 hotel tax renewal (Municipal Regional District Tax) application to the Province was submitted with 90% support of accommodation providers, and subsequently approved. The MRDT is expected to generate an estimated \$25 million over the next five-year period to continue supporting tourism marketing and development.

The MyBusiness online business licence system will be launched in Q3 2022, streamlining the process for customers with a self-service option that enables existing and new business owners with the convenience of submitting, updating, and renewing their licences online without having to visit City Hall. Council also endorsed a Permitting Optimization Project, which will optimize the development and building permitting process.

The Richmond Discovery Shuttle attracted over 2,000 riders in 2019.

The City is partnering with Kwantlen Polytechnic University (KPU) to map an innovation ecosystem and strengthen the network of services and supports offered for entrepreneurs at all stages of the start-up to scale-up continuum. The project involves stakeholder engagement with post-secondary institutions, business associations, funders, government agencies, co-working spaces, anchor institutions and others to map out the supports that are currently available, identify gaps in service delivery, and develop an ongoing implementation plan including a collection of potential projects for execution. An Innovation and Entrepreneurship symposium is anticipated to take place in late 2022 or early 2023. Sectors of focus include Agrifoods, Social Innovation, and Circular Economy.

Dredging of the Steveston Harbour Channel, Imperial Landing, and the Britannia Shipyards National Historic Site waterfront was completed in 2019.

The introduction of ride-hailing legislation in 2019 resulted in local governments implementing an inter-municipal licencing program to regulate ride-hailing businesses in Metro Vancouver. Inter-municipal licencing allows businesses to apply for a business licence to operate in all participating municipalities with standardized regulations across the Lower Mainland.

Traffic Bylaw No. 5870 was amended to harmonize vehicle weight and dimension limits and cargo securement requirements across Metro Vancouver in support of a future centralized regional permit system for goods movement.

7.2 Encourage a strong, diversified economic base while preserving agricultural land and maximizing the use of industrial land.

A series of bylaw and policy changes were adopted by Council in 2021 to encourage more intensive utilization of existing industrial land. The benefits of the Industrial Lands Intensification Initiative include:

- Allowing increased industrial building and business activity on the existing land base;
- Reducing barriers to future multi-level industrial developments through the consideration of increasing the floor area ratio on sites with adequate transportation and servicing infrastructure; and
- Reducing the pressure to convert agricultural lands to industrial use.

The City is sharing these changes and the resulting opportunities for industrial with a range of stakeholders. A data model to track industrial utilization in Richmond over time is also being developed.

The City participated in the development of the Regional Industrial Lands Strategy, which is intended to establish a vision for the future of industrial lands across Metro Vancouver to the year 2050, and to provide a set of recommendations to guide a broad range of stakeholder actions to achieve that vision. The strategy was approved by the Metro Vancouver Board in July 2020.

The City worked closely with the Agricultural Land Commission and the Ministry of Agriculture on the review of the No. 5 Road Backlands policy, in addition to legislative changes to agriculture. This initiative included consultation with property owners and representatives of community institutions located along the No. 5 Road Backlands policy area, and on Assembly (ASY) zoned lands in the Agricultural Land Reserve (ALR).



Farm Equipment at Garden City Lands

The City worked with various branches of the provincial government, including the Agricultural Land Commission and the Ministry of Agriculture on legislative changes including updates to cannabis regulation, and changes to the Local Government Act with regards to house size and regulations within the ALR.

7.3 Attract businesses to locate in Richmond and support employment and training opportunities in Richmond as we grow.

Richmond continued to attract film productions of all sizes and scales. From 2019–2021, the City processed approximately 212 film permits with roughly \$1.6 million in service and location charges.

Richmond participated in Metro Vancouver's Regional Prosperity Service to attract international investment and high quality jobs to the region.

Richmond has seen extensive growth in the film industry in recent years, with productions actively seeking warehouse spaces and converting them into film studio facilities. The first purpose-built film studio facility opened its doors in Richmond in early 2018. Since then throughout the term, the City has worked with several companies including William F. White Studios, MBS Equipment Company Canada, and Warner Bros. Television on a number of studio development projects. As of 2022, Richmond is home to six film studio facilities.

Council adopted an OCP amendment bylaw to include a new incentive-based policy to ensure that a portion of new office space constructed in the City includes large floorplate office space which would be capable of supporting large employers.

An Airtightness Training Program was provided in 2020 to help local homebuilders achieve BC Energy Step Code requirements and enhance energy performance levels.

The City prepared a Business Tenant Relocation bulletin to provide property owners and the development community with a clear and transparent framework to follow regarding notifying and assisting existing business tenants prior to the submission of a development application. The bulletin includes a reasonable notice to businesses regarding the need to relocate, financial assistance with the relocation, and where feasible, a right of first refusal if there is an opportunity for the business to return to the site.

7. A Supported Economic Sector

In 2020, the City offered three free Innovation and Entrepreneurship Workshops for local small businesses and entrepreneurs to further strengthen the local 'start-up ecosystem'.

7.4 Inspire the farming and fishing cultures of tomorrow.

Council adopted the Farming First Strategy which includes policies and strategies that support the use of agricultural land for local food production, encourages a local food network to increase local food supply and consumption, encourages new investment in agriculture, and identifies opportunities to attract new farmers. Policies in the strategy aim to:

- Protect agricultural land for farming;
- Strengthen the economic viability of food production;
- Improve irrigation and drainage infrastructure;
- Mitigate the impacts of climate change; and
- Work collaboratively with upper levels of government.

Extensive public consultation on this strategy update was conducted with residents, ALR property owners, stakeholders and the farming community.

Council contributed \$50,000 for the Steveston Harbour Authority (SHA) archway sign located in Steveston to commemorate the importance of fishing in the community's history.

The City continues to work with KPU to support agriculture education. In 2020, the City entered into agreements with the KPU that enable components of the Richmond Farm School and the Department of Sustainable Agriculture and Food Systems' degree program on City-owned land. For example:

- The KPU Research and Teaching Farm located on the Garden City Lands is a certified organic farm where students learn and apply knowledge to become future farmers. With the future addition of 200 community garden plots at the Garden City Lands, the potential reach of the KPU program will be amplified as recreational community gardeners are exposed to the Research and Teaching Farm.

- The Gilbert Agricultural Lands located at the Gilbert Road and Dike Road provide KPU's Richmond Farm School a space to train future farmers. Graduates of the KPU Sustainable Agriculture Program can lease land for up to two years at this site to further develop their farming knowledge and apply skills learned in the classroom.



Kwantlen Polytechnic University Research and Teaching Farm at Garden City Lands

The 2019 Richmond Farm Fest had 5,000 participants meeting local farmers, learning about farming equipment and shopping an artisanal farmers market.

Fishing ExplorePACKS were made available at Richmond Public Library, containing the basics for residents of all ages to explore the community and experience Richmond's fishing heritage, including fishing rods, a tackle box, lures, educational material and more. The six fishing ExplorePACKS in the library's collection were made possible by a donation from gofishbc's Rod Loan Program.



Steveston Harbour Authority Archway

In 2021, the City provided 902 cubic yards of soil amender to the Sharing Farm, KPU Farm and community gardens.

7. Supporting Richmond's Economic Sector During the COVID-19 Pandemic

In response to the COVID-19 pandemic, the City implemented a number of initiatives to support Richmond's local businesses and economic sector. For example:

- The City launched a Business Support Centre to provide a centralized, virtual source of accurate and timely information and resources for local businesses. The support centre provided information for businesses about programs and resources from all levels of government and other agencies as well as information on how to access City services for businesses. Key initiatives that were part of the Business Support Centre include:
 - ♦ Job opportunities for displaced workers.
 - ♦ Directory for Richmond-made PPE and COVID-19 safety supplies.
 - ♦ Alternate distribution channels for local goods.
- The City launched the Richmond Business Resilience Program in 2020 offering free training to help local entrepreneurs adapt their businesses so they can emerge from the crisis thriving and able to withstand future economic shocks. The program ended in December 2021 with a total of 111 users who accessed:
 - ♦ An online learning platform providing self-serve support for business owners including tools and resources from experts;
 - ♦ 53 online and recorded Q&A webinars, boot camps and masterclasses;
 - ♦ Three challenges providing businesses the opportunity to win a \$10,000 grant prize;
 - ♦ One-on-one support from the City's Economic Development Office
- In 2020, the City launched an Expedited Temporary Outdoor Patio program and online application process to allow restaurants, cafes and pubs to expand outdoor seating to private property, parking lots or approved space on City sidewalks with respect to

patio layout guidelines. In 2021, nearly 70 businesses participated in the program which was extended until June 1, 2023. An ongoing patio program is now in development to build on the success of the temporary program. This was informed by a public survey that concluded in December 2021 and consultation with business groups and industry associations. The new program is expected to be opened to new applications in Spring 2022.

- The City partnered with Tourism Richmond and the Richmond Chamber of Commerce to create the online hub www.wearerichmondbc.ca to support local businesses and help bring the community together. The website includes an 'Open for Business' marketplace, a compilation of resources for businesses and residents, and a collection of virtual experiences that people can enjoy from the comfort of their home.
- The Richmond Film Office worked closely with both internal and external stakeholders, including Creative BC's Municipal Film Advisory Committee, to develop plans, implement processes, and provide feedback on the film industry's return to work plan.

Throughout 2021, the City supported the return of events as important economic generators in accordance with evolving Provincial Health Orders. For example:

- The City's REACT (Richmond Event Approval Coordination Team) process facilitated 30 in-person, outdoor community events in 2021.
- Richmond Sport Hosting supported 20 events in 2021, garnering 2,700 hotel room nights at local hotels.

Two Job Fairs were offered at the Richmond Public Library in 2021, one virtual, presented in partnership with WorkBC Employment Services, and one in-person, presented in partnership with WorkBC Richmond and the British Columbia Hotel Association (BCHA). The events were attended by over 450 people.

8. An Engaged and Informed Community



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

Council views communication and engagement as a high priority that extends across all areas. With a multitude of communication tools available through advancements in technology, access to accurate, timely and complete information is important for dialogue and participation.

Priorities include:

- 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.

8. An Engaged and Informed Community

8.1 Increased opportunities for public engagement.

The City successfully planned and executed a legislatively compliant By-Election in 2021, with adherence to strict requirements to enable Richmond electors to safely vote due to the COVID-19 pandemic. Voters had a variety of options to cast their votes, including advanced polling with 10 different options, mail-in ballots, and in-person voting at 10 locations, with results viewable via Richmond Elections app. Approximately 13,000 ballots were cast.

The Let's Talk Richmond online engagement platform provided community members a convenient opportunity to share their input on discussions that shape Richmond. From 2019–2021, the platform was used for 82 engagement projects. In 2021 there was a 44% increase in engagement projects from the previous year, over 35,630 users connected with the various online opportunities, and almost 15,380 surveys submitted.

In 2021, the top five LetsTalkRichmond engagement projects for participation were:

- Food Trucks in Steveston
- Cycling Network Plan Update (Phases 1 and 2)
- Patios on Public Space
- Community Gardens
- Community Energy and Emissions Plan 2050

Engagement took place with residents of three neighbourhoods to discuss potential traffic calming measures and address concerns raised by residents.

Throughout the term, a number of other public engagement opportunities were offered. Some examples include:

- Youth Strategy 2022–2032
- Seniors Strategy 2022–2032
- Richmond RCMP Policing Priorities
- Brazilian Elodea Management Program
- Cultural Harmony Plan 2019–2029
- Richmond Homelessness Strategy 2019–2029

The City hosted numerous public and key stakeholder engagement events throughout the term presenting and promoting the City's Flood Protection Program including the Flood Protection Management Strategy and Dike Master Plan. These events were immensely successful and well

supported by the public and key stakeholders. In addition, new informational videos about flood protection and dike raising were created and made available on the City's website and social media accounts.



Flood Protection Virtual Engagement Presentation

The City hosted a virtual three-day design charrette in February 2021 to inform the concept design of the Steveston Community Centre and Branch Library. Each day involved focused discussions with key stakeholders on various factors related to the site and building layout, refinement of concept designs by the architects, and presentation to the public for consideration and feedback. The draft floor plans and renderings were then presented to the public on Let's Talk Richmond and at a virtual open house held in March 2021. This interactive process enabled stakeholders and the public to be intricately involved in the design process, resulting in a facility that will reflect the community's input and needs.

The City of Richmond partnered with Richmond Electric Vehicle Ambassadors, Plug-in Richmond, Plug-In BC, Richmond School District No. 38 and Emotive to create a comprehensive digital teaching package designed for Kindergarten to Grade 12 students. This program was conceived after the City received a grant from the Emotive Community Outreach Incentive Program to promote EV awareness and spark creativity and innovation among youth.

From 2019–2022, a wide variety of workshops and events were undertaken to engage the community in more sustainable and circular economic practices including:

- Almost 2,800 people attended 76 recycling and waste reduction workshops.
- Thirteen outreach events were hosted on the topic of EVs.
- Four repair events were offered where volunteers fixed household items and taught participants about basic repairs.

8. An Engaged and Informed Community

- Informational displays were featured at 17 community events, and garbage and recycling stations were provided for 129 events.
- Virtual workshops and events included Let's Recycle Correctly, Repair Fairs and Zero Heroes: Home Edition, offered in partnership with Dreamrider Productions.
- Approximately 295 people attended 13 tours of the Recycling Depot.
- The Rethink Waste campaign was implemented to promote waste reduction and circular economy principles, including a Think Tank where residents shared 160 ideas that created the new Community Ideas Hub.
- The City collaborated with professors from KPU to focus curriculum on the issues surrounding single-use items to inspire real-world designs that minimize waste and build circular solutions.
- An interactive Recycling Depot map and virtual Take it to the Depot video was provided on the City's website.
- The City participated in the Richmond Youth Foundation 2020 Case Competition on single-use items.

Volunteering looked different this term due to the COVID-19 pandemic, but Richmond residents remained engaged and connected to their community while supporting a wide variety of programs and services. For example:

- In 2019, 1,819 volunteers contributed over 82,000 hours with the City and partner organizations; 239 RCMP volunteers contributed 21,327 volunteer hours; and 250 Green Ambassadors volunteered at 36 special events resulting in 81–94% diversion rates.
- In 2020, 841 volunteers contributed over 19,800 hours with 230 City and partner opportunities. These included a shopping program for isolated seniors, assistants for the Emergency Operations Centre program, and Spanish-speaking volunteers to assist with the temporary foreign workers program.
- In 2021, 593 volunteers contributed over 18,203 hours with 169 City and partner opportunities; 35 RCMP volunteers contributed 1,714 volunteer hours, including 162 hours of volunteer bike patrols; and Green Ambassadors volunteered an estimated 1,730 hours for 26 special events and other programs.
- In 2022, volunteer participation continued to trend upwards. In the first four months alone, 305 volunteers participated in 129 opportunities, contributing over 8,600 volunteer hours.



Green Ambassadors at the Richmond Maritime Festival

The City coordinated with local elementary schools adjacent to construction sites to invite students to learn about the construction and utility upgrades. For example, five classes from Manoah Steves Elementary attended the job site for the Springfield watermain construction to learn about the work underway and water conservation.

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

Following an in-person Capital Construction Project Open House in 2019, the event shifted online as the Capital Project Highlights. Through a user-friendly webpage, interactive story maps, and Q&A, residents can conveniently review the information and learn about the upcoming capital projects online. The annual highlights feature Engineering and Public Works, Parks, Transportation, Buildings and Public Art projects.

The City's social media accounts saw an increase in activity throughout the term. For example, by the end of 2021:

On Facebook:

- The City's page reached over 12,200 followers, an increase of 23% from the previous year.

On Instagram:

- The City's account reached 3,400 followers, a 47% increase from November 2020.

On Twitter:

- The City's account reached over 8,800 followers, an 8% increase from the previous year, and resulted in over 4,500 clicks through to the City website.

On YouTube:

- The City's channel reached 928 subscribers, a 50% increase from the previous year, and received over 69,000 views.
- The platform was also used to broadcast Council meetings and live stream events such as the Richmond Maritime Festival, Cherry Blossom Festival and Remembrance Day virtual programming.

In addition, the City issued almost 140 news releases and Info Bulletins in 2021, a 5% increase from the previous year.

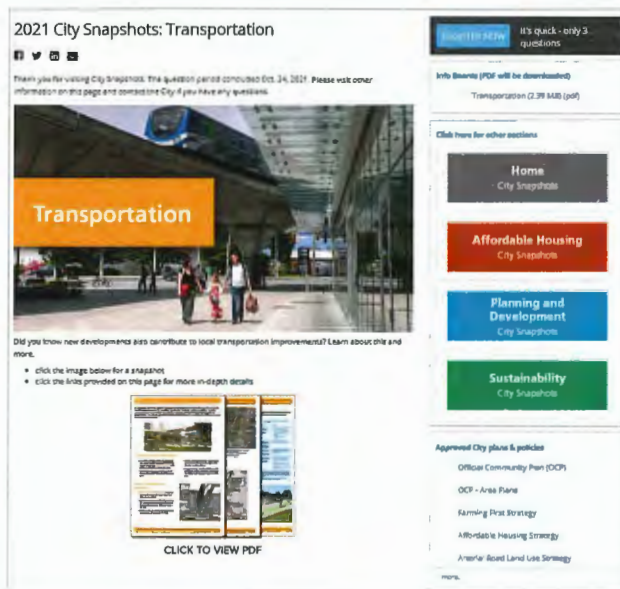
The Richmond Interactive Map (RIM) was updated to include snow and ice response tracking.

Following a series of in-person Community Information Sessions in 2019, the public information initiative shifted online as City Snapshots: Planning for Growth & Development. The online engagement program is used to provide an opportunity for sharing information and engaging the public on four key topic areas: planning and development, transportation, affordable housing and sustainability. Community members were able to access updated policy topics and projects online and share comments or questions to which staff responded on the platform.

A number of new communication and engagement tools were launched to support community safety during the term, including the Community Safety App, Richmond Fire-Rescue's new interactive website and new Instagram account.

The online Council Decisions Database launched in 2019 continued to provide valuable information for the public on voting records from open Council meetings and Public Hearings. The search feature provides easy access for users to conduct research on open Regular and Special Council meetings and Public Hearings dating back to 1998.

The City website (richmond.ca) redesign and revitalization project kicked off in 2021. The update will provide more efficient, customer-focused experience.



City Snapshots Virtual Public Engagement

8. Maintaining an Engaged and Informed Community During the COVID-19 Pandemic

In response to the COVID-19 pandemic and guidelines on public gatherings and physical distancing, the City transitioned Committee, Council and Public Hearing Meetings to a virtual format, enabling Council members and staff to participate remotely in all meetings. To further encourage public involvement and engagement, all Open Committee, Council and Public Hearing meetings were also live-streamed using the City's YouTube channel, enabling the public to watch all meetings live from the comfort of their homes. This service was further enhanced through the provision of phone participation by members of the public, providing direct access to delegate at Council meetings through a remote participation opportunity.

The City launched a dedicated section on the City website (www.richmond.ca/COVID-19) to update the community on news, decisions and status of programs, facilities and services impacted by the pandemic. Information included:

- Up-to-date information about which facilities, amenities and services were open or closed to the public.
- News releases related to the COVID-19 pandemic, including announcements.
- Mayor Brodie's video statements.
- The Restoring Richmond Plan and related information, such as facility COVID-19 Safety Plans and mask requirements.
- Additional links to internal and external resources.

The web page was well utilized, with over 155,000 visits and 203,000 page views from March to December 2020.

The City worked closely with the Richmond School District No. 38, VCH – Child Care Licensing, the Child Care Resource and Referral Centre to gather and disseminate critical information regarding child care for essential service workers.

Information was regularly provided to the Richmond Emergency Operations Centre, Richmond RCMP, Richmond Fire Rescue, the Richmond Division of Family Practice and the Armed Forces to ensure that employees working in essential services had up-to-date and accurate information to support their access to emergency child care in response to the COVID-19 pandemic.

The City worked closely with RCRG, one of 24 designated COVID-19 response hubs in BC, to inform seniors of support services available to them, including: virtual friendly visits, grocery shopping and delivery, frozen meal delivery, prescription pick-up and delivery, peer counselling, and caregiver support. Information was shared through the City's website, print material delivered to seniors housing, the Minoru Centre for Active Living Meals to Go program, newspaper advertisements and one-on-one wellness calls.

In the early stages of the COVID-19 pandemic, the City compiled and shared funding opportunities from other levels of government through various advisory committees, community associations and societies. These included access to income supports, tax relief and direct funding for Richmond non-profits affected by the pandemic. The compilation of funding opportunities provided consistent and up-to-date information eliminating the need for the organizations to find and interpret what funding opportunities were available.

Throughout the COVID-19 pandemic the City worked closely with VCH to ensure information, resources and guidelines produced by the City were in alignment with directions from health authorities and provided accurate and reliable information to the community.

Awards and Recognition



Minoru Centre for Active Living

Awards and Recognition

2019

Canadian Association of Municipal Administrators (CAMA)'s Environment Award

Richmond received the prestigious CAMA Environment Award in 2019 for its innovative District Energy Implementation program. The award recognizes the commitment of a municipality to environmentally sustainable governance, to protecting the environment, and to combating climate change.

Association of Energy Engineers (AEE)'s Canada Region Energy Project of the Year Award

The AEE, an international organization that recognizes excellence in energy management, awarded the City the 2019 Canada Region Energy Project of the Year Award for the delivery of the ADEU project. AEE recognized the City for its innovative renewable energy project that is making a significant impact on climate change.

Government Finance Officers Association (GFOA) of the United States and Canada's Canadian Award for Financial Reporting and Outstanding Achievement in Popular Annual Financial Reporting Award

The City's 2017 Annual Report was honoured with the Canadian Award for Financial Reporting for the 16th year, and the Award for Outstanding Achievement in Popular Annual Financial Reporting for the ninth year in 2019.

UBCM's Community Excellence Award – Excellence in Governance

The City was awarded the UBCM Award for Excellence in Governance for the 2017–2022 Richmond Child Care Needs Assessment and Strategy in 2019. The vision for the current five year strategy is for Richmond to build upon three decades of work to continue to be a municipal leader in fostering the conditions for a comprehensive child care system.

BC Environmental Managers Association's Technological Innovation Award

Richmond received the BC Environmental Managers Association 2019 Technological Innovation Award for the implementation of a simplified non-storm water discharge management program that safeguards the City's sewers and strengthens environmental protection.

Public Works Association of BC's Public Works Week Community Celebration Award

The Public Works Open House received the Public Works Association of BC's Public Works Week Community Celebration award for a population over 100,000 in 2019. The interactive event showcases the work that is done on a daily basis to ensure the safety and health of the community.



Public Works Open House, 2019

Community Energy Association's Climate & Energy Action Award

The City of Richmond's first-of-its-kind EV charging infrastructure requirement for all new residential buildings was recognized with a Climate & Energy Action Award from the Community Energy Association in 2019. The Climate & Energy Action Award recognizes climate leadership of BC local governments.

Homebuilders Association of Vancouver's Ovation Award

The Storeys affordable housing project received an Ovation Award from the Homebuilders Association of Vancouver in 2019 for Best Multi-Family High-Rise Development.

Association of Consulting Engineering Companies BC's Award of Merit

In 2019, the City was recognized for the Britannia Shipyards National Historic Site Flood Protection Improvements Project, which upgraded flood prevention infrastructure for a national historic site which is located outside of Richmond's diking network.

Firehouse Magazine's Station Design Awards

In 2019, Brighthouse Fire Hall No. 1 received notable design mention from Firehouse Magazine, as well as Cambie Fire Hall No. 3 and Ambulance Station No. 250 for being the first combined urban fire and ambulance station and mixed-use facility in British Columbia.



Brighthouse Fire Hall No. 1

Canadian Alliance of Chinese Associations' Public Safety Contribution Award

Richmond Fire-Rescue was awarded the Public Safety Contribution Award from the Canadian Alliance of Chinese Associations at the Richmond 140th Anniversary Awarding Ceremony held in December 2019.

Government Fleet Magazine's Notable Fleets Certificate of Achievement

The City's fleet was awarded a certificate of achievement through the Government Fleet Magazine and American Public Works Association Leading Fleets award in 2019. The award recognizes operations that are performing at a high level in fleet innovation and leadership.

2020

CAMA's Professional Development Award

Richmond received CAMA's Professional Development Award for the City's Engineer-in-Training program in 2020. This award recognizes a community that has developed a unique and innovative program for their staff and can be replicated in other communities.

GFOA of the United States and Canada's Canadian Award for Financial Reporting and Outstanding Achievement in Popular Annual Financial Reporting Award

The City's 2018 Annual Report was honoured with the Canadian Award for Financial Reporting for the 17th year, and the Award for Outstanding Achievement in Popular Annual Financial Reporting for the 10th consecutive year in 2020.

The Energy Globe Foundation's Canadian Energy Globe National Award

The City and LIEC won the national 2020 Energy Globe Award for the ADEU Smart Centres Expansion. The SmartREIT plant is connected with the main ADEU central plant, allowing for energy sharing throughout the entire ADEU distribution system by sharing excess thermal energy capacity into the ADEU network. This prominent award is presented annually to projects focusing on energy efficiency, renewable energies and the conservation of resources.

International District Energy Association's 2020 IDEA Innovation Award

The City and LIEC won the International District Energy Association 2020 IDEA Innovation Award for the ADEU Smart Centres Expansion. The project took an innovative approach to the expansion of the ADEU with construction of a satellite energy plant to both meet the energy demands of large format commercial customers and share energy across the entire district network, all while diversifying the low carbon energy sources available for use in the Utility. This international recognition from peers in the District Energy industry is a result of the City and LIEC's dedication to excellence, innovation and the commitment to reducing GHG emissions through the deployment of district energy systems.



District Energy Utility

BCRPA's Facility Excellence Award

In 2020, the Edwardian Cottage at Terra Nova Rural Park was named by the BCRPA for its provincial Facility Excellence Award for projects with a capital cost less than \$1 million. The annual award recognizes outstanding facility design that reflects community culture and spaces that are accessible, engage community members in design consultation, and ultimately improve the well-being of the community.

Institute of Transportation Engineers – Greater Vancouver Section’s Mavis Johnson Award

Richmond received the 2020 award for Road Safety Project of the Year in the Greater Vancouver area for its Network Screening Study that identified the top 20 collision prone intersections and recommended mitigation measures. This annual award celebrates technical excellence in the field of road safety.

Government Fleet Magazine’s Notable Fleets Certificate of Achievement

The City’s fleet was awarded a certificate of achievement through the Government Fleet Magazine and American Public Works Association Leading Fleets award in 2020. The award recognizes operations that are performing at a high level in fleet innovation and leadership.

2021

Environmental Managers’ Association (EMA) of BC’s Regulatory Challenge Award

The City was a recipient of the 2021 EMA of BC award for the City’s Corporate Hazardous Materials Management Training. The City’s Corporate Hazardous Materials Management Training program was established in 2019 to centralize all hazardous materials information management through customized staff training and data management. The award recognizes the City’s efforts to train over 250 staff since 2019 and improve hazardous materials data management systems on a web-based collaborative platform, fully customized by staff to centralize the management of all hazardous materials information. As a competency-based training program, Richmond’s Corporate Hazardous Materials Management Training complies with all the specific requirements applicable to the City’s operations and incorporates best practices.

EMA of BC’s Discharge Control Award

The City received the EMA of BC award for the Mitchell Island Environmental Stewardship Initiative. The initiative, endorsed by Council in April 2019, aims to improve local stormwater quality and improve compliance through business outreach and senior regulatory engagement. The award recognizes the City’s outstanding work to investigate discharges to the environment, partner with senior government regulators and engage and educate business operators.

International Olympic Committee, International Paralympic Committee, and International Association for Sports and Leisure Facilities’ Architecture Prize for Accessibility

Minoru Centre for Active Living received the 2021 Architecture Prize for Accessibility from the International Olympic Committee, International Paralympic Committee, and International Association for Sports and Leisure Facilities. The annual Distinction for Accessibility Award aims to increase the accessibility of all sports and leisure facilities and architectural structures worldwide so that everyone has an opportunity to practice and view sport freely and without barriers.



Leisure Pool Accessibility Ramp at Minoru Centre for Active Living

Community Energy Association’s Climate & Energy Action Award

The Community Energy Association, a member-based, non-profit organization aiming to reduce emissions, conserve energy and progressively transition to a low carbon, resilient economy, named the City of Richmond recipient of its Climate & Energy Action Award for its successful District Energy Utility Program. The program now provides 22 buildings and over five million square feet of floor space with energy that is reducing GHG emissions by over 7,800 tonnes—the equivalent of removing 2,000 cars from our roads each year.

Global District Energy Climate Awards’ Award of Excellence, Emerging DHC Markets

In cooperation with the International Energy Agency, the UN environment cities initiative and the representative organizations of the district energy sector awarded the City of Richmond and LIEC the 7th Global District Energy Climate Award of Excellence for Emerging DHC Market for the Alexandra District Energy Utility project. ADEU project has been selected from cities and communities across the globe which demonstrate district energy leadership in providing clean and sustainable energy solutions.

UBCM Community Excellence Awards – Excellence in Service Delivery

The Richmond Recycling Depot upgrade project received honourable mention from UBCM for service delivery. The upgrades, supported by a Western Financial Group Communities Foundation – Infrastructure Grant, aimed to promote greater recycling as well as support the City's established waste diversion targets and Council's commitment to the environment.



Councillor Linda McPhail, Mayor Malcolm Brodie, Councillor Alexa Loo and Councillor Bill McNulty at the Recycling Depot Opening

British Columbia Economic Development Association's Community Project Award

The City won the 2021 Community Project Award from the British Columbia Economic Development Association for the Richmond Food Recovery Network. The award recognizes individuals and groups for outstanding work in supporting their local economies, and making a meaningful difference in their communities.

Government Fleet Magazine's Notable Fleets Certificate of Achievement

The City's fleet was awarded a certificate of achievement through the Government Fleet Magazine and American Public Works Association Leading Fleets award in 2021. The award recognizes operations that are performing at a high level in fleet innovation and leadership.

2022

GFOA of the United States and Canada's Canadian Award for Financial Reporting and Outstanding Achievement in Popular Annual Financial Reporting Award

The City's 2020 Annual Report was honoured with the Canadian Award for Financial Reporting for the 18th consecutive year, and the Award for Outstanding Achievement in Popular Annual Financial Reporting for the 11th consecutive year in 2022.

Recreation Facility Association of BC's Bill Woycik Outstanding Facility Award

Minoru Centre for Active Living received the Recreation Facility Association of BC's Bill Woycik Outstanding Facility Award. This award recognizes an outstanding facility that meets the community's needs and exemplifies innovations in design, energy management, and operations and demonstrates community need.

CAMA's Environmental Leadership & Sustainability Award

The City-wide Pollinator Program was awarded the Environmental Leadership & Sustainability Award, in the over 100,000 population category. The award recognizes the City's proactive approach to conserve pollinators and develop and protect their habitat through community programming and engagement.



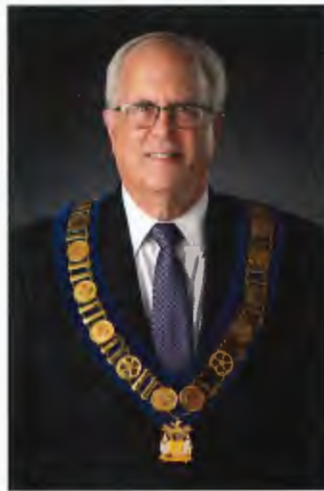
City of Richmond

6911 No. 3 Road, Richmond, BC V6Y 2C1
Telephone: 604-276-4000
www.richmond.ca

CNCL - 142

Council Strategic Plan 2018–2022: Achievement Highlights Overview





Richmond City Council

Top Row (Left to Right):

Councillor Chak Au, Councillor Carol Day, Councillor Andy Hobbs, Councillor Alexa Loo

Middle Row:

Mayor Malcolm Brodie

Bottom Row (Left to Right):

Councillor Bill McNulty, Councillor Linda McPhail, Councillor Harold Steves, Councillor Michael Wolfe

City of Richmond Council Strategic Plan 2018–2022

The Council Strategic Plan identifies the collective strategic focus and priorities for Richmond City Council for the 2018–2022 term of office. The plan reflects Council's desire for proactive and forward-thinking leadership that remains rooted in Richmond's distinct history and identity.

Council adopted eight strategic focus areas for the 2018–2022 term with additional priorities identified for each focus area. The Council Strategic Plan allows the City to accomplish a visionary agenda set by Council while also being flexible and responsive to new opportunities, issues, and circumstances that may emerge during the term.

This report provides highlights of achievements made towards the advancement of the Council Strategic Plan strategic focus areas throughout 2018–2022.





Richmond's Waterfront

Table of Contents

1. A Safe and Resilient City	2
2. A Sustainable and Environmentally Conscious City.....	4
3. One Community Together	6
4. An Active and Thriving Richmond	8
5. Sound Financial Management.....	10
6. Strategic and Well-Planned Growth	12
7. A Supported Economic Sector	14
8. An Engaged and Informed Community.....	16
Awards and Recognition	18

1. A Safe and Resilient City

2018–2022 Highlights



Richmond is a safe community, and ensuring that it remains safe is a top priority for Council.

The City's Flood Protection Management Strategy was updated in 2019 and accelerated the flood protection program to a 50 year implementation period. Throughout the term, significant work was completed and Council continues to invest in strengthening and upgrading the City's flood protection infrastructure, including \$12.2 million in 2022 flood protection projects approved by Council as part of the 2022–2026 Capital Program. The City was also awarded \$15.7 million in funding from various levels of senior government grant programs throughout the term to support flood protection improvements.

Council completed implementation of the Safe Community Strategy which included a total of 107 new positions for Richmond Fire-Rescue and Richmond's RCMP Detachment. Over the course of three years, Richmond has added:

- 51 additional police officers;
- 20 municipal employees to support policing services; and
- 36 firefighters.

The enhanced City Centre Community Police Office (CPO) was opened in September 2021 and front counter services for the public launched in April 2022. Located on the corner of Gilbert Road and Granville Avenue, the 10,000 square foot facility will provide the public centralized policing services and improved police response times for Richmond residents.

Configuration changes and site improvements were made at the Richmond Recycling Depot to update ageing infrastructure and improve operations. The improvements include a new site layout, expansion of the hazardous waste materials area inclusive of tent covering, a new steel awning spanning the centralized large recycling bins, new heavy equipment, and a classroom for depot tours and recycling workshops.

As of February 2022, the City installed approximately 476 closed-circuit television (CCTV) cameras to help improve road safety and manage traffic congestion. Traffic cameras provide low-resolution video with recording capabilities at 119 intersections.

1. A Safe and Resilient City

The Richmond RCMP, in collaboration with Vancouver Coastal Health (VCH), launched the Fox 80 Mental Health Car (Fox 80) to provide a joint-response to mental health-related calls for service in Richmond. Fox 80 provides assistance to frontline policing units by conducting wellness checks and police apprehensions under the Mental Health Act.

The Richmond Community Animal Shelter will be re-opening in 2022 with the BC SPCA managing the operations of the Shelter. The renovation and expansion project upgraded the previous existing facility and added additional space in order to accommodate more animals and provide a higher quality of care.

The City transitioned Emergency Support Services to the Canadian Red Cross (CRC), which provides the City with access to a wider network of resources. Through the direction of Emergency Programs, CRC's provision of services has met the standard of service excellence and has resulted in the delivery of critical emergency support services to residents in a functional, efficient and supportive way.

In November 2021, Richmond experienced a record-setting rainfall event receiving upwards of 138 mm of

rain. The City quickly organized to address drainage system challenges and support residents, responding to over 600 calls from residents and distributing over 20,000 sandbags to those with low-lying properties. In addition, City staff were deployed to support the City of Abbotsford's Emergency Operations Centre (EOC) at the request of the provincial government.

In response to the unprecedented "heat dome" experienced in June 2021, the City developed a Hot Weather and Poor Air Quality Operations Guide. The plan sets out a coordinated approach across City departments to enable responsive mobilization in situations, including roles and responsibilities, facilities that will be available for the public, and other public amenities such as misting stations. This plan will enable the City to proactively respond to extreme heat and poor air quality events, improving the community's resilience and ability to weather environmental changes.

The City implemented a new licencing and enforcement procedure for boarding and lodging programs to curb illegal short-term rentals in Richmond. The new measures brought Richmond in line with best practices in regulating short-term rental properties, ensuring adequate long-term rental supply and curbing nuisances such as "party houses".

1. Maintaining a Safe and Resilient City During the COVID-19 Pandemic

Council declared an emergency, which provided Council the authority to quickly and effectively address emerging issues as a result of the COVID-19 pandemic and make decisions in the best interest of Richmond.

Community facilities and amenities were temporarily closed, and many programs and services were transitioned online to continue to meet the needs of the community. In preparation for re-opening, several upgrades and modifications were completed in civic facilities and plans and protocols were established to reduce the risk of spread of COVID-19 and to prioritize the health and safety of City facility users. Council endorsed the City of Richmond Plan for the Restoration of Programs and Service Affected by the COVID-19 Pandemic (the Restoring Richmond Plan), which guided the restoration of programs and services.

The City participated in the Richmond COVID-19 Community Task Force (RCCTF), which provided a

forum for Richmond community stakeholders, including all levels of government, to regularly connect during the COVID-19 pandemic, share relevant information, and explore collaboration opportunities. The task force was co-chaired by Mayor Malcolm Brodie and the Richmond Chamber of Commerce's Board Chair, Fan Chun.

In partnership with BC Housing and Turning Point Recovery Society, the City opened the Emergency Response Centre (ERC) at Minoru Place Activity Centre in May 2020 to provide up to 45 safe spaces for vulnerable people during the COVID-19 pandemic. The City also provided space at Minoru Park for VCH to open a drive-thru COVID-19 Assessment Centre.

The City received a total of \$3.35 million in funding from UBCM through the Strengthening Communities' Services program to address the needs of Richmond residents experiencing homelessness during the COVID-19 pandemic.

2. A Sustainable and Environmentally Conscious City

2018–2022 Highlights



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

Council adopted the Single-Use Plastic and Other Items Bylaw No. 10000 in September 2021 and it came into effect in March 2022. Extensive engagement was held leading up to the implementation of the Bylaw to support businesses as they work towards replacing single-use plastics and other items with products that are compostable or can be used multiple times before being recycled.

Following extensive community engagement between July 2019 and September 2021, the City's new Community Energy and Emissions Plan 2050 was adopted by Council in February 2022. The plan will see the City furthering its commitment and investments to realize a net-zero carbon city by 2050.

In 2019, Council adopted the Public Tree Management Strategy 2045 (A Plan for Managing Richmond's Public Urban Forest), which outlines the goals and objectives for the sustainable stewardship of City-owned trees. In support of this, almost 3,600 trees were planted from 2019–May, 2022.

The City launched the Mitchell Island Environmental Stewardship Initiative in the spring of 2019 to protect the local environment on the island, which is on the ecologically-sensitive Fraser River Estuary and is one of Metro Vancouver's major industrial hubs. Throughout the term, the City hosted information sessions for businesses; had regular meetings with Federal, Provincial, and regional regulators; and encouraged compliance with environmental best practices.

Council adopted Soil Deposit and Removal Bylaws No.10200 in April 2021 to strengthen the pre-existing regulatory framework related to soil movement in the City. The enhanced regulations serve to better safeguard Council-endorsed strategies such as the Environmentally Sensitive Areas Management Strategy, Agricultural Viability Strategy, and the Invasive Species Action Plan, and ensure that the fees collected reflect the cost to the City.

Through the 2020 Green Fleet Action Plan, the City has applied multiple solutions to realize emission reductions and

2. A Sustainable and Environmentally Conscious City

achieve more sustainable fleet operations. The City exceeded its goal to reduce GHG emissions from the corporate fleet by 20% by 2020, achieving a 28% reduction.

In December 2021, following a community engagement process to receive input from the public on potential future community garden locations, Council approved three new community garden sites along the Railway Greenway, adding up to over 100 new individual plots planned to be constructed in spring 2022. The City currently boasts 572 individual community garden plots at 12 City-owned sites that are managed by Urban Bounty, including 200 new individual plots recently constructed at the Garden City Lands.

Richmond received Bat Friendly certification in 2020, and was designated a Canadian Bee City by Pollinator Partnership Canada in 2022. These programs recognize the City's commitment to habitat and ecosystem protection, as well as community programming, public engagement, and research. In 2022, the City-wide

Pollinator Program was also awarded Canadian Association of Municipal Administrators (CAMA)'s Environmental Leadership & Sustainability Award in the over 100,000 population category.

Richmond partnered with FoodMesh, a Vancouver-based company that facilitates food redistribution, in 2019 to launch the Richmond Food Recovery Network and engage local food businesses to divert their unsold surplus food from waste streams to higher value uses. For this initiative, the City won the 2021 Community Project Award from the British Columbia Economic Development Association.

Recognizing the importance of access to local fresh food, from 2020 to 2022, Council allocated over \$61,000 to support and enhance farmers' markets. This funding supported an extension of the Kwantlen St. Farmers Market into the fall season, enabled the Sharing Farm to plant a fall crop to supply the extended market dates, and in 2021, helped to re-launch the Steveston Farmers and Artisans Market.



Apiaries at Terra Nova Rural Park

3. One Community Together

2018–2022 Highlights



Vibrant and diverse arts and cultural activities and opportunities are provided for community engagement and connection.

This term, Council approved the allocation of approximately \$3.6 million through various community grants:

- Arts and Culture: Approximately \$467,700 was allocated for operating and project grants for cultural non-profit organizations.
- Child Care: Approximately \$238,300 was allocated to non-profit organizations that support or deliver licensed child care in Richmond.
- Health, Social and Safety: Almost \$2.5 million was allocated to non-profit community service organizations.
- Parks, Recreation and Community Events: Approximately \$446,700 was allocated to non-profit organizations that deliver programs and services that support the health, well being, and community connection of Richmond residents.

Council adopted the first Cultural Harmony Plan (2019–2029) for the City. The plan guides the City's approach to enhancing cultural harmony amongst Richmond's diverse population by identifying innovative

and collaborative approaches for intercultural connections. Over 370 individuals, including representatives from 35 organizations, actively participated in the development of the plan through public open houses, focus groups and [LetsTalkRichmond.ca](https://lets.talk.richmond.ca).

The annual Diversity Symposium was re-imagined into a virtual format spanning a week starting in 2020. In addition, new accessibility measures were implemented for participants with visual or hearing disabilities including providing voiceover welcome information for sessions, live closed captioning during each session and screen-reader compatible instructions during the registration process. The annual event discusses topics to support building diverse, inclusive and equitable communities.

Pride Week continued to be actively celebrated across Richmond throughout the term to bring together members of Richmond's Lesbian, Gay, Bisexual, Transgender, Queer and Two-Spirit plus (LGBTQ2S+) community and their allies. Some examples include the installation of the first rainbow crosswalk on

3. One Community Together

Minoru Boulevard, online film screenings, poetry and art workshops, drag queen story times, online dance parties, and informative workshops, and Signs of Pride, a community art project by artists Sam McWilliams, Paige Gratland, Phranc and local youth artists at West Richmond Community Centre.

A number of programs and initiatives were developed to share the history and culture of Indigenous communities locally and across Canada, including an expansion of the Indigenous Perspectives collections at Richmond Public Library, a training program for City staff, and a variety of virtual events and learning opportunities in honour of National Indigenous Peoples Day.

In 2019, Council adopted ArtWorks: Richmond Arts Strategy 2019–2024, demonstrating leadership in prioritizing the arts as a contributor to a vibrant, appealing and livable community. Rooted in local context, the strategy positions the arts as a means to achieve community goals in economic development, health and well-being, infrastructure and tourism.

Various public art installations were unveiled across Richmond throughout the term. Major installations include:

- *Sea to Sky* by Thomas Cannell at the corner of No. 3 Road and Cook Road.
- *Together* by David Jacob Harder in front of Minoru Centre for Active Living.

- *Wind Flowers* by Alyssa Schwann and Michael Seymour along the Gilbert Road Greenway.

Throughout the term, the Engaging Artists in the Community (EAC) program fostered cross-cultural exchange, inclusive community building, and education on community issues by collaborating with artists with socially-oriented art practices. Various community programs, workshops and initiatives were offered in collaboration with approximately 12 local artists or artist groups.

The Community Mural Program saw the installation of 10 murals throughout the term. Murals activate public areas by adding beauty and colour, while the images foster community dialogue and help people connect with places. As well, the process of designing community murals fosters social connections as project participants share ideas to co-create a collaborative vision.

The Richmond Boat Builders at Britannia Shipyards National Historic Site reopened in August 2021 allowing visitors to explore the building for the first time since 2018. A temporary exhibit featured stories of the Kishi family experience and history, boat building skills, tools and methods, and showcased the vessels MV Burnaby and Mukai Princess. Restoring access to this facility enables the community to preserve knowledge about and celebrate the people who contributed to Richmond's boat building heritage.

3. Demonstrating One Community Together During the COVID-19 Pandemic

The #RichmondHasHeart campaign continued to bring residents, businesses and stakeholders together during the COVID-19 pandemic. A variety of virtual and neighbourhood-scale activities were provided through the initiative. Some examples include: Eating in the Time of COVID, an exhibit for the No. 3 Road Art Columns, and the Reconnecting video produced using LEGO mini-figures created by Culture Days participants.

The City, Minoru Seniors Society with support from six community centre Community Associations and Societies, and Richmond Public Library collaborated with RCRG to expand existing virtual programming available for seniors 55+ years to include phone-in programming options. Supported by a \$10,000

COVID-19 Response Grant from the United Way's Safe Seniors, Strong Communities (SSSC) initiative, over 30 phone-in programs were delivered to 150 participants who may not have been able to participate in online virtual programs.

The Doors Open Richmond event was hosted online in 2020 and 2021 due to the COVID-19 pandemic. The virtual version of the event was a success with hundreds of experiences and over 100 minutes of video content shared through social media platforms using #DoorsOpenRichmond. In 2021, public participation reached over 160,000 views of social media posts and over 13,000 video views making it one of the most engaging events in Doors Open Richmond history.

4. An Active and Thriving Richmond

2018–2022 Highlights



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

The Recreation Fee Subsidy Program (RFSP) with expanded program eligibility continued to provide residents of all ages who are facing financial hardship opportunities to participate in various parks, recreation and cultural programs offered by the City and Community Associations and Societies. Since the expanded program's implementation in the fall of 2018, program participation continued to increase and despite the impacts of the COVID-19 pandemic, the 2020–21 program year saw more than 1,200 RFSP clients participate in 1,100 registered programs and use their Active Passes more than 25,700 times for drop-in activities such as swimming, fitness and skating.

Minoru Centre for Active Living, a state-of-the-art facility conveniently located in Richmond's city centre, opened to the public offering recreation and wellness opportunities for all ages. The spacious and accessible facility includes a Seniors Centre, Aquatic Centre, Fitness Centre, and Event Centre. Throughout 2021 as COVID-19 restrictions were eased and lifted, the centre became a hub for wellness and physical activity in Richmond. For example:

- Over 400,000 participants attended the centre for swimming or fitness;
- Over 18,000 participants engaged in registered programs; and
- Over 1,100 facility pass memberships for the Seniors Centre were active by the end of the year.

The 2016–2026 Major Facilities Priority Projects continued to progress through the design and development process. For example:

- Bowling Green Community Activity Centre: A new, 4,900 sq. ft. multi-purpose facility is envisioned to replace the Lawn Bowling Clubhouse that will support a wide range of programs and activities including community meetings, special events and sport hosting. The detailed design phase was completed in 2021.
- Steveston Community Centre and Branch Library Replacement: Following approval of the site and concept design, the project moved forward to the detailed design phase. Construction of the 60,350

4. An Active and Thriving Richmond

square foot facility is anticipated to be complete in 2026. This facility will meet the health and wellness needs of the community for generations to come.

- Capstan Community Centre: Following approval of the program for the two-story, 33,000 square foot community centre, the project is in the detailed design phase. Planned for the second phase of the YuanHeng Development as a developer amenity contribution, the facility will include a large gymnasium, an indoor activity track, studios and spaces for arts and creative pursuits, and a children's exploratorium, enhancing community health and well-being and opportunities to develop social connections.

The City acquired Richmond Ice Centre in 2019 and the Richmond Curling Club facility in 2021. Replacement of the ammonia ice plant at the Curling Club, which will improve energy efficiency and public safety, was completed in February 2022. The facility is scheduled to reopen for the 2022/23 curling season.

Two of the first Early Childhood Development (ECD) Hubs, secured through community amenity contributions, were transferred to the City in 2021. These ECD Hubs are the

City's 11th and 12th City-owned, purpose built child care facilities and will provide Richmond families with support services, community programming, and access to 199 new licensed child care spaces.

A number of sports facilities and amenities were improved, including the Hugh Boyd Park Artificial Turf, Clement Track in Minoru, the Minoru Park and King George Park tennis courts, the McNair and London-Steveston sand fields, and the Richmond Olympic Oval's climbing wall.

The Minoru Lakes Renewal project began construction to improve their function, environmental benefits and reduce maintenance requirements. Part of the Minoru Park Vision Plan, the Minoru Park Lakes District serves as a place for individuals to connect with nature, be close to the water's edge, and seek respite from the surrounding city centre.

In February 2021, library late fines were permanently removed to ensure services and resources remain accessible for everyone in the community, regardless of circumstance. Library fines created a barrier for many and represented only 1% of the library's operating budget.

4. Encouraging An Active and Thriving Richmond During the COVID-19 Pandemic

In response to the COVID-19 pandemic, a number of new programs, services and initiatives were launched in a variety of formats to help the Richmond community remain active, connected and thriving. Some examples include the creation of the Richmond Connects online hub (www.richmond.ca/connect) to help community members stay connected and active during the temporary facility and amenity closures; the Meals to Go program at the Seniors Centre at Minoru Centre for Active Living which provided healthy and affordable meal options; the launch of support services to reach vulnerable seniors; the continuation of the library Home Services Delivery program; and the introduction of library Curbside Holds Pickup service for customers to safely pick up their holds.

Richmond's interactive, live-streamed fitness classes prioritized quality, safety and excellence in the new virtual format. Fitness instructors continued to monitor

all participants on-screen and provide specific feedback on form and posture, respond to questions about the exercises, and offer alternate movements to tailor the experience for varying skill levels or health situations. In 2021, the City was invited by the BC Recreation and Parks Association (BCRPA) to present to colleagues across the province on the best practices developed in delivering safe and engaging virtual fitness programming.

The Richmond Olympic Oval launched a new enhanced fitness program in June 2019, called OVALfit ATHLETIC. This contributed to record group fitness class attendance prior to the COVID-19 pandemic. In 2020, OVALfit at Home was launched to provide on-going programs and services during the COVID-19 pandemic, and by 2021 the program had a library of over 110 professional quality workouts with enhanced video and audio quality.

5. Sound Financial Management

2018–2022 Highlights



The City's accountable, transparent, and responsible financial management supports the needs of the community into the future.

The City maintained a solid financial position with cash and investment balances of \$1.3 billion and an accumulated surplus that reached \$3.5 billion in 2021. The City's investment portfolio is diversified in a safe manner while earning a reasonable return.

From 2019–2021, over 80 transactions involving real estate acquisitions and leasing were completed involving over \$65 million of land and buildings, as well as over 1.4 million square feet of commercial and industrial space. These acquisition and dispositions support the City's strategic planning and positioning for the future in regards to land and real estate.

Development Cost Charges (DCC) are collected on new developments to ensure required infrastructure is funded to support population growth. From 2019–May, 2022, the City collected \$110.6 million in DCC. A Major Development Cost Charges Update is also underway to ensure that infrastructure is constructed on a timely basis and the costs that are attributable to growth are paid by development in a fair and equitable manner.

The City and Metro Vancouver strongly endorsed a new eight lane immersed tube tunnel (ITT) for the George Massey Crossing, with multi-use pathways and two transit lanes as the preferred option. The provincial announcement of the new ITT took place at Richmond's City Hall with Mayor Malcolm Brodie and a number of stakeholders present, including Musqueam First Nation's Chief Wayne Sparrow, Tsawwassen First Nation's Chief Ken Baird, and the City of Delta's Mayor George Harvie. The provincial government also announced Hwy 99 corridor improvements, including the Bridgeport Road bus only southbound on-ramp and the Steveston Interchange Project.

Council has been a strong advocate for a new Acute Care Tower at Richmond Hospital. In July 2021, the provincial government announced that it will move ahead with an approved business plan for the expansion. Construction will begin in 2022 and is anticipated to be completed by 2029 with a cost of approximately \$860.8 million shared by the provincial government and the Richmond Hospital Foundation.

5. Sound Financial Management

Richmond was the recipient of almost \$20.3 million in 2019–2022 in external agency cost-share funding, which offsets City funding, including:

- TransLink: \$19 million for projects to improve bus speed and reliability and active transportation projects.
- ICBC: \$695,000 for projects to improve road safety.
- Transport Canada: \$547,200 towards a new road-rail warning system at Williams Road and Shell Road.

Through various levels of government and key stakeholders, Richmond was awarded approximately \$25 million in grants and funding over this term.

Council endorsed changes to the City's Procurement Policy to integrate circular economic practices into the procurement process. This supports best practices as part of a wider organizational commitment that intends to advance circular economy principles while maximizing value for money through procurement activities.

5. Continuing Sound Financial Management During the COVID-19 Pandemic

At the onset of the COVID-19 pandemic, the City established a Financial Resiliency Plan to reduce, eliminate, and defer expenses, as well as reduce the tax burden on residents and businesses. Examples of the decisions made to mitigate impacts include:

- Increased the City's line of credit to provide an additional option for cash flow in case needed.
- Halted discretionary spending.
- Implemented a system to track all pandemic-related costs in order to claim back funds wherever possible.
- Digitized services and functions such as invoice approvals and the procurement process.
- Deferred large remittances to other agencies.
- Continued the capital program where advantageous in order to leverage pricing incentives.
- Continued to support the City's grants program through responsible and prudent financial management despite the significant reduction in gaming revenue.

- Savings and efficiencies realized from flexible and remote work arrangements while continuing with service delivery.

In addition, a number of measures were put in place to support the community while remaining in alignment with the City's sound financial practices:

- Reduced the 2020 property tax increase by 2.01%.
- Delayed the property tax penalty date to September 30, 2020.
- Withheld the enforcement and collection of unpaid business licenses.
- Established a rent relief program for City-owned facilities with minimal tenant loss and interruption to the City's rental revenue.
- Deferred flat-rate and quarterly metered utility bill deadlines.

6. Strategic and Well-Planned Growth

2018–2022 Highlights



The City demonstrates leadership in effective and sustainable growth that supports Richmond's physical and social needs.

Through the City's Servicing Agreement process, approximately \$74 million of improvements to City infrastructure and off-site works were secured through new development from 2019– May, 2022. For example, during that period, approximately 8.6 km of watermains, 2.7 km of sanitary sewer main and 5.9 km of storm sewer main were constructed or upgraded through new developments.

Building in Richmond reached a construction value of \$719 million in 2021. By administering the Building Regulation Bylaw and working closely with industry, the City ensures that the resulting spaces are safe and meet all applicable codes, standards, regulations, and planning objectives.

In November 2021, Council approved an increase to the Low End Market Rental (LEMR) contribution rate from 10% to 15% for developments with more than 60 units located within the City Centre Area Plan. From 2019–2021, the LEMR program secured an additional 328 units for Richmond residents. In addition, the City secured over \$3.9 million towards affordable housing in

cash-in-lieu contributions through new development from 2019–2021, which will be used to support affordable housing developments in the future.

In September 2019, Council adopted the Richmond Homelessness Strategy 2019–2029 to guide community actions for homelessness service provision over 10 years. The recommended actions are informed by the principles of collaboration, partnership-building, and shared funding responsibility.

Richmond's first modular supportive housing, located on Alderbridge Way, opened in 2019 and Richmond's new emergency shelter located on Horseshoe Way opened the same year. In 2021, construction began on the Bridgeport Supportive Housing development.

Council endorsed the Master Land Use Plan for Lansdowne Centre, which will introduce 10 acres of City-owned park, more than 2 acres of additional secured public open space and greenlinks, improved cycling infrastructure, on-site mobility hubs, engineering servicing improvements and

6. Strategic and Well-Planned Growth

new infrastructure, new roads, an on-site low carbon district energy system, and an obligation to construct more than 53,000 sq. ft. of City-owned community amenity space, or provide an equivalent cash contribution.

The City continues to administer the BC Energy Step Code which requires new construction to achieve enhanced levels of energy efficiency. In 2021, Council adopted a suite of incentives including associated zoning bylaw amendments that provide incentives to encourage the construction of new single-family and duplex dwellings that meet Passive House Certification and the top levels of the Step Code. In addition, the Building Regulation Bylaw amendment introduced a 'two-option' approach for ESC compliance, where applicants can receive a one-step relaxation in Bylaw requirements by incorporating a low-carbon energy system into their project.

Lulu Island Energy Company (LIEC)'s Alexandra District Energy Utility (ADEU) and the Oval Village District Energy Utility (OVDEU) continued to expand and provide affordable, low carbon energy to new customers. A \$6.2 million grant received from the CleanBC Communities Fund helped expedite the design and construction of the OVDEU's permanent energy centre. Once completed, the OVDEU will be able to produce up to 80% of low-carbon energy from the Gilbert Trunk sanitary force main sewer.

Working in close collaboration with TransLink, the City supported the new Capstan Canada Line Station project which moved forward into construction. In addition, a new, 10-bay, off-street bus exchange opened in November 2020 south of the Richmond-Brighouse Canada Line Station.

Several improvements were made to active transportation networks and road safety systems, including the opening of the new River Parkway, installation of Multi-Use Pathways (MUP) in primarily industrial, commercial and mixed use areas increase, and development of new bike routes using local streets and off-street pathways.

Council endorsed a major expansion of the public EV charging network, combining the City's annual Gas Tax Provision with \$440,000 in funding from Natural Resources Canada's Zero Emission Vehicle Infrastructure Program. Richmond has 46 existing public EV charging ports, including 24 that meet wheelchair accessible standards, with an additional 10 charging ports planned for future expansion.

Council endorsed a new master plan for London Farm, as well as the Steveston Heritage Interpretive Framework. In addition, the City received three grants totaling approximately \$270,000 from the federal Department of Canadian Heritage to support the operations of the Richmond Museum and Steveston heritage sites.



London Farm

7. A Supported Economic Sector

2018–2022 Highlights



The City facilitates diversified economic growth through innovative and sustainable policies, practices and partnerships.

A series of bylaw and policy changes were adopted by Council in 2021 to encourage more intensive utilization of existing industrial land. The benefits of the Industrial Lands Intensification Initiative include:

- Allowing increased industrial building and business activity on the existing land base;
- Reducing barriers to future multi-level industrial developments through the consideration of increasing the floor area ratio on sites with adequate transportation and servicing infrastructure; and
- Reducing the pressure to convert agricultural lands to industrial use.

The City partnered with the City of Surrey, Township of Langley and the BC Tech Association to deliver a provincially funded \$400,000 Supply Chain Resiliency Program to track and enhance the capabilities of the region's manufacturing businesses. As part of this program, a De-risking Emerging Market Opportunities (DEMO) toolkit was created to support future business pivots.

The introduction of ride-hailing legislation in 2019 resulted in local governments implementing an inter-municipal licencing program to regulate ride-hailing businesses in Metro Vancouver. Inter-municipal licencing allows businesses to apply for a business licence to operate in all participating municipalities with standardized regulations across the Lower Mainland.

Richmond continued to attract film productions of all sizes and scales. From 2019–2021, the City processed approximately 212 film permits with roughly \$1.6 million in service and location charges.

Council adopted the Farming First Strategy which includes policies and strategies that support the use of agricultural land for local food production, encourages a local food network to increase local food supply and consumption, encourages new investment in agriculture, and identifies opportunities to attract new farmers.

The City continues to work with KPU to support agriculture education. In 2020, the City entered into

7. A Supported Economic Sector

agreements with the KPU that enable components of the Richmond Farm School and the Department of Sustainable Agriculture and Food Systems' degree program on City-owned land.

The MyBusiness online business licence system will be launched in Q3 2022, streamlining the process for

customers with a self-service option that enables existing and new business owners with the convenience of submitting, updating, and renewing their licences online without having to visit City Hall. Council also endorsed a Permitting Optimization Project, which will optimize the development and building permitting process.

7. Supporting Richmond's Economic Sector During the COVID-19 Pandemic

In 2020, the City developed an Expedited Temporary Outdoor Patio program and online application process to allow restaurants, cafes and pubs to expand outdoor seating to private property, parking lots or approved space on City sidewalks with respect to patio layout guidelines. In 2021, nearly 70 businesses participated in the program which was extended until June 1, 2023. An ongoing patio program is now in development to build on the success of the temporary program. This was informed by a public survey that concluded in December 2021 and consultation with business groups and industry associations. The new program is expected to be opened to new applications in Spring 2022.

A Business Support Centre was activated to provide a centralized, virtual source of accurate and timely

information and resources for local businesses. The support centre provided information for businesses about programs and resources from all levels of government and other agencies as well as information on how to access City services for businesses.

The Richmond Business Resilience Program was launched in 2020, providing free training to help local entrepreneurs adapt their businesses so they can emerge from the crisis thriving and able to withstand future economic shocks. The program ended in December 2021 with a total of 111 users who accessed the services.



Kwantlen Polytechnic University Research and Teaching Farm at Garden City Lands

8. An Engaged and Informed Community

2018–2022 Highlights



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

The City successfully planned and executed a legislatively compliant By-Election in 2021, with adherence to strict requirements to enable Richmond electors to safely vote due to the COVID-19 pandemic. Voters had a variety of options to cast their votes, including advanced polling with 10 different options, mail-in ballots, and in-person voting at 10 locations, with results viewable via Richmond Elections app. Approximately 13,000 ballots were cast.

The online Council Decisions Database launched in 2019 continued to provide valuable information for the public on voting records from open Council meetings and Public Hearings. The search feature provides easy access for users to conduct research on open Regular and Special Council meetings and Public Hearings dating back to 1998.

The City's social media accounts saw an increase in activity throughout the term. For example, by the end of 2021:

- The City's Facebook page reached over 12,200 followers, an increase of 23% from the previous year.
- The City's Instagram account reached 3,400 followers, a 47% increase from November 2020.

- The City's Twitter account reached over 8,800 followers, an 8% increase from the previous year, and resulted in over 4,500 clicks through to the City website.
- The City's YouTube channel reached 928 subscribers, a 50% increase from the previous year, and received over 69,000 views.

The Let's Talk Richmond online engagement platform provided community members a convenient opportunity to share their input on discussions that shape Richmond. From 2019–2021, the platform was used for 82 engagement projects. In 2021 there was a 44% increase in engagement projects from the previous year, over 35,630 users connected with the various online opportunities, and almost 15,380 surveys submitted. In 2021, the top five LetsTalkRichmond engagement projects for participation were:

- Food Trucks in Steveston;
- Cycling Network Plan Update (Phases 1 and 2);
- Patios on Public Space;

8. An Engaged and Informed Community

- Community Gardens; and
- Community Energy and Emissions Plan 2050.

Throughout the term, a number of other public engagement opportunities were offered. Some examples include:

- Youth Strategy 2022–2032;
- Seniors Strategy 2022–2032;
- Richmond RCMP Policing Priorities;
- Brazilian Elodea Management Program;
- Cultural Harmony Plan 2019–2029;
- Richmond Homelessness Strategy 2019–2029;
- Flood Protection Management Strategy and Dike Master Plan;
- Steveston Community Centre and Branch Library Concept Design and Character Design; and
- City Snapshots: Planning for Growth & Development.

From 2019–2022, a variety of workshops and events were undertaken to engage the community in more sustainable and circular economic practices, including recycling and waste reduction workshops, EV outreach events, repair events, and Recycling Depot tours.

Volunteering looked different this term due to the COVID-19 pandemic, but Richmond residents remained engaged and connected to their community while supporting a wide variety of programs and services. For example:

- In 2019, 1,819 volunteers contributed over 82,000 hours with the City and partner organizations; 239 RCMP volunteers contributed 21,327 volunteer hours; and 250 Green Ambassadors volunteered at 36 special events resulting in 81–94% diversion rates.
- In 2020, 841 volunteers contributed over 19,800 hours with 230 City and partner opportunities. These included a shopping program for isolated seniors, assistants for the Emergency Operations Centre program, and Spanish-speaking volunteers to assist with the temporary foreign workers program.
- In 2021, 593 volunteers contributed over 18,203 hours with 169 City and partner opportunities; 35 RCMP volunteers contributed 1,714 volunteer hours, including 162 hours of volunteer bike patrols; and Green Ambassadors volunteered an estimated 1,730 hours for 26 special events and other programs.
- In 2022, volunteer participation continued to trend upwards. In the first four months alone, 305 volunteers participated in 129 opportunities, contributing over 8,600 volunteer hours.

8. Maintaining an Engaged and Informed Community During the COVID-19 Pandemic

In response to the COVID-19 pandemic and guidelines on public gatherings and physical distancing, the City transitioned Committee, Council and Public Hearing Meetings to a virtual format, enabling Council members and staff to participate remotely in all meetings. All Open Committee, Council and Public Hearing meetings were also live-streamed using the City's YouTube channel, enabling the public to watch all meetings live from the comfort of their homes. Members of the public were also able to participate by phone, providing direct access to delegate at Council meetings through a remote option.

The City launched a dedicated section on the City website (www.richmond.ca/COVID-19) to update the community on news, decisions and status of programs,

facilities and services impacted by the pandemic. Information included:

- Up-to-date information about which facilities, amenities and services were open or closed to the public.
- News releases related to the COVID-19 pandemic, including announcements.
- Mayor Brodie's video statements.
- The Restoring Richmond Plan and related information, such as facility COVID-19 Safety Plans and mask requirements.
- Additional links to internal and external resources.

The web page was well utilized, with over 155,000 visits and 203,000 page views from March to December 2020.

Awards and Recognition

2018–2022 Highlights



2019

Canadian Association of Municipal Administrators: Environment Award for the District Energy Implementation Program

Association of Energy Engineers: Canada Region Energy Project of the Year Award for the Alexandra District Energy Utility Project

Government Finance Officers Association of the United States and Canada: Canadian Award for Financial Reporting and Outstanding Achievement in Popular Annual Financial Reporting Award for the 2017 Annual Report

Union of BC Municipalities: Community Excellence Award – Excellence in Governance for the 2017–2022 Richmond Child Care Needs Assessment and Strategy

BC Environmental Managers Association: Technological Innovation Award for the Simplified Non-Storm Water Discharge Management Program

Public Works Association of BC: Public Works Week Community Celebration Award for the Public Works Open House

Community Energy Association: Climate & Energy Action Award for the Electric Vehicle Infrastructure Zoning Bylaw Requirement

Homebuilders Association of Vancouver: Ovation Award for the Storeys Affordable Housing Project

Association of Consulting Engineering Companies BC: Award of Merit for the Britannia Shipyards National Historic Site Flood Protection Improvements Project

Firehouse Magazine: Station Design Awards Notable Design Mention for Brighthouse Fire Hall No. 1 and Cambie Fire Hall No. 3 and Ambulance Station No. 250

Canadian Alliance of Chinese Associations: Public Safety Contribution Award for Richmond Fire-Rescue

Government Fleet Magazine: Notable Fleets Certificate of Achievement for the City Fleet

2020

Canadian Association of Municipal Administrators: Professional Development Award for the Engineer-in-Training program

Government Finance Officers Association of the United States and Canada: Canadian Award for Financial Reporting and Outstanding Achievement in Popular Annual Financial Reporting Award for the 2018 Annual Report

The Energy Globe Foundation: Canadian Energy Globe National Award for the Alexandra District Energy Utility Smart Centres Expansion

International District Energy Association: 2020 IDEA Innovation Award for the Alexandra District Energy Utility Smart Centres Expansion

BC Recreation and Parks Association: Facility Excellence Award for the Edwardian Cottage at Terra Nova Rural Park

Institute of Transportation Engineers – Greater Vancouver Section: Mavis Johnson Road Safety Project of the Year Award for the Network Screening Study

Government Fleet Magazine: Notable Fleets Certificate of Achievement for the City Fleet

2021

Environmental Managers Association of BC: Regulatory Challenge Award for the Corporate Hazardous Materials Management Training Program

Environmental Managers Association of BC: Discharge Control Award for the Mitchell Island Environmental Stewardship Initiative

International Olympic Committee, International Paralympic Committee, and International Association for Sports and Leisure Facilities: Architecture Prize for Accessibility for the Minoru Centre for Active Living

Community Energy Association: Climate & Energy Action Award for the District Energy Utility Program

Global District Energy Climate Awards: Award of Excellence, Emerging DHC Markets for the Alexandra District Energy Utility Project

Union of British Columbia Municipalities: Community Excellence Awards – Excellence in Service Delivery for the Richmond Recycling Depot Upgrade Project

British Columbia Economic Development Association: Community Project Award for the Richmond Food Recovery Network

Government Fleet Magazine: Notable Fleets Certificate of Achievement for the City Fleet

2022

Government Finance Officers Association of the United States and Canada: Canadian Award for Financial Reporting and Outstanding Achievement in Popular Annual Financial Reporting Award for the 2020 Annual Report

Recreation Facility Association of BC: Bill Woycik Outstanding Facility Award for the Minoru Centre for Active Living

Canadian Association of Municipal Administrators: Environmental Leadership & Sustainability Award for the City-Wide Pollinator Program



City of Richmond

6911 No. 3 Road, Richmond, BC V6Y 2C1

Telephone: 604-276-4000

www.richmond.ca

CNCL - 166



City of Richmond

Report to Committee

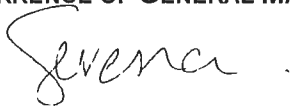


To: General Purposes Committee **Date:** May 25, 2022
From: Jason Kita **File:** 01-0103-01/2022-Vol
Director, Intergovernmental Relations and 01
Corporate and Strategic Planning
Re: **Proposed New Federal Electoral District Boundaries - Richmond**

Staff Recommendation

That the information outlined in the report titled "Proposed New Federal Electoral District Boundaries – Richmond" dated May 25, 2022, from the Director, Intergovernmental Relations and Corporate and Strategic Planning, be received for information.

Jason Kita
Director, Intergovernmental Relations and Corporate and Strategic Planning
(604-276-4091)

Att. 5

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Policy Planning	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS:	APPROVED BY CAO
		

Staff Report

Origin

At the General Purposes Committee meeting on May 16, 2022, the following referral motion was carried:

That staff take a look at the proposed changes to British Columbia's federal electoral district boundaries with respect to Steveston-Richmond East, and provide comments.

This report supports Council's Strategic Plan 2018-2022 Strategy #5 Sound Financial Management:

5.4 Work cooperatively and respectfully with all levels of government and stakeholders while advocating for the best interests of Richmond.

This report is in response to the above referral motion.

Analysis

Background

The Constitution of Canada requires that federal electoral districts be reviewed after each decennial (10-year) census to reflect changes and movements in Canada's population. The current federal redistribution process began in October 2021 and is led by independent commissions working separately in each province to establish electoral boundaries. The Chief Electoral Officer is tasked with applying the representation formula found in the Constitution to determine the new allocation of seats. A representation order describing and naming Canada's future electoral districts is expected to be completed in September 2023. Changes to electoral districts will be applied in the first general election called at least seven months after the representation order is proclaimed and it is anticipated that these changes will not come into effect until April 1, 2024, at the earliest.

Proposed Changes for British Columbia

The 2022 Federal Electoral Boundaries Commission for the Province of British Columbia (Commission) was established as an independent commission on November 1, 2021, pursuant to the *Electoral Boundaries Readjustment Act* to reconfigure the boundaries of British Columbia's electoral districts for the election of members of Parliament. The increase in electoral districts by one from 42 to 43 is the result of increased population in the Province. The 2021 decennial census reports an increase of about 600,000 residents to a current population of 5,000,879. On the basis of 43 electoral districts, this translates into about 116,300 people per electoral district. This number is called the electoral quota.

The census information received in February 2022 records significant, but uneven, population growth in the Province. In some electoral districts, population has grown dramatically. In others, including some in the Lower Mainland, population has grown at a slower pace. Some of the fastest growing districts are ones that, even in 2012, were at the higher end of variance from the

electoral quota, a feature compounding the effect of the last 10 years' population growth. An established pattern of rapid growth between the North Shore and the Fraser Valley has continued. Population growth on Vancouver Island is concentrated in the southern portions and Nanaimo. Electoral districts in the Southern Interior, already on the high end, have experienced significant population growth.

Proposed Changes for Richmond

In the 2012 redistribution of electoral districts, Richmond was divided into the following two districts:

1. Richmond East (currently known as Steveston-Richmond East) – population 102,230 according to 2021 Census of Population.
2. Richmond West (currently known as Richmond Centre) – population 107,707 according to 2021 Census of Population.

With new growth in the region and to allow for Richmond to achieve the electoral quota of 116,300 people, a reconfiguration is being proposed for the two Richmond electoral districts. Please see **Attachment 1** for maps of the current Steveston-Richmond East electoral district and the proposed Richmond East electoral district and **Attachment 2** for maps of the current Richmond Centre electoral district and the proposed Richmond West electoral district. Under the previous 2012 redistribution of electoral districts, both Richmond districts would remain under quota, thus the reason for the proposed changes.

In order to achieve the electoral quota, the population of the new proposed electoral districts in Richmond are:

1. Richmond East (currently known as Steveston-Richmond East) – population 116,764
 - Key changes: elimination of the Steveston area, incorporation of areas in Delta (Tilbury, Annacis Island, Nordel, and area north of 72 Avenue west of 112 Street), and incorporation of areas in New Westminster located on Lulu Island.
2. Richmond West (currently known as Richmond Centre) – population 119,857
 - Key changes: incorporation of the Steveston area.

Considerations for Proposed Richmond East Electoral District

There are potential impacts and considerations for the proposed Richmond East electoral district and include, but are not limited to:

- Adding other municipalities to the Richmond East electoral district (City of Delta and City of New Westminster) may dilute the voice of Richmond residents on federal issues.
- Cities have different issues and priorities and these may not be addressed by a single Richmond East representative.
- This situation may be confusing for Richmond East voters. Richmond-specific electoral districts could promote consistent and focused federal representation on the wide variety of issues that affect the municipality.
- Adding smaller areas of other municipalities could introduce other goals and priorities that may not be relevant for Richmond.

- The electoral quota is 116,300 but there are several proposed electoral districts under the 116,300 population quota across B.C. (16 out of 43 electoral districts). Please see **Attachment 3** for a list of proposed electoral districts for B.C. and their 2021 population.
- At its meeting on May 16, 2022, the City of Delta Council passed a motion to express Delta's opposition to the proposed changes to Delta's electoral boundary and request that Delta remain as a single electoral district.

Alternative Proposed Option

Populations for the electoral districts are taken from the most recent census data (in this case, 2021 Census of Population) which determines population during a single point in time. Inevitably, some people are not counted for various reasons (their household did not receive a census questionnaire, they were not included in the questionnaire completed for the household, they may have been missed because they have no usual residence, etc.). To determine how many individuals were missed, Statistics Canada conducts postcensal coverage studies of a representative sample of individuals. Results of these studies in combination with the census counts are used to produce population estimates which take into account net undercoverage. Postcensal coverage study results are usually available two years after enumeration date. These will be used to revise and update the population estimates based on the 2021 Census results.

In past years, this net undercoverage ranges from 1% up to 5% in the Metro Vancouver region. Taking a conservative approach and factoring an undercoverage of 2.5% for the 2021 Census data, Richmond's total population would increase to 215,320. In addition to the undercoverage, Richmond is estimated to grow by 8.0% over the next five years, bringing Richmond's total population to 232,545. This total population estimation will occur very close to when any changes to the electoral boundaries will take place.

An alternative option in keeping Richmond as two distinct Richmond-only electoral districts is to take into consideration the conservative estimated undercoverage (2.5%) along with the estimated growth (8.0%). **Attachment 4** shows a map and population of the current electoral districts with 2021 Census data. **Attachment 5** shows a map and population of alternative electoral districts moving a small area of West Cambie from Richmond Centre to Steveston-Richmond East in order to balance the population of the two electoral districts. This map also shows the population in 2026 with the Census undercoverage and estimated growth added. Each electoral district is in-line with the electoral quota.

This option can be proposed to the Commission as an alternative.

Key Stakeholders

Affected neighbouring municipalities include City of Delta and City of New Westminster. The alternative option outlined above allows the City of Delta to add 15,701 back to their electoral quota and the City of New Westminster to add 10,983 back to their electoral quota.

Timeline

The main steps in the redistribution of federal electoral districts, as set out in the *Electoral Boundaries Readjustment Act*, are outlined in below. They are currently in Step 5 – Public Hearings from May to October 2022.

Steps	Expected Timeline
1. Allocation of seats	Mid-October 2021
2. Establishment of commissions	November 1, 2021
3. Publication of census data	Mid-February 2022
4. Publication of commission proposals	April-August 2022
5. Public hearings	May-October 2022
6. Completion of the report	November-December 2022
7. Objections from MPs	March-May 2023
8. Commissions consider objections	May-June 2023
9. Representation order	September 2023
10. Boundaries established	April 2024

← They are here

Public Engagement

The Commission is required by the Act to hold sittings to hear comments and feedback by interested parties about the recommended changes to the boundaries of electoral districts. The Commission is scheduled to sit in Richmond at the Richmond Olympic Oval on Monday, September 12, 2022 at 7:00pm.

In addition, the Commission is accepting written comments until October 3, 2022.

The Federal Electoral Districts Redistribution 2022 website contains information on all the proposed new electoral districts and can be found at:

https://redcoupage-redistribution-2022.ca/index_e.aspx

Actions for Council's Consideration

Any or all of the following could be actions considered by Council:

- A letter be sent to the 2022 Federal Electoral Boundaries Commission for the Province of British Columbia to express Richmond's opposition to the proposed changes to Richmond's electoral boundaries for Richmond East and Richmond West;
- The City of Richmond be represented at the Public Hearing on September 12, 2022 in Richmond and speak in opposition to the proposed changes; and/or
- A letter be sent to Richmond Members of Parliament stating Richmond's opposition to the proposed changes.

Financial Impact

None.

Conclusion

Should the proposed changes to Richmond's Federal Electoral Boundaries be approved, Steveston-Richmond East would become Richmond East and include areas of Delta and New Westminster as part of the new electoral district. If Council chooses, opposition to the proposed changes can be communicated to the Commission in writing and through the Public Hearing process.



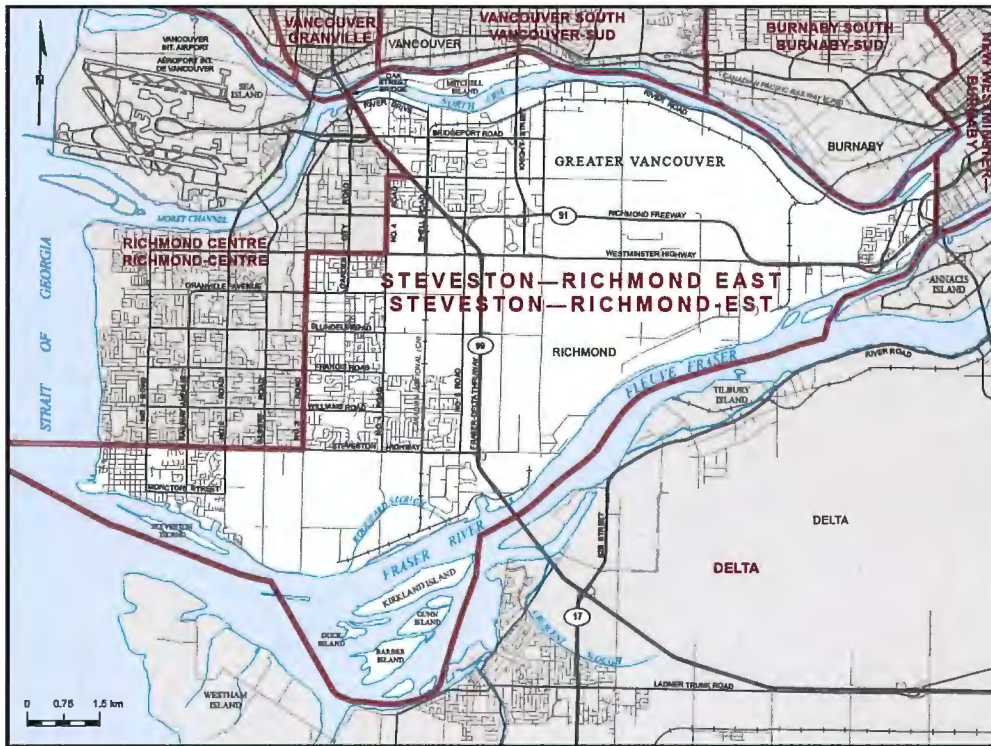
Jason Kita

Director, Intergovernmental Relations and Corporate and Strategic Planning
(604-276-4091)

- Att. 1: Current Steveston-Richmond East Electoral District Map and the Proposed Richmond East Electoral District Map
- 2: Current Richmond Centre Electoral District Map and the Proposed Richmond West Electoral District Map
- 3: Proposed Electoral Districts for B.C. and Populations
- 4: Current Electoral District Map with 2021 Census Population
- 5: Alternative Electoral District Map with 2021 Census Population and 2026 Population Estimate

Richmond Electoral Districts Current and Proposed

Steveston-Richmond East (current)



Richmond East (proposed)

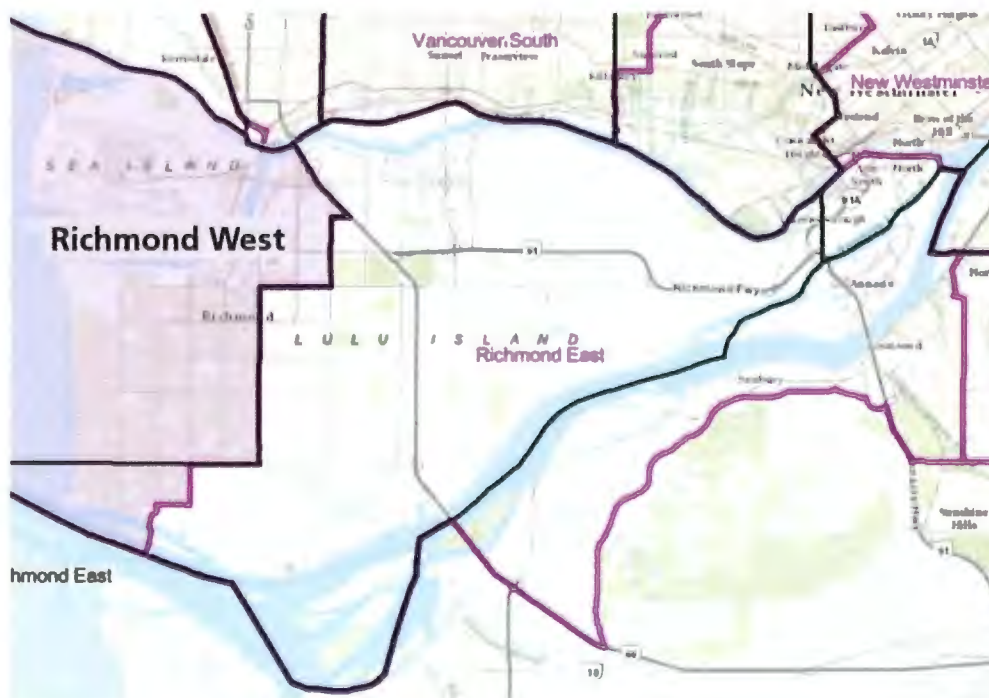


Richmond Electoral Districts Current and Proposed

Richmond Centre (current)



Richmond West (proposed)

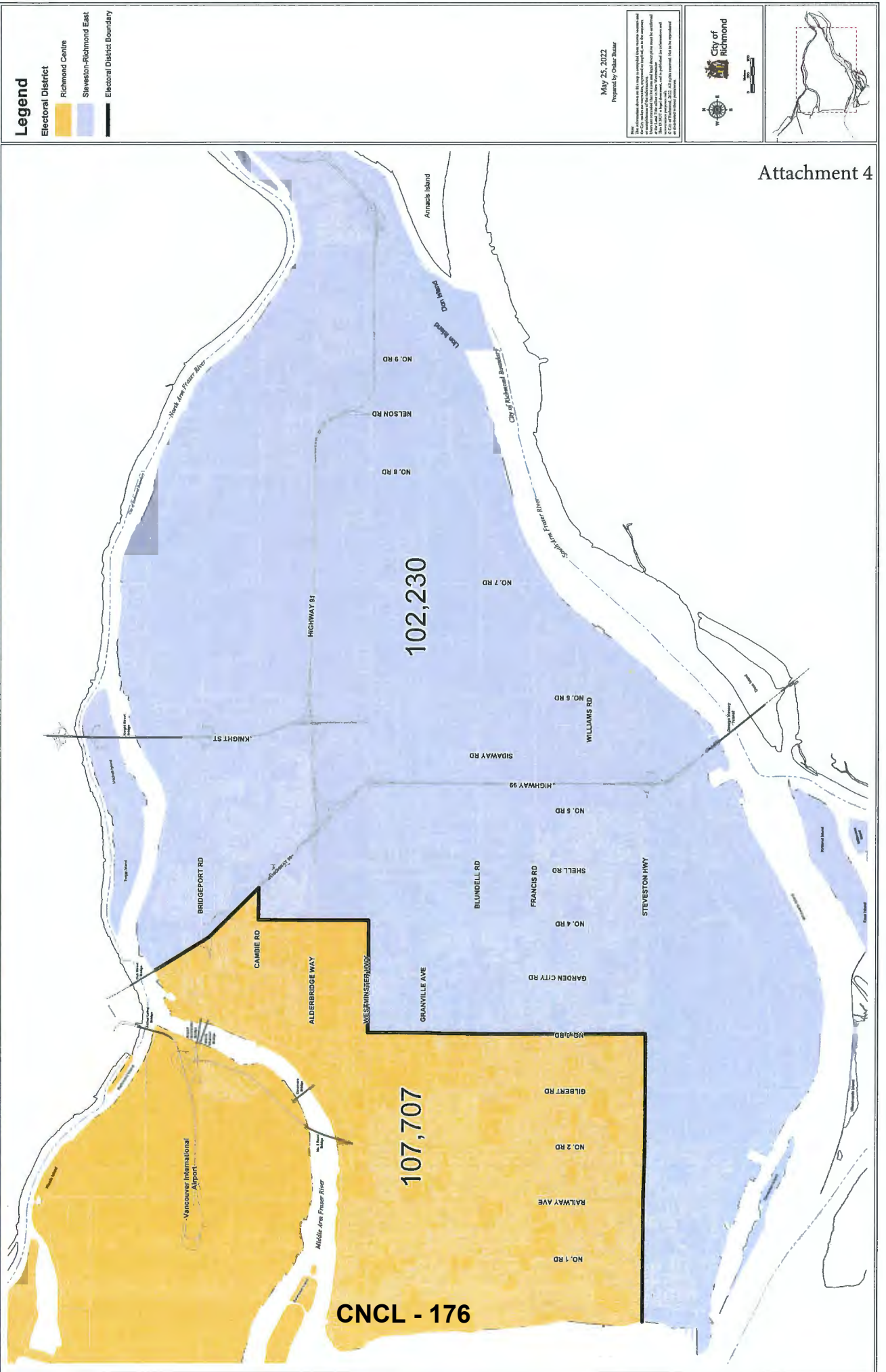


Proposed Electoral Districts for B.C. and Populations

PROPOSED ELECTORAL DISTRICT NAME (CURRENT NAME)	POPULATION
Abbotsford	117,561
Burnaby North--Seymour	116,426
Burnaby South	116,391
Cariboo—Prince George	117,160
Coquihalla (Central Okanagan—Similkameen—Nicola)	110,776
Chilliwack (Chilliwack—Hope)	116,113
Cloverdale—Langley City	118,518
Coquitlam—Port Coquitlam	115,171
Courtenay—Alberni	123,827
Cowichan—Malahat—Langford	123,679
Delta	117,020
Esquimalt—Saanich—Sooke	120,606
Fleetwood—Port Kells	116,776
Kamloops—Thompson—Lytton (Kamloops—Thompson—Cariboo)	115,087
Kelowna (Kelowna—Lake Country)	109,006
Kootenay—Columbia	111,821
Langley—Aldergrove	117,066
Mission—Maple Ridge (Mission--Matsqui--Fraser Canyon)	117,220
Nanaimo—Ladysmith	121,493
New Westminster—Bridgeview (New Westminster—Burnaby)	118,377
North Island—Powell River	126,130
North Okanagan—Shuswap	109,966
North Vancouver	114,310
Pitt Meadows—Fort Langley (Pitt Meadows—Maple Ridge)	116,538
Port Moody—Coquitlam	116,470
Prince George—Peace River—Northern Rockies	116,962
Richmond West (Richmond Centre)	119,857
Saanich—Gulf Islands	122,147
Skeena—Bulkley Valley	89,689
South Okanagan—West Kootenay	108,973
South Surrey—White Rock	115,956
Richmond East (Steveston—Richmond East)	116,764
Surrey West (Surrey—Newton)	115,780
Surrey Centre	117,715
Vancouver Centre	115,964
Vancouver East	115,759
Vancouver Granville	117,201
Vancouver Kingsway	117,209
Vancouver Quadra	115,873
Vancouver South	117,680
Victoria	123,482
West Vancouver—Sunshine Coast—Sea to Sky (West Vancouver—Sunshine Coast—Sea to Sky Country)	119,155
Vernon—Lake Country	111,205
TOTAL POPULATION	5,000,879



Existing Federal Electoral Districts With 2021 Census Population







City of Richmond

Report to Committee

To: Planning Committee
From: Wayne Craig
Director, Development

Date: July 6, 2022
File: RZ 21-930951

Re: Application by Deluxe Custom Homes Ltd. for Rezoning at 7480 Williams Road from the "Single Detached (RS1/E)" Zone to the "Coach House (ZS12) – Broadmoor" Zone

Staff Recommendation

That Richmond Zoning Bylaw 8500, Amendment Bylaw 10404, for the rezoning of 7480 Williams Road from the "Single Detached (RS1/E)" zone to the "Coach House (ZS12) - Broadmoor" zone, be introduced and given first reading.

Wayne Craig
Director, Development
(604-247-4625)

WC/NA:blg
Att. 7

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Affordable Housing	<input checked="" type="checkbox"/>	

Staff Report

Origin

Deluxe Custom Homes Ltd. (Baljinder Sanghera), property owner, has applied to the City of Richmond for permission to rezone the property at 7480 Williams Road from the “Single Detached (RS1/E)” zone to the “Coach House (ZS12) - Broadmoor” zone, to permit the property to be subdivided to create two lots. Each lot would have a principal dwelling and an additional smaller dwelling unit above an attached garage, with vehicle access from Williams Road via a shared driveway. A map and aerial photo showing the location of the subject site and surrounding context are included in Attachment 1. A site survey and proposed subdivision plan of the property are included in Attachment 2.

Findings of Fact

A Development Application Data Sheet providing details about the development proposal is attached (Attachment 3).

Subject Site Existing Housing Profile

There is currently a single-detached dwelling on the subject site, which will be demolished. The house is also owner occupied with no secondary suite.

Surrounding Development

Existing development immediately surrounding the site is as follows:

To the North: Across Williams Road, are single-detached dwellings on lots zoned “Single Detached (RS1/E)” and “Coach Houses (RCH1)”.

To the South: Fronting Nevis Drive, are single detached dwellings on large lots zoned “Single Detached (RS1/E)”.

To the East: Lots zoned “Coach House (ZS12) - Broadmoor”, each of which contain a principal dwelling and an additional smaller dwelling unit above an attached garage, with vehicle access from Williams Road via shared driveways.

To the West: Lots zoned “Coach House (ZS12) - Broadmoor”, each of which contain a principal dwelling and an additional smaller dwelling unit above an attached garage, with vehicle access from Williams Road via shared driveways.

Related Policies & Studies

Official Community Plan (OCP)

There is no Area Plan for this neighbourhood. The 2041 OCP Land Use Map designation for the subject site is “Neighbourhood Residential”. This redevelopment proposal is consistent with this designation.

Arterial Road Land Use Policy

The south side of this block of Williams Road, between Nevis Drive and Dunoon Drive, is designated “Broadmoor Coach House” on the Arterial Road Housing Development Map in the OCP. The application is consistent with this designation and adjacent properties on the block.

Floodplain Management Implementation Strategy

The proposed redevelopment must meet the requirements of the Richmond Flood Plain Designation and Protection Bylaw 8204. Registration of a flood indemnity covenant on title is required prior to final adoption of the rezoning bylaw.

Public Consultation

A rezoning sign has been installed on the subject property. Staff have not received any comments from the public about the rezoning application in response to the placement of the rezoning sign on the property.

Should the Planning Committee endorse this application and Council grant first reading to the rezoning bylaw, the bylaw will be forwarded to a Public Hearing, where any area resident or interested party will have an opportunity to comment. Public notification for the Public Hearing will be provided as per the *Local Government Act*.

Staff Comments

Background

The subject property is located on the south side of Williams Road, between Nevis Drive and Dunoon Drive, in an established residential neighbourhood in the Broadmoor Planning Area. The south side of this block of Williams Road has seen substantial recent redevelopment through rezoning and subdivision. The subject site is the last remaining Broadmoor Coach House designated lot on the south side of this block of Williams Road with redevelopment potential under current City policy.

As proposed, each new lot would be approximately 15 m wide and 369 m² in area. This proposal is consistent with the existing pattern of redevelopment along the south side of this block of Williams Road.

Site Plan & Architectural Elevations

The Site Plan (Attachment 4) proposed by the applicant is consistent with the building envelope illustrated in the “Coach House (ZS12) – Broadmoor” zone, which involves a principal dwelling and an additional dwelling unit above an attached garage at the rear of each lot, on either side of a shared driveway centered on the proposed common property line. The principal dwellings face the street, while the attached garages and second storey units face the shared driveway.

Prior to rezoning approval, the applicant is required to register a legal agreement on Title to ensure that, upon subdivision of the property, the sole access to the site is from the proposed shared driveway. Prior to subdivision of the property, a cross-access easement is required to be registered on Title, to grant each property the right to use the shared driveway for access.

Consistent with zoning, on-site vehicle parking is proposed as follows:

- Two side-by-side parking spaces for the principal dwellings are proposed within the attached garage on each lot.
- One surface parking space for the additional dwelling unit is proposed within a portion of the rear yard, immediately south of the attached garage on each lot.

The proposed architectural elevations (Attachment 4) provide for an attractive pedestrian-oriented streetscape along Williams Road, through defined main entries with covered porches, columns, window openings, facade projections, and varied primary and secondary roof forms. Each proposed lot will contain private yard space in the rear that maximizes functionality in relation to buildings, sunlight, and parking.

Prior to rezoning approval, the applicant is required to register a legal agreement on Title to ensure that the site plan and architectural elevation plans are generally consistent with those included in Attachment 4. At Building Permit stage, plans must comply with all City regulations, including zoning, and staff will ensure that Building Permit plans are generally consistent with the registered legal agreement for the site plan and building design.

Tree Retention and Replacement

The applicant has submitted a Certified Arborist's Report; which identifies on-site and off-site tree species, assesses tree structure and condition, and provides recommendations on tree retention and removal relative to the proposed development. The Report assesses two bylaw-sized trees on the subject property and two trees on neighbouring properties.

The City's Tree Preservation Coordinator has reviewed the Arborist's Report and supports the Arborist's findings, with the following comments:

- One tree (tag# 495) is a 23 cm caliper Silver Birch that is in poor condition as it has been previously topped, and exhibits a lot of dead wood in the canopy. It is also in conflict with the proposed building. It is not a good candidate for retention and should be removed and replaced.
- One tree (tag# 496) is a multi-stem 24 cm Magnolia that is in poor condition as it been previously topped. It is also in conflict with the proposed building, therefore, this is not a good candidate for retention and should be removed and replaced.
- Two trees (tag# os1, 30 cm caliper multi-stem Fig; and tag# os2, 24 cm caliper multi-stem Japanese Maple) located on adjacent neighbouring properties are identified to be retained and protected. The applicant is to provide tree protection as per City of Richmond Tree Protection Information Bulletin Tree-03.
- Replacement trees are required at a 2:1 ratio as per the OCP.

In addition to the bylaw sized trees, there is an existing neighbouring hedge along the south property line that is to be retained and will require Arborist supervision when pruning the hedge and doing construction work close to the hedge.

There are also three non-bylaw size trees located on-site and identified on the Tree Management Plan (Attachment 5). The undersized trees have low landscape value and are proposed to be removed.

Tree Replacement and Landscaping

The applicant wishes to remove two on-site trees (Trees # 495 and 496). The 2:1 replacement ratio would require a total of four replacement trees. The applicant has agreed to plant a minimum of two trees on each lot proposed; for a total of four trees. The required replacement trees are to be of the following minimum sizes, based on the size of the trees being removed as per Tree Protection Bylaw No. 8057.

No. of Replacement Trees	Minimum Caliper of Deciduous Replacement Tree	Minimum Height of Coniferous Replacement Tree
4	8 cm	4 m

To ensure that the new required trees are planted and maintained on each lot proposed and that the front yards of the proposed lots are enhanced, the applicant is required to complete the following prior to final adoption of the rezoning bylaw:

- Submit a Landscape Plan prepared by a Registered Landscape Architect, to the satisfaction of the Director of Development. The Landscape Plan must comply with the guidelines of the Arterial Road Land Use Policy in the OCP.
- Submit a Landscaping Security based on 100% of a cost estimate for the proposed Landscape Plan works provided by the Landscape Architect (including materials, installation, and a 10% contingency). The security will be held until construction and landscaping on-site is completed and a site inspection is conducted. The City may retain a portion of the security for a one-year maintenance period to ensure that the landscaping survives. To accompany the landscaping security, a legal agreement that sets the terms for release of the security must be entered into between the applicant and the City.

The applicant has provided a preliminary Landscape Plan and can be found as Attachment 6.

Affordable Housing Strategy

Consistent with the City's Affordable Housing Strategy, the applicant proposes to provide a coach house of 39-m² (521 ft²) above an attached garage on each of the new lots, for a total of two coach house units.

Site Servicing and Frontage Improvements

At the Subdivision stage, the applicant will be required to:

- Register a cross-access easement on title to grant each property the right to use the shared driveway for access.

- Register a 3.0 m wide Statutory Right-of-Way (SRW) on Title for the sanitary sewer along the south property line, from the west property line to the east edge of the proposed shared driveway.
- Enter into a Servicing Agreement for the design and construction of engineering infrastructure improvements and frontage works. Works are to include, but are not limited to, installation of a new sanitary sewer line across a portion of the rear yard and frontage improvements to Williams Road including closing the existing driveway crossing and installing a new single shared driveway centered on the proposed common property line per Engineering Design Specifications.
- A Letter of Credit or cash security for the value of the Service Agreement works, as determined by the City, will be required as part of entering into the Servicing Agreement.
- Pay Development Cost Charges (City and GVS & DD), School Site Acquisition Charge, and Address Assignment Fee.

Analysis

This development proposal to permit a subdivision to create two lots, each to contain a principal dwelling and an additional dwelling unit above an attached garage, is consistent with the Arterial Road Land Use Policy in the OCP. It is an infill development proposal along a minor arterial road, along a transit route and is within close proximity to the Broadmoor Neighbourhood Service Centre at the intersection of Williams Road and No. 3 Road (approximately 150 m).

The form of development and architectural character proposed at the subject site is similar to other dwellings with attached second storey dwelling units that have previously been approved on the south side of this block of Williams Road. The proposed design provides for a pedestrian-oriented streetscape along Williams Road, which is consistent with the guidelines for arterial road redevelopment.

Financial Impact

None.

Conclusion

This rezoning application is to permit the subject property to be subdivided to create two lots, each to contain a principal dwelling and an additional dwelling unit above an attached garage, with vehicle access from Williams Road via a shared driveway. Staff supports the proposed rezoning on the basis that it complies with applicable policies and land use designations contained within the OCP, and is consistent with the established pattern of redevelopment on the block.

It is recommended that Richmond Zoning Bylaw 8500, Amendment Bylaw 10404 be introduced and given first reading.

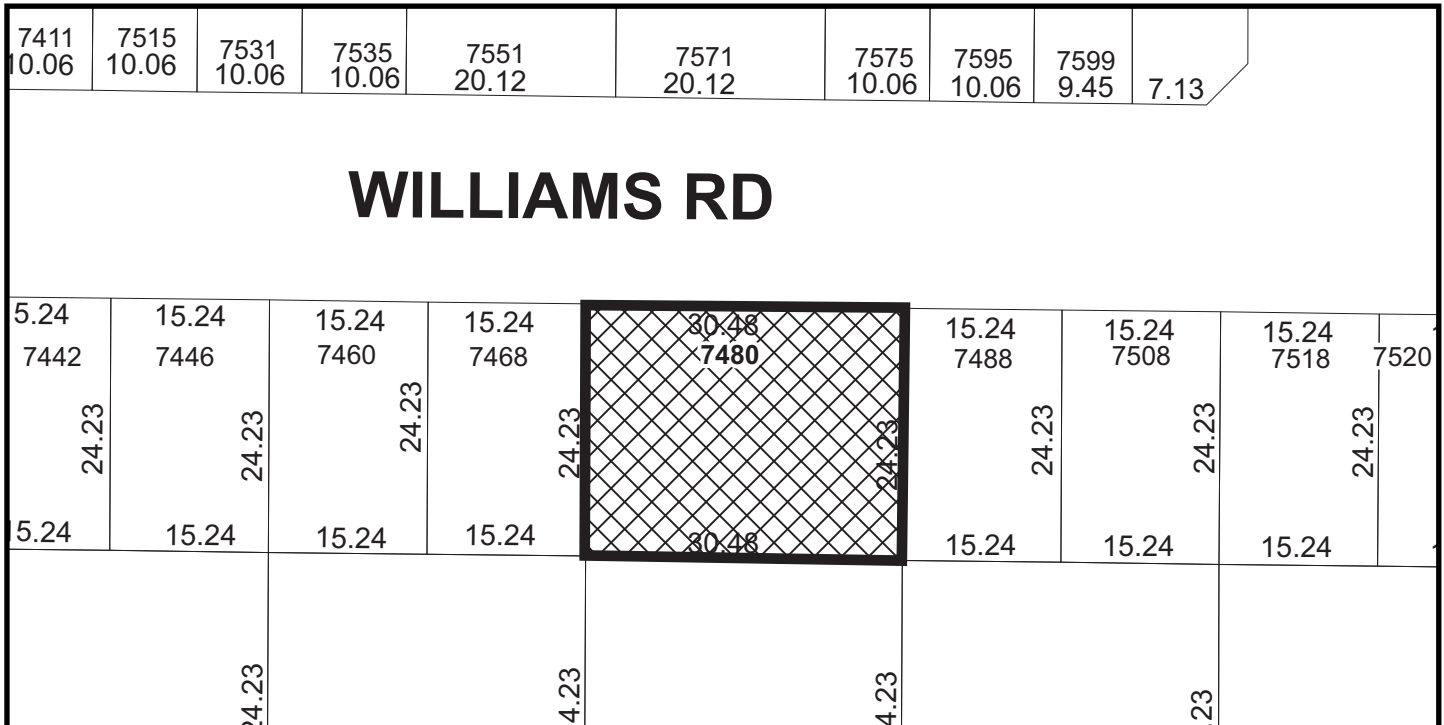
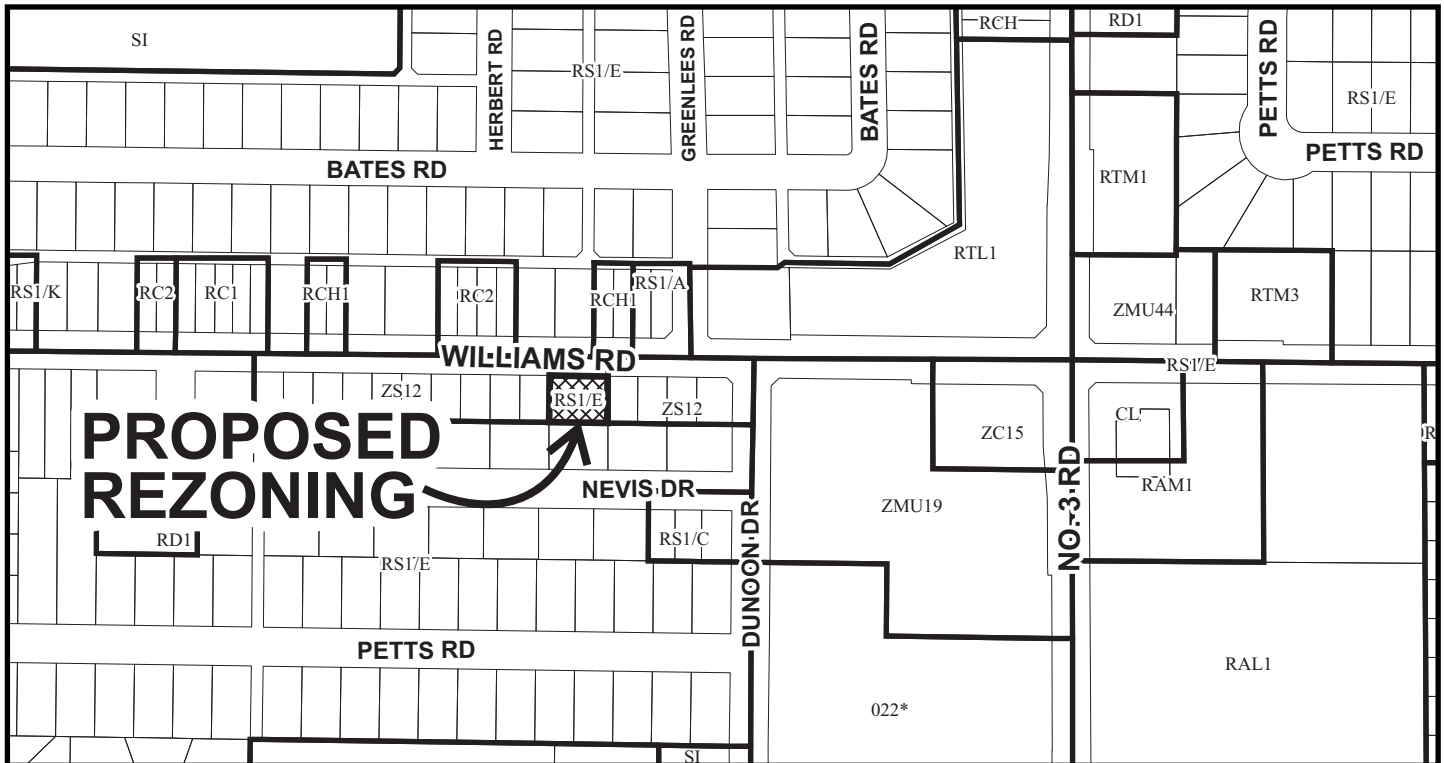


Nathan Andrews
Planning Technician
(604-247-4911)

NA:blg

Attachments:

- Attachment 1: Location Map/Aerial Photo
- Attachment 2: Site Survey & Proposed Subdivision Plan
- Attachment 3: Development Application Data Sheet
- Attachment 4: Site Plan & Architectural Elevations
- Attachment 5: Tree Management Plan
- Attachment 6: Preliminary Landscape Plan
- Attachment 7: Rezoning Considerations



RZ 21-930951

CNCL - 185

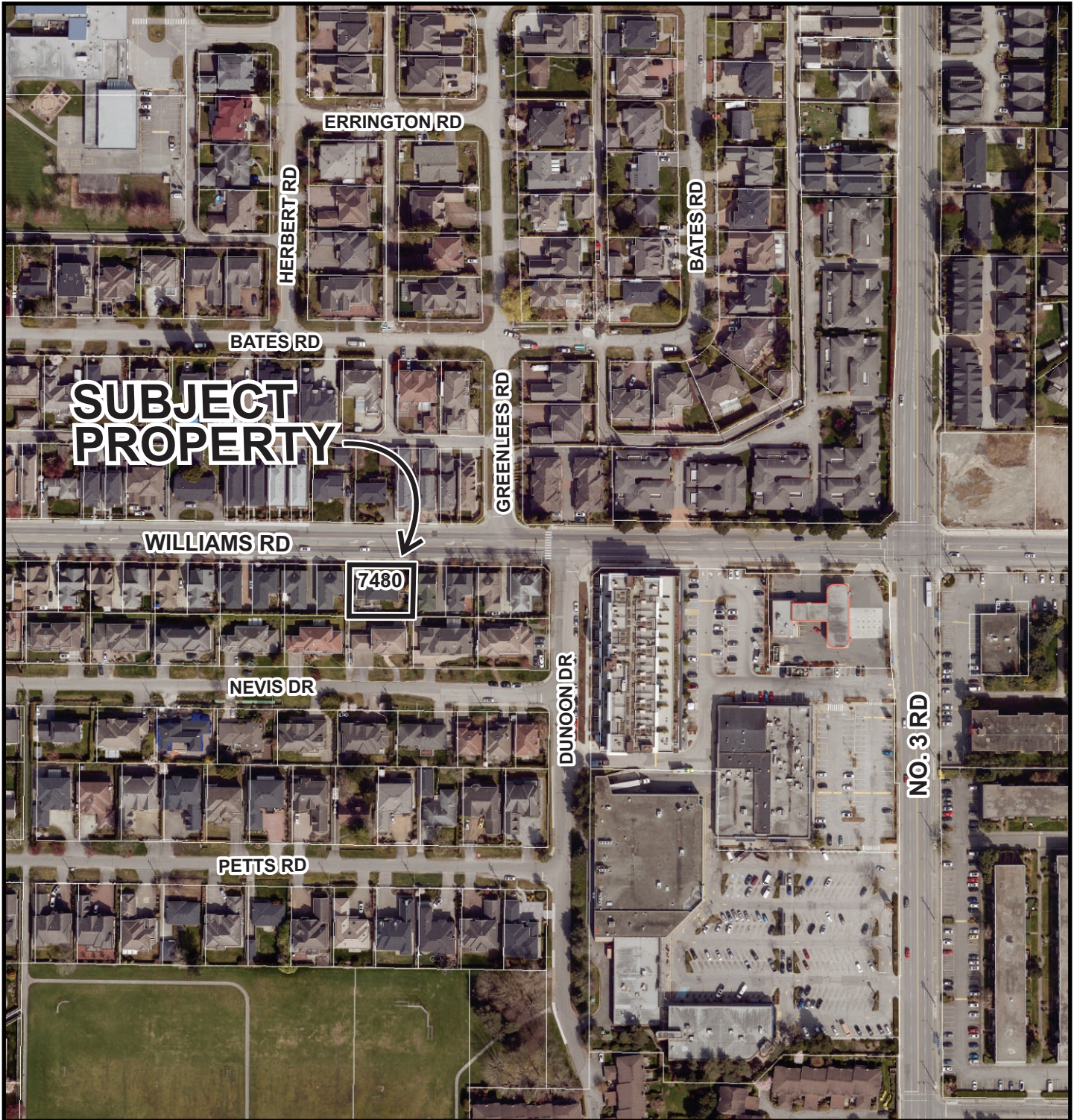
Original Date: 05/13/21

Revision Date:

Note: Dimensions are in METRES



City of Richmond



RZ 21-930951

CNCL - 186

Original Date: 05/13/21

Revision Date:

Note: Dimensions are in METRES

TOPOGRAPHIC SURVEY AND PROPOSED SUBDIVISION OF LOT 20 SECTION 32 BLOCK 4 NORTH RANGE 6 WEST NEW WESTMINSTER DISTRICT PLAN 17380

#7480 WILLIAMS ROAD,
RICHMOND, B.C.
P.I.D. 003-602-206

NOTE:

Elevations shown are based on
City of Richmond HPN
Benchmark network.
Benchmark: HPN #234
Control Monument 77H4891
Elevation: 1.125m
Benchmark: HPN #235
Control Monument 77H4885
Elevation: 1.103m

NOTE:

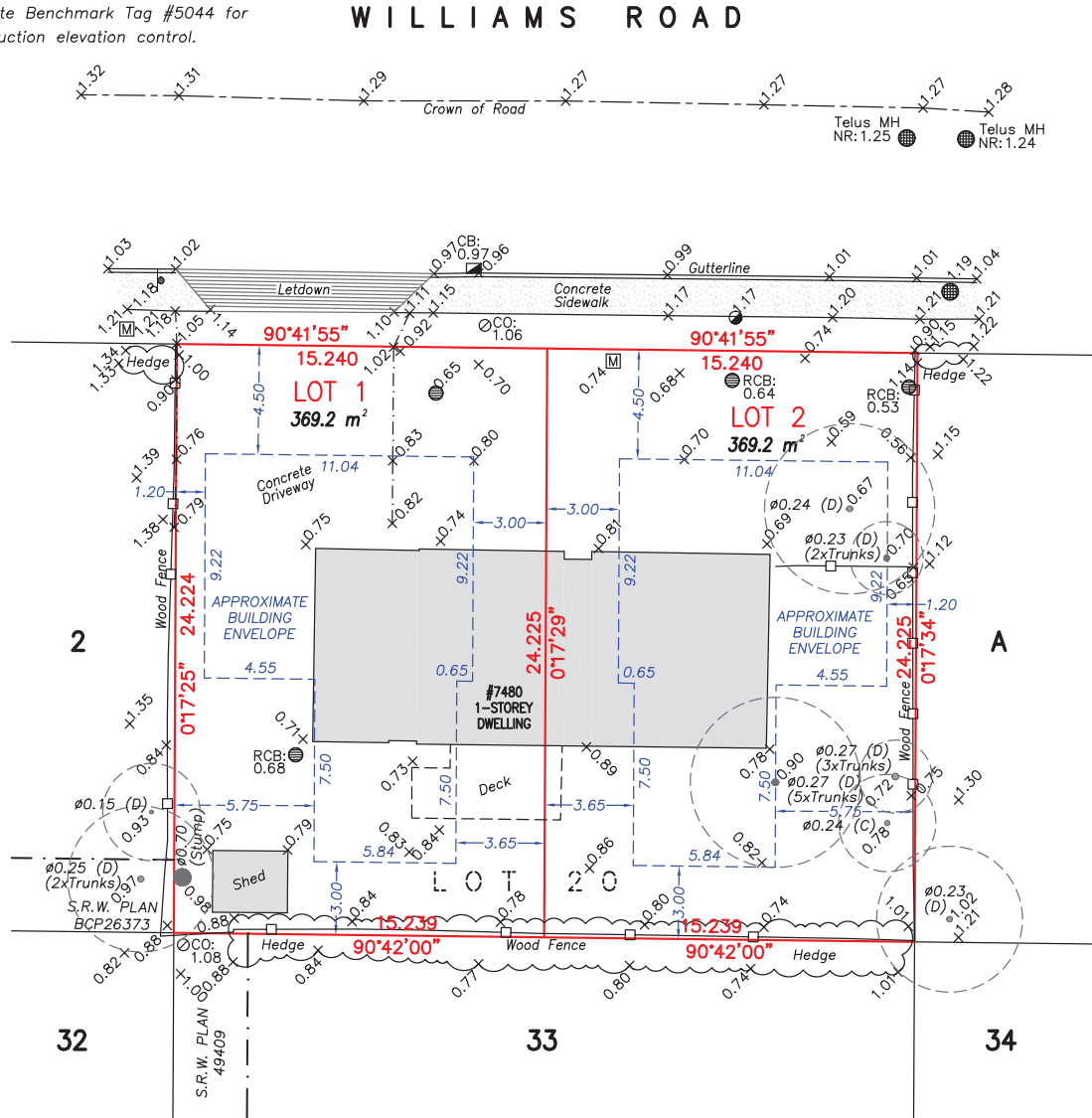
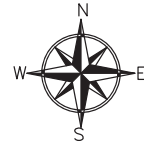
Use site Benchmark Tag #5044 for
construction elevation control.

SCALE: 1:200



ALL DISTANCES ARE IN METRES AND DECIMALS
THEREOF UNLESS OTHERWISE INDICATED

Nail in aluminum
Tag #5044
Site Benchmark
Elevation: 1.08m



© copyright
J. C. Tam and Associates
Canada and B.C. Land Surveyor
115 - 8833 Odlin Crescent
Richmond, B.C. V6X 3Z7
Telephone: (604) 214-8928
Fax: (604) 214-8929
E-mail: office@jctam.com
Website: www.jctam.com
Job No. 7628
FB-396 P72-76
Drawn By: WK

LEGEND:

- (C) denotes conifer
- (D) denotes deciduous
- denotes catch basin
- denotes round catch basin
- ⊞ denotes water meter
- ⊙ denotes manhole
- denotes cleanout
- denotes sign
- ⊙ denotes power pole

CERTIFIED CORRECT:
LOT DIMENSION ACCORDING TO
FIELD SURVEY.

JOHNSON C. TAM, B.C.L.S., C.L.S.

January 25th, 2021.

DWG No. 7628-Topo

CNCL - 187



RZ 21-930951

Attachment 3

Address: 7480 Williams Road

Applicant: Deluxe Custom Homes Ltd.

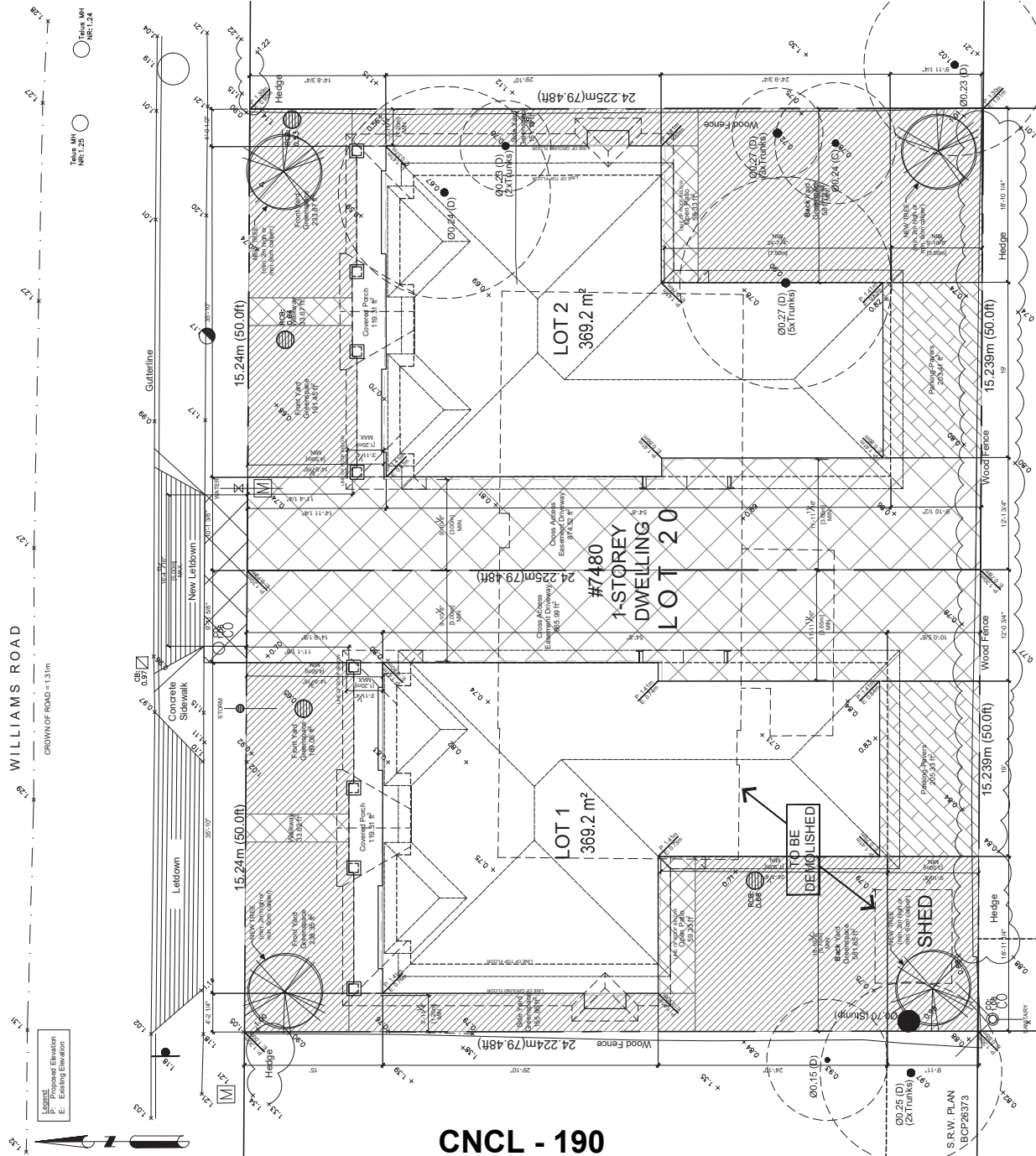
Planning Area(s): Broadmoor

	Existing	Proposed
Owner:	Deluxe Custom Homes Ltd.	To be determined
Site Size (m²):	738.4 m	Lot 1: 369.2 m ² Lot 2: 369.2 m ²
Land Uses:	Single-family dwelling	Two principal dwellings, each with an additional dwelling unit above an attached garage
OCP Designation:	Neighbourhood Residential	No change
Zoning:	Single Detached (RS1/E)	Coach House (ZS12) - Broadmoor
Number of Units:	1	4
Other Designations:	Arterial Road Land Use Policy Broadmoor Coach House	Arterial Road Land Use Policy Broadmoor Coach House

On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
Floor Area Ratio:	Max. 0.55, together with an additional 0.10 provided the lot contains one (1) or more dwelling units with less than 60.0 m ² of gross floor area	0.55 plus 0.10	none permitted
Buildable Floor Area*:	239.98 m ² on each lot	232.1 m ² on each lot	
Lot Coverage (% of lot area):	Building: Max. 45% Non-porous Surfaces: Max. 70% Live Landscaping: Min. 20%	Building: Max. 45% Non-porous Surfaces: Max. 70% Live Landscaping: Min. 20%	none
Min. Lot Size:	N/A	N/A	none
Building Envelope:	Buildings shall not be sited outside the building envelope identified in Diagram 1, Section 15.12.6.2 of the ZS12 zone	Buildings are proposed to be sited within the building envelope identified in Diagram 1, Section 15.12.6.2 of the ZS12 zone	none
Height (m):	Max. 9.0 m	Max. 9.0 m	none

On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
On-Site Vehicle Parking Spaces:	2 spaces per primary dwelling unit + 1 space per additional dwelling unit	2 spaces per primary dwelling unit + 1 space per additional dwelling unit	none
Off-street Parking Spaces – Total:	3	3	none

* Preliminary estimate; not inclusive of garage; exact building size to be determined through zoning bylaw compliance review at Building Permit stage.



CNCL - 190

LOT 1

SITE COVERAGE AND LIVE LANDSCAPING:	
FRONT YARD LANDSCAPING REQUIREMENT CALCULATION: 55% OF FRONT YARD (738.16ft ²):	405.99ft ² (55%)
PROPOSED LANDSCAPING:	427.41ft ² (57.90%)
LIVE LANDSCAPING REQUIREMENT CALCULATION:	
20% OF LOT AREA (3,973.71ft ²):	794.74ft ² (20%)
FRONT YARD LANDSCAPING:	427.41ft ²
SIDE YARD LANDSCAPING:	155.88ft ²
REAR YARD LANDSCAPING:	581.65ft ²
TOTAL PROPOSED:	1,164.92ft ² (29.32%)
SITE COVERAGE FOR IMPERMEABLE AREAS CALCULATION:	
MAXIMUM ALLOWABLE 70%:	2,781.60ft ² (70%)
SFD FOOTPRINT:	1,525.03ft ²
WALKWAY:	98.53ft ²
WALKWAY PATIO:	23.31ft ²
COVID PORCH:	119.31ft ²
REAR OPEN PATIO:	59.33ft ²
TOTAL IMPERMEABLE AREAS:	2,602.28ft ² (65.51%)
EXISTING ROAD CENTRE LINE GRADE ELEV.: 1.31M	
PROPOSED AVERAGE LOT GRADE ELEV.: 1.28M	
PROPOSED AVERAGE LOT GRADE ELEV.: 1.28M	
FINISHED GRADE AT HOUSE CORNERS ELEV.: 1.41M	
TOP OF SLAB ELEV. = 1.61M	
BUILDING HEIGHT MEASURED FROM: 1.41M	

LOT 2

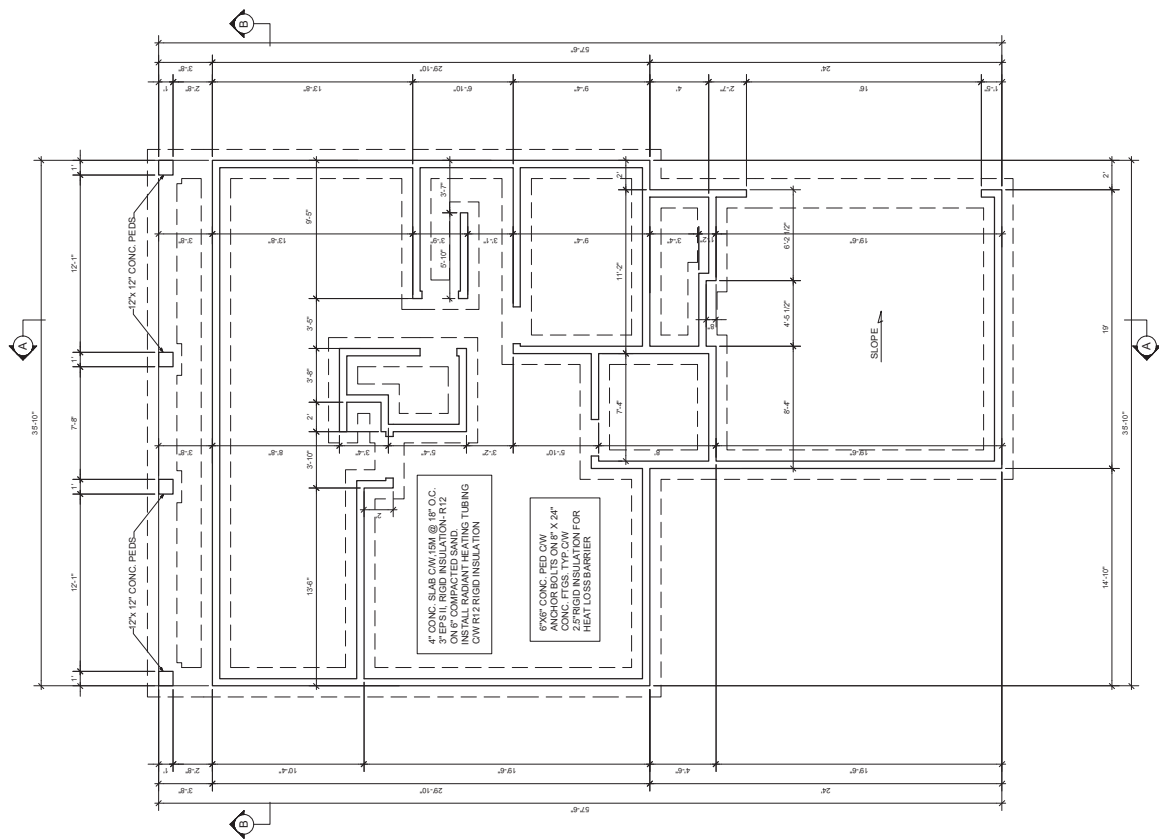
SITE COVERAGE AND LIVE LANDSCAPING:	
FRONT YARD LANDSCAPING REQUIREMENT CALCULATION: 55% OF FRONT YARD (738.16ft ²):	405.99ft ² (55%)
PROPOSED LANDSCAPING:	425.32ft ² (57.62%)
LIVE LANDSCAPING REQUIREMENT CALCULATION:	
20% OF LOT AREA (3,973.71ft ²):	794.74ft ² (20%)
FRONT YARD LANDSCAPING:	425.32ft ²
SIDE YARD LANDSCAPING:	151.19ft ²
REAR YARD LANDSCAPING:	581.79ft ²
TOTAL PROPOSED:	1,158.32ft ² (29.15%)
SITE COVERAGE FOR IMPERMEABLE AREAS CALCULATION:	
MAXIMUM ALLOWABLE 70%:	2,781.60ft ² (70%)
SFD FOOTPRINT:	1,525.03ft ²
WALKWAY:	97.52ft ²
WALKWAY PATIO:	33.67ft ²
COVID PORCH:	119.31ft ²
REAR OPEN PATIO:	59.33ft ²
TOTAL IMPERMEABLE AREAS:	2,611.86ft ² (65.73%)
EXISTING ROAD CENTRE LINE GRADE ELEV.: 1.31M	
PROPOSED AVERAGE LOT GRADE ELEV.: 1.28M	
PROPOSED AVERAGE LOT GRADE ELEV.: 1.28M	
FINISHED GRADE AT HOUSE CORNERS ELEV.: 1.41M	
TOP OF SLAB ELEV. = 1.61M	
BUILDING HEIGHT MEASURED FROM: 1.41M	



1. APPLICATION: 15 LB. FELT PAPER USING 2° GALVANISED ROOFING NAILS OR STAPLES.
2. APPLY METAL LATH TO WOOD JAMBS WITH PLYWOOD SHEATHING USING MIN. 1° 2° GALVANISED ROOFING NAILS OR STAPLES.
3. APPLY MORTAR SCATCH COAT, 1" FORCING MORTAR FOR AN OVERALL THICKNESS OF 1" COVER THE MORTAR WITH 1/2" OF 1/2" MESH.
4. SELECT ROCK OR VENEER ROCK APPLY THE MORTAR SETTING BED TO THE ROCK SIDE. APPROX. 2" THICK AND PLACE EACH ROCK ON THE MORTAR FACE.
5. FILL IN THE GAPS BETWEEN THE ROCK VENEERS USING A GROUT BAG. AFTER THE THE FIRMNESS HAS SET THEN USE A BLUNT INSTRUMENT TO RACK OUT THE GAPS.
6. APPLY A MASONRY SEALER FOR ADDITIONAL PROTECTION.



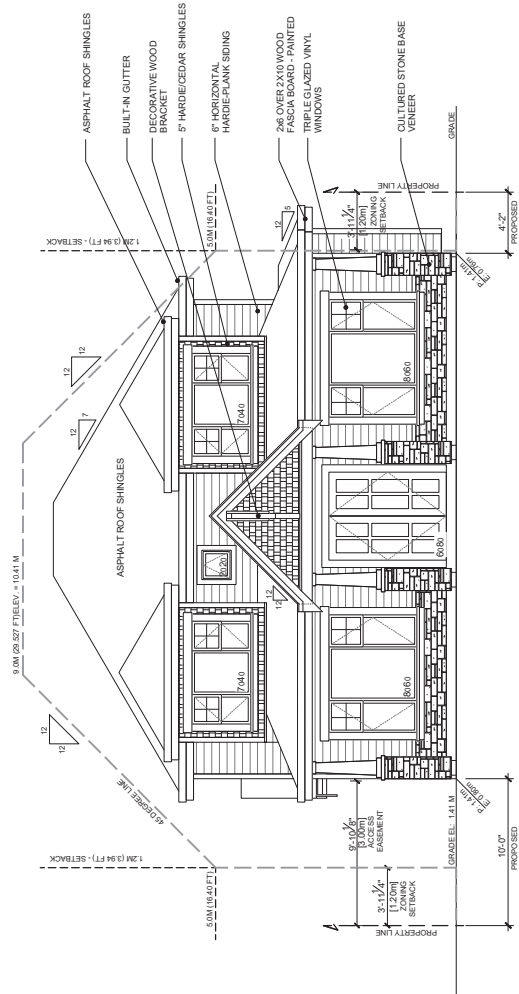
Ventura Design
7480 Williams Rd - Lot 1 - Sh. 5



Ventura Design
7480 Williams Rd. - Lot 1-Sk. 6

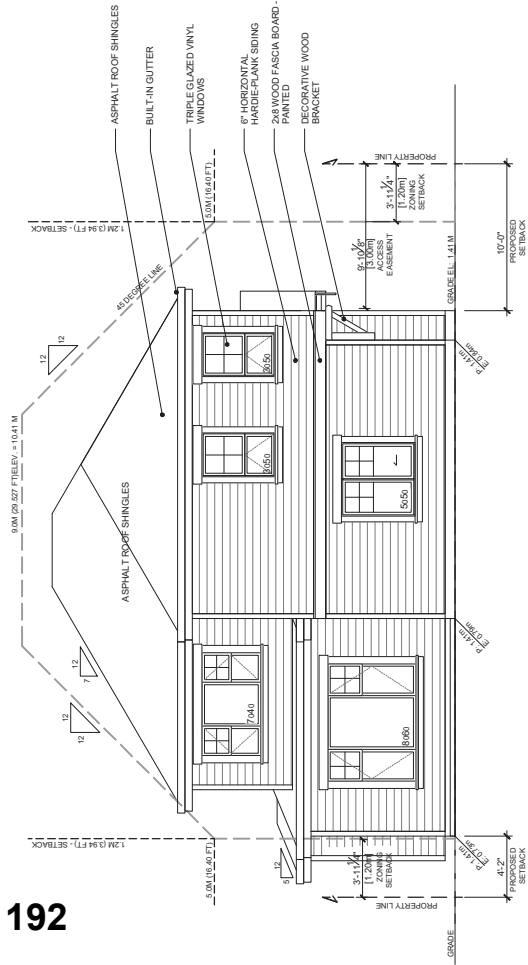
Foundation Plan

Scale 1/4" = 1'-0"



Front (North) Elevation

Scale 1/4" = 1'-0"



Rear (South) Elevation

Scale 1/4" = 1'-0"

CNCL - 192

Diagram illustrating the cross-section of a wall assembly, showing the layers from left to right:

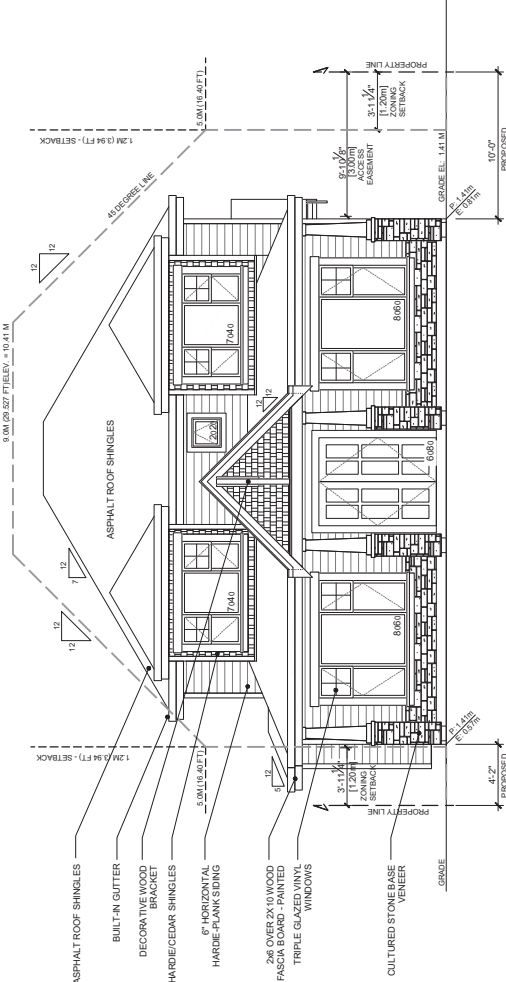
- Sheathing
- Moisture barrier (Felt Paper)
- Galvanized Mesh
- Mortar
- Rock Veneer

APPLICATION

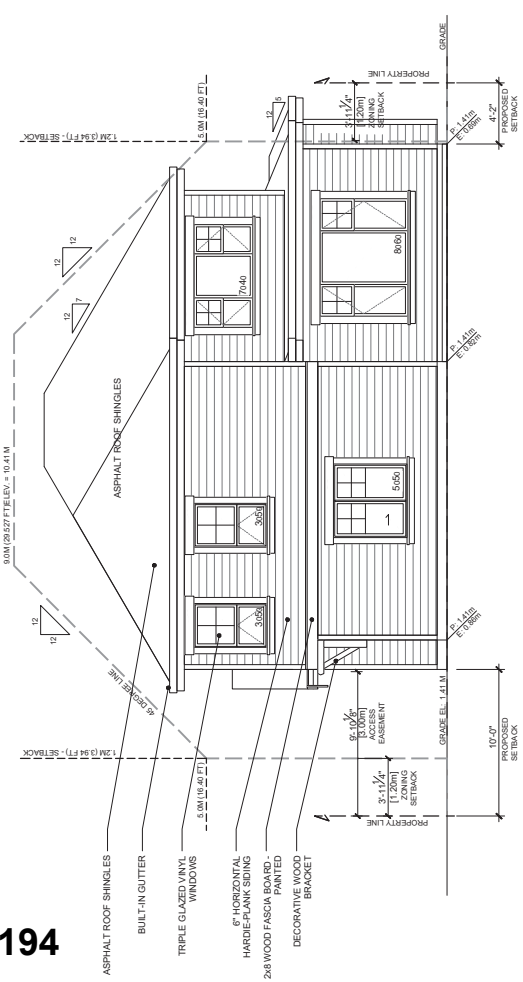
1. APPLY 1/8" (20.3 MM) FELT PAPER USING 2" GALVANISED ROOFING NAILS AT 12" ON CENTER.
2. APPLY 1/8" (20.3 MM) STAPLES.
3. APPLY METAL LATH TO WOOD JAMBS WITH ROOFING NAILS.
4. GALVANISED PLYWOOD SHEATHING USING MIN. 1/4" GALVANISED ROOFING NAILS OR STAPLES.
5. APPLY MORTAR SCATCH COAT, FORCING CORNER INTO THE LATH AND COMPLETELY COVER THE MORTAR.
6. FOR AN OVERALL THICKNESS OF 1", SETTING BED TO THE BACK SIDE. APPROX. 2" THICK AND PLACE GAIRS ROUGH ON THE MORTAR FACE.
7. 5 FILL IN THE GAPS BETWEEN THE ROCK VENEERS USING A GROUT BAG AFTER THE THE FIRMES HAS SET THEN USE A BLUNT INSTRUMENT TO PACK OUT.
8. APPLY A MASONRY SEALER FOR ADDITIONAL PROTECTION.



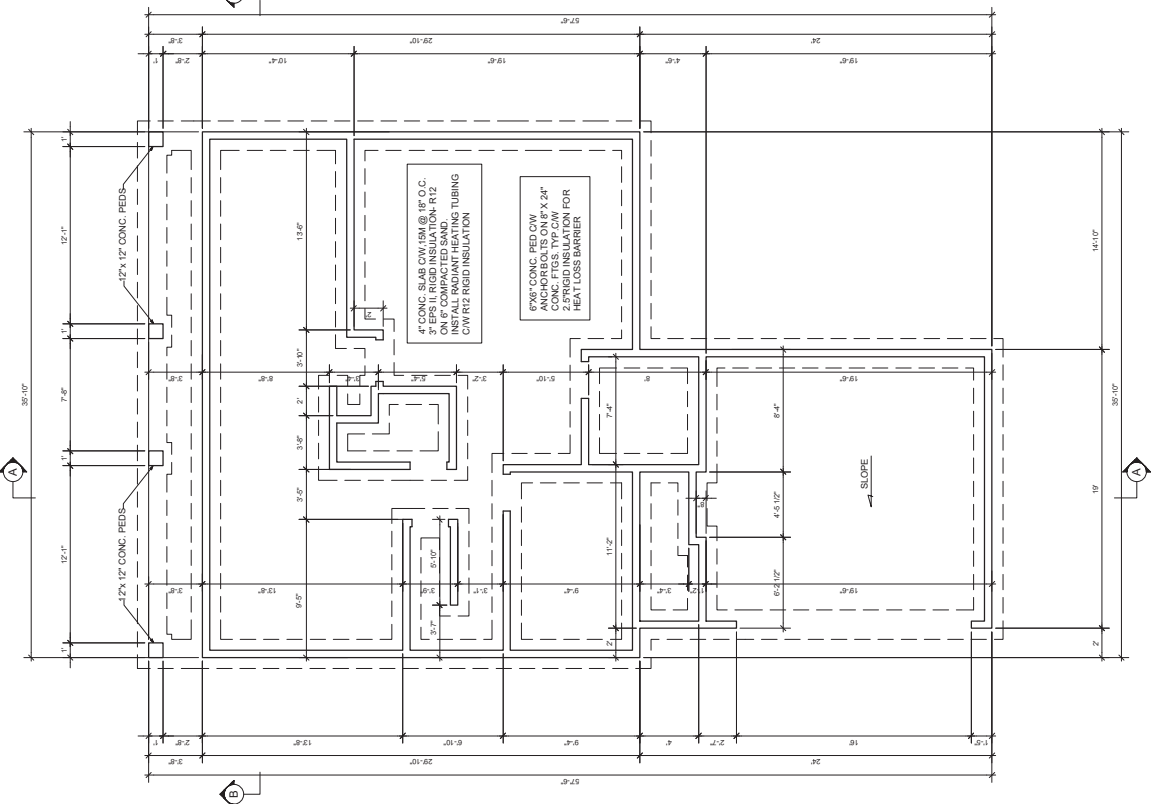
Ventura Design
7480 Williams Rd - Lot 2 - Sh. 5



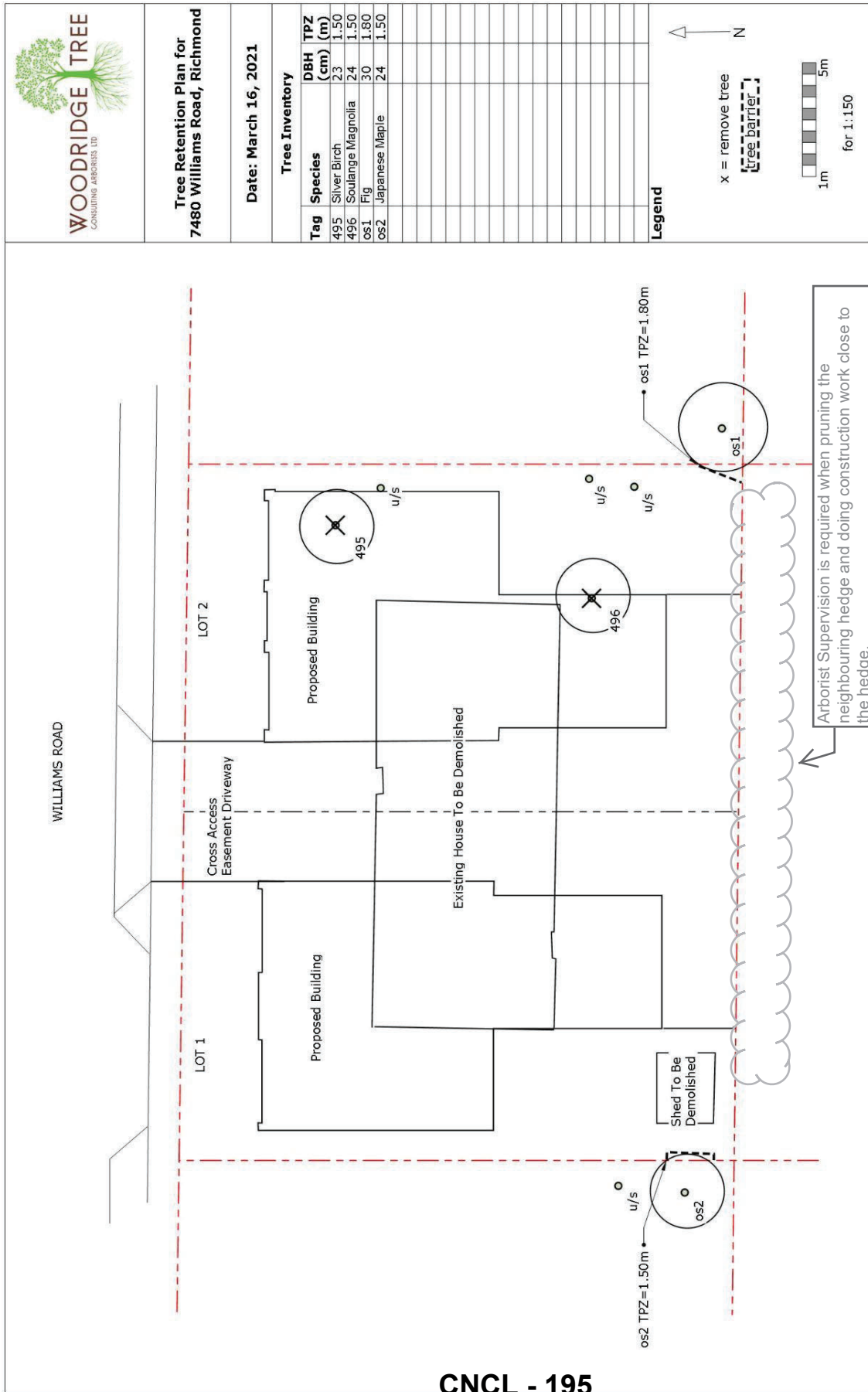
Front (North) Elevation
Scale 1/4" = 1'-0"

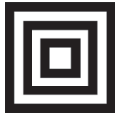


Rear (South) Elevation
Scale 1/4" = 1'-0"



Foundation Plan
Scale 1/4" = 1'-0"





**HOMING
LANDSCAPE
ARCHITECTURE**
VANCOUVER, BC CANADA V6H 1H9
PHONE: 604.681.1111
EMAIL: HOMINGLANDSCAPE@GMAIL.COM

DO NOT SCALE. THE DRAWING IS FOR INFORMATION ONLY. IT IS NOT TO BE USED FOR CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.

Revisions
NO. Date Note
1 2022-05-08 ISSUED FOR REZONING APPLICATION

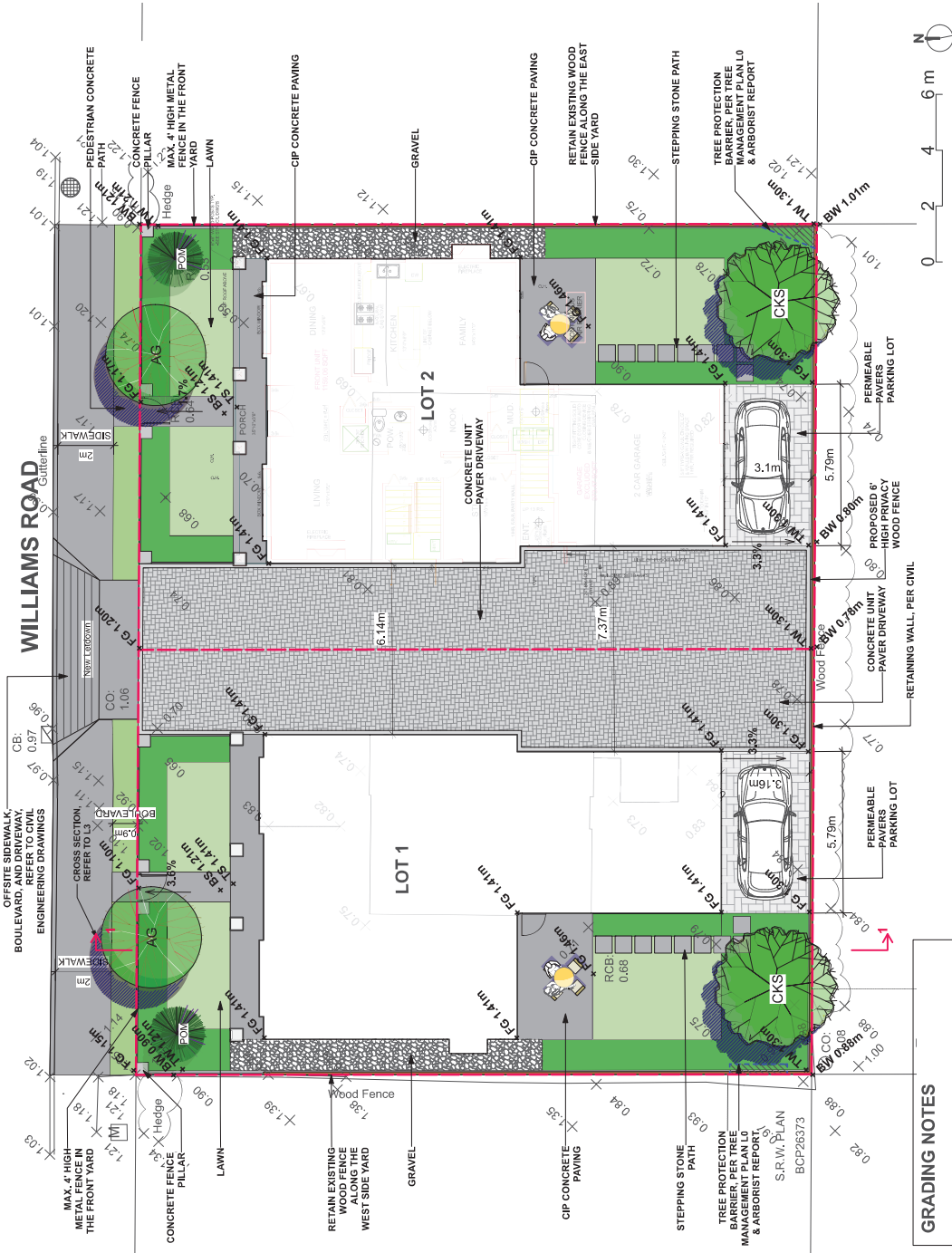
7480 WILLIAMS ROAD

PROJECT ADDRESS:
7480 WILLIAMS ROAD,
RICHMOND, BC CANADA

PROJECT NUMBER: 22-07
SCALE: 1:100
DRAWN BY: EL
REVIEWED BY: EL

Landscape Layout and Grading Plan

L1



LOT COVERAGE SUMMARY:

LOT 1 SITE AREA: 388.16 m²
LOT 1 PLANT MATERIAL AREA: 80.88 m²
LOT 1 PERMEABLE PAVING AREA: 18.20 m²
LOT 1 GRAVEL AREA: 11.71 m²
LOT 1 TOTAL POROUS SURFACE AREA: 115.79 m²
ABOUT 30% OF LOT 1 AREA IS LANDSCAPING WITH LIVE PLANT MATERIALS
ABOUT 30% OF LOT 1 AREA IS POROUS SURFACE

LOT 2 SITE AREA: 388.17 m²
LOT 2 PLANT MATERIAL AREA: 80.84 m²
LOT 2 PERMEABLE PAVING AREA: 18.20 m²
LOT 2 GRAVEL AREA: 11.71 m²
LOT 2 TOTAL POROUS SURFACE AREA: 108.68 m²
ABOUT 30% OF LOT 2 AREA IS LANDSCAPING WITH LIVE PLANT MATERIALS
ABOUT 30% OF LOT 2 AREA IS POROUS SURFACE

GRADING NOTES

1. DO NOT SCALE DRAWINGS.
2. ALL GRADING INFORMATION IS PRELIMINARY ONLY.
3. REFER TO CIVIL DRAWINGS OFF-SITE ROAD GRADING INFORMATION.
4. REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING ELEVATIONS.
5. ALL EXISTING SURVEY INFORMATION APPROXIMATE. VERIFY ALL EXISTING GRADES WITH SITE CONDITIONS. REPORT DISCREPANCIES TO CONSULTANT TEAM PRIOR TO PROCEEDING.
6. THE CONTRACTOR SHALL IDENTIFY AND PROTECT ALL EXISTING UTILITIES AND STRUCTURES. VERIFY ALL UTILITIES FOUND WITH UTILITIES SHALL BE CLARIFIED WITH THE CONSULTANT TEAM PRIOR TO PROCEEDING.
7. UNLESS OTHERWISE NOTED, PROVIDE A MINIMUM 2% SLOPE ON ALL HARD AND SOFT LANDSCAPE AREAS TO ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND TO DRAINAGE STREET CURBS. SOFT LANDSCAPE AREAS TO BE A MINIMUM 0.1% SLOPE.

GRADING LEGEND

KEY	DESCRIPTION
+FG 1.30m	PROPOSED SPOT ELEVATIONS
+TW 1.60m	PROPOSED TOP OF WALL ELEVATION
+BW 1.30m	PROPOSED BOTTOM OF WALL ELEVATION
+TS 1.41m	PROPOSED TOP OF STAIR ELEVATION
+BS 1.21m	PROPOSED TOP OF STAIR ELEVATION
2%	SLOPE PERCENTAGE
Existing Elevation	EXISTING ELEVATIONS, PER SURVEY

LANDSCAPE NOTES

1. DO NOT SCALE DRAWINGS.
2. LAYOUT DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANT DRAWINGS.
3. ALL EXISTING INFORMATION APPROXIMATE ONLY. VERIFY EXISTING GRADES AND DIMENSIONS WITH SITE CONDITIONS. REPORT DISCREPANCIES TO CONSULTANT TEAM PRIOR TO PROCEEDING.
4. THE CONTRACTOR IS TO PROTECT ALL EXISTING UTILITIES, HARD SURFACES, STRUCTURES, WALLS, AND TREES FOR DURATION OF CONSTRUCTION.
5. THE LAYOUT OF ALL PROPOSED LANDSCAPE AND SITE FURNISHINGS ARE TO BE FLAGGED OUT ON-SITE BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
6. ALL OFF-SITE WORKS TO CONFORM TO CITY OF RICHMOND STANDARDS.
7. LAYOUT OF ALL OFF-SITE WORKS, INCLUDING FURNISHINGS, PATHWAYS, WALLS, PLANTING, ETC., TO BE CONFIRMED WITH CITY OF RICHMOND PRIOR TO INSTALLATION.

LANDSCAPE LEGENDS

SYMBOL	MATERIALS
	CIP CONCRETE PAVING
	CONCRETE UNIT PAVER FOR DRIVEWAY
	PERMEABLE PAVER FOR PARKING LOT
	GRAVEL
	LAWN
	PLANTING BED
	6-INCH HIGH WOOD FENCE
	MAX. 4" HIGH METAL FENCE
	STEPPING STONE PATH



DO NOT SCALE THE DRAWINGS. COPYRIGHT RESERVED. IF A DISCREPANCY OCCURS BETWEEN THE DRAWINGS AND THE SPECIFICATIONS OR ANY OTHER DOCUMENT ASSOCIATED WITH THE PROJECT, THE CONFLICT SHALL BE REPORTED IN WRITING TO THE LANDSCAPE ARCHITECT TO OBTAIN CLARIFICATION AND APPROVAL BEFORE PROCEEDING WITH WORK.

NO.	Date	Revisions
1	2022-06-08	<p>NOTE</p> <p>ISSUED FOR REZONING APPLICATION</p>

**7480 WILLIAMS
ROAD**

PROJECT ADDRESS:
7480 WILLIAMS ROAD,
RICHMOND, BC, CANADA

PROJECT NUMBER: 22-07
SCALE: 1:100
DRAWN BY: EL
REVIEWED BY: EL

Planting Plan & Plant List

L2



PLANTING NOTES:

- 1) In case of discrepancy between plant numbers on this list and on the plan, the latter shall prevail.
- 2) All planting shall be in accordance with CSA Landscape Standard, latest edition.
- 3) The Landscape Contractor shall ensure that the on-site planting medium/soil meets the specification and recommendations of the soil analysis taken at the time of Substantial Completion. All recommendations of the soil analysis shall be executed prior to Final Acceptance of the Landscape works by the Consultant and the municipal authorities.
- 4) Minimum planting medium depths:
 lawn - 67150mm
 groundcover - 127300 mm
 shrubs - 187450 mm
 trees - 277600 mm (ground & beneath rootball)
- 5) All plant material to be supplied on the job site must be obtained from a nursery participating in the BC/LNA Phytophthora removal Certification Program.

ON-SITE PLANT LIST										
ID	Latin Name		Common Name	Quantity	Scheduled Size	Notes				
TREES (DECIDUOUS & CONIFEROUS)										
OS POM	OS	Acer spicatum	Peach-bark Maple	2	5m x d					
	OS	Quercus laevis 'Strom'	Pink Japanese Downwood		8m call	replacement trees				
	POM	Picea canadica	Sitka Spruce	2	4,0m Height	replacement trees				
SHRUBS										
A-1 B-4 Vot	A-1	Azalea japonica 'Gumpo Pink'	Gumpo Pink Azalea	10	#2 pot					
	B-4	Rhododendron 'M.M'	Rhododendron 'M.M'	24	#3 pot					
	B-4	Hydrangea paniculata	Hydrangea paniculata	10	#2 pot					
	Vot	Vaccinium ovatum 'Thunderbolt'	Thunderbolt Evergreen huckleberry	10	#2 pot					
PERENNIALS & GROUNDCOVERS										
B-4 B-4	B-4	Lavandula angustifolia	English Spike Lavender	13	#2 pot					
	B-4	Indigojardinium muratum	Western sword fern	28	#1 pot					
ORNAMENTAL GRASSES & BAMBOOS										
B-4 B-4	B-4	Carex morrowii 'Ice Dance'	Ice Dance Japanese Sedge	60	#1 pot					
	B-4	Isachnecha misra 'Aurea'	Golden Japanese Forest Grass	28	#1 pot					
VINES										



DO NOT SCALE THE DRAWINGS. COPYRIGHT RESERVED. IF A DISCREPANCY OCCURS BETWEEN THE DRAWINGS AND THE SPECIFICATIONS OR ANY OTHER DOCUMENT ASSOCIATED WITH THE PROJECT, THE CONFLICT SHALL BE REPORTED IN WRITING TO THE LANDSCAPE ARCHITECT TO OBTAIN CLARIFICATION AND APPROVAL BEFORE PROCEEDING WITH WORKS.

NO.	Date	Revisions	Note
1	2022-05-08		ISSUED FOR REZONING APPLICATION

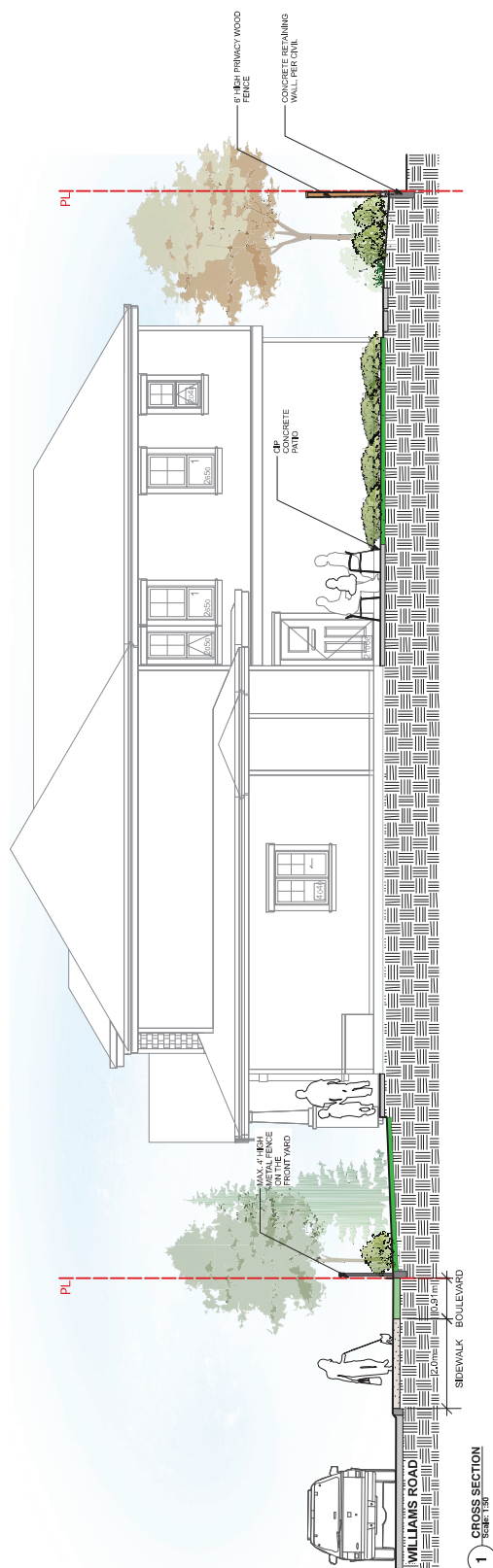
**7480 WILLIAMS
ROAD**

PROJECT ADDRESS:
7480 WILLIAMS ROAD,
RICHMOND, BC, CANADA

PROJECT NUMBER: 22-07
SCALE: AS SHOWN
DRAWN BY: EL
REVIEWED BY: EL

Cross Section and Details

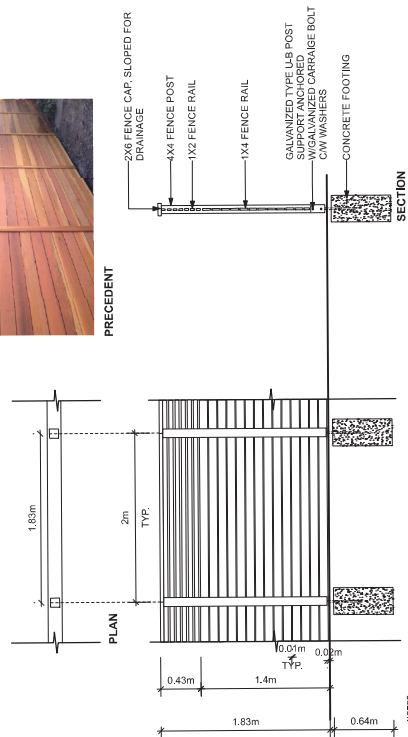
L3



1 **CROSS SECTION**
Scale: 1:50



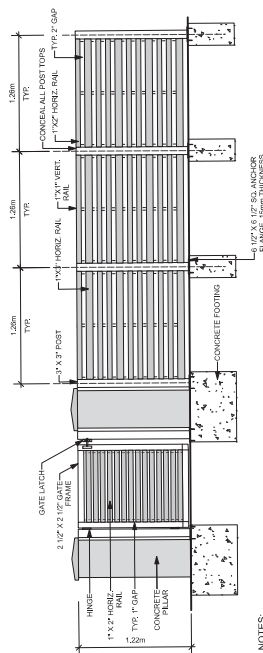
PROVIDE SHOP DRAWINGS FOR APPROVAL BY CONSULTANT PRIOR TO FABRICATION AND INSTALLATION OF FENCE.



NOTES:

- ALL WOOD EXPOSED TO VIEW SHALL BE A HARD BETTER CLEAR CEDAR.
- ALL WOOD SHALL BE STRAIGHT, SOUND, AND FREE OF SPLITS, WARPS, CRACKS, LARGE KNOTS, AND OTHER DEFECTS.
- ALL WOOD PRESERVATIVE TO BE USED SHALL BE OLYMPC MAXIMUM WATERPROOFING SEALANT, CEDAR TINT*.
- ALL CUTS TO BE SQUARE AND CLEAN.
- ALL METAL FIXTURES TO BE GALVANIZED (OR WHEN NOT - STAINLESS STEEL).
- ALL STRUCTURAL FASTENERS TO BE GALVANIZED CARNAIGE BOLTS (IE. TRULLIS AND GAYE)

3 6' HIGH WOOD PRIVACY SCREEN
Scale: 1/2" = 1'-0"



NOTES:
1. FENCE COLOR TO BE BLACK.
2. ALL METAL FASTENERS AND POST ANCHORS SHALL BE STAINLESS STEEL.
3. HILT KWIK BOLT FOR ALL ANCHOR BASE PLATES.

2 **4' HIGH ALUMINUM FENCE AND GATE**
Scale: 1:25



Address: 7480 Williams Road

File No.: RZ 21-930951

Prior to final adoption of Richmond Zoning Bylaw 8500, Amendment Bylaw 10404, the developer is required to complete the following:

1. Submission of a final Landscape Plan, prepared by a Registered Landscape Architect, to the satisfaction of the Director of Development, and deposit of a Landscaping Security based on 100% of the cost estimate provided by the Landscape Architect (including fencing, paving, and installation costs). The Landscape Plan should:
 - Comply with the applicable guidelines of the OCP's Arterial Road Policy and should not include hedges along the front property line;
 - Include a mix of coniferous and deciduous trees;
 - Include the dimensions of tree protection fencing as illustrated on the Tree Retention Plan attached to this report; and
 - Include the required minimum (4) replacement trees.
2. Submission of a Contract entered into between the applicant and a Certified Arborist for supervision of any on-site works conducted within the tree protection zone of the off-site trees to be retained on the neighbouring property to the west (7468 Williams Road) and east (7488 Williams Road) (Trees #os1 and os2), and any pruning required for the hedge to south along the south property line (7471 Nevis Drive). The Contract should include the scope of work to be undertaken, including: the proposed number of site monitoring inspections, and a provision for the Arborist to submit a post-construction assessment report to the City for review.
3. Registration of a flood indemnity covenant on Title (2.9 m GSC – Area A).
4. Registration of a legal agreement on title to ensure that, upon subdivision of the property, the sole access to the site is from the proposed shared driveway.
5. Registration of a legal agreement on title to ensure that the plans at Building Permit stage are generally consistent with the site plan, architectural elevation plans, and landscape plan included in Attachment 4 and 6 to this report.

At Demolition* stage, the following must be completed:

- Installation of tree protection fencing on-site around the off-site trees to be retained on the neighbouring property to the west (7468 Williams Road) and east (7488 Williams Road) (Trees #os1 and os2). Tree protection fencing must be installed to City standard in accordance with the City's Tree Protection Information Bulletin TREE-03. Tree protection fencing must be installed prior to demolition of the existing dwelling and must remain in place until construction and landscaping on the proposed lots is completed.

At Subdivision* stage, the following must be completed:

- Payment of Development Cost Charges (City and GVS & DD), School Site Acquisition Charge, and Address Assignment Fee.
- Registration of a cross-access easement on title to grant each property the right to use the shared driveway for access.
- The granting of a 3.0 m wide Statutory Right-of-Way (SRW) for the sanitary sewer along the south property line, from the west property line of the subject site to the east edge of the proposed shared driveway.
- Enter into a Servicing Agreement* for the design and construction of engineering infrastructure improvements and frontage works. A Letter of Credit or cash security for the value of the Service Agreement works, as determined by the City, will be required as part of entering into the Servicing Agreement. Works include, but may not be limited to,

Water Works:

- a) Using the OCP Model, there is 324 L/s of water available at a 20 psi residual at the Williams Road frontage. Based on your proposed development, your site requires a minimum fire flow of 95 L/s.
- b) At Developer's cost, the Developer is required to:
 - i) Submit Fire Underwriter Survey (FUS) or International Organization for Standardization (ISO) fire flow calculations to confirm development has adequate fire flow for onsite fire protection. Calculations must be signed and sealed by a Professional Engineer and be based on Building Permit Stage building designs.
 - ii) Cut and cap at main the existing water connection and remove water meter on the Williams Road frontage.
 - iii) Install two new service connections complete with water meters per City standards on the Williams Road frontage to service Lot A and Lot B.
 - iv) Provide a SRW for the water meter. Minimum SRW dimensions to be the size of the meter box (from the City of Richmond supplementary specifications) + any appurtenances (for example, the bypass on W2o-SD) + 0.5 m on all sides. Exact SRW dimensions to be finalized during the building permit process (or via the servicing agreement process, if one is required).
- c) At Developer's cost, the City will:
 - i) Complete all tie-ins for the proposed works to existing City infrastructure.

Storm Sewer Works:

- d) At Developer's cost, the Developer is required to:
 - i) Provide an erosion and sediment control plan for all on-site and off-site works, to be reviewed as part of the servicing agreement design.
 - ii) Inspect existing storm service connections on the north property line of Lot A and Lot B. Reuse if in good condition to service Lot A and Lot B.
- e) At Developer's cost, the City will:
 - i) Complete all tie-ins for the proposed works to existing City infrastructure.

Sanitary Sewer Works:

- f) At Developer's cost, the Developer is required to:
 - i) Not start onsite excavation or foundation construction until completion of rear-yard sanitary works by City crews.
 - ii) Provide a 3m wide utility SRW along the south property line to contain the proposed sanitary main.
 - iii) Install a new sanitary line 200mm diameter PVC aligned east-west approximately 15m complete with a manhole located at the common property line of Lot A and Lot B.

- iv) Install a new dual sanitary sewer service connection near the south common property line to service Lot A and Lot B.
- v) Cut and cap the existing sanitary sewer service connection near the southwest corner of Lot A.
- g) At Developer's cost, the City will:
 - i) Complete all tie-ins for the proposed works to existing City infrastructure.

Street Lighting:

- h) At Developer's cost, the Developer is required to:
 - i) Review street lighting levels along all road and lane frontages, and upgrade as required.

Frontage Works:

- i) Closing the existing driveway crossing and installing a new single shared driveway crossing centered on the proposed common property line.
- j) A functional design of the frontage is required demonstrating the correct width of the driveway in accordance with Engineering Design Specifications (min. 6.0 m and 7.5 m max.).
- k) A new curb and gutter and min. 1.5m wide concrete sidewalk behind new curb along the site's frontage. Utility pole relocations may be required to allow for proper sidewalk clearance. The area behind the sidewalk to the property line is to be landscaped boulevard.

General Items:

- l) At Developer's cost, the Developer is required to:
 - i) Complete other frontage improvements as per Transportation requirements (above).
 - ii) Not encroach into City SRWs with any proposed trees, retaining walls, or other non-removable structures. Retaining walls proposed to encroach into SRWs must be reviewed by the City's Engineering Department.

At Building Permit* Stage, the developer must complete the following requirements:

- Plans must comply with all City regulations, including zoning, and plans must be generally consistent with the site plan, architectural elevation plans, and landscape plan included in Attachment 4 and 6 of this report, in accordance with the legal agreement registered on title at rezoning stage.
- Submission of a Construction Parking and Traffic Management Plan to the Transportation Division. The Plan shall include location for parking for services, deliveries, workers, loading, application for any lane closures, and proper construction traffic controls as per Traffic Control Manual for works on Roadways (by Ministry of Transportation) and MMCD Traffic Regulation Section 01570.
- Obtain a Building Permit (BP) for any construction hoarding. If construction hoarding is required to temporarily occupy a public street, the air space above a public street, or any part thereof, additional City approvals and associated fees may be required as part of the Building Permit. For additional information, contact the Building Approvals Division at 604-276-4285.

Note:

- * This requires a separate application.
- Where the Director of Development deems appropriate, the preceding agreements are to be drawn not only as personal covenants of the property owner but also as covenants pursuant to Section 219 of the Land Title Act.

All agreements to be registered in the Land Title Office shall have priority over all such liens, charges and encumbrances as is considered advisable by the Director of Development. All agreements to be registered in the Land Title Office shall, unless the Director of Development determines otherwise, be fully registered in the Land Title Office prior to enactment of the appropriate bylaw.

The preceding agreements shall provide security to the City including indemnities, warranties, equitable/rent charges, letters of credit and withholding permits, as deemed necessary or advisable by the Director of Development. All agreements shall be in a form and content satisfactory to the Director of Development.

- Additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering may be required including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.
- Applicants for all City Permits are required to comply at all times with the conditions of the Provincial *Wildlife Act* and Federal *Migratory Birds Convention Act*, which contain prohibitions on the removal or disturbance of both birds and their nests. Issuance of Municipal permits does not give an individual authority to contravene these legislations. The City of Richmond recommends that where significant trees or vegetation exists on site, the services of a Qualified Environmental Professional (QEP) be secured to perform a survey and ensure that development activities are in compliance with all relevant legislation.

Signed

Date



**Richmond Zoning Bylaw 8500
Amendment Bylaw 10404 (RZ 21-930951)
7480 Williams Road**

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

1. The Zoning Map of the City of Richmond, which accompanies and forms part of Richmond Zoning Bylaw 8500, is amended by repealing the existing zoning designation of the following area and by designating it **“COACH HOUSE (ZS12) – BROADMOOR”**.

P.I.D. 003-602-206

Lot 20 Section 32 Block 4 North Range 6 West New Westminster District Plan 17380

2. This Bylaw may be cited as **“Richmond Zoning Bylaw 8500, Amendment Bylaw 10404”**.

FIRST READING

PUBLIC HEARING

SECOND READING

THIRD READING

OTHER CONDITIONS SATISFIED

ADOPTED

CITY OF RICHMOND
APPROVED by <i>A</i>
APPROVED by Director or Solicitor <i>J. H.</i>

MAYOR

CORPORATE OFFICER



City of Richmond

Report to Committee

To: Planning Committee

Date: July 4, 2022

From: Wayne Craig
Director of Development

File: AG 20-914852

Re: **Agricultural Land Reserve Exclusion Application by Montrose Industries Ltd. at 7011 No. 7 Road & PID 024-397-423**

Staff Recommendation

1. That authorization for Montrose Industries Ltd. to forward an Exclusion Application to the Agricultural Land Commission for removal of 7011 No. 7 Road & PID 024-397-423 from the Agricultural Land Reserve (ALR) be denied.
2. That staff be directed to prepare a letter signed by the Mayor to the Minister of Agriculture, Minister of Environment, Richmond Members of Legislative Assembly (MLAs) and the Premier of BC requesting the Provincial Government consider all options to allow the existing landfill at the site to operate in the ALR under a non-farm use approval.

Wayne Craig
Director, Development
(604-247-4625)

WC:sds
Att. 7

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Policy Planning	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	

Staff Report

Origin

Montrose Industries Ltd., previously known as Ecowaste Industries Ltd., has applied to exclude 60 hectares (150 acres) of land comprised of 7011 No. 7 Road & PID 024-397-423 from the Agricultural Land Reserve (ALR). A location map and aerial photograph are provided in Attachment 1. The subject site is currently occupied by an active landfill operated by Montrose Industries Ltd. The subject site is located in the ALR, designated “Agriculture (AGR)” in the City’s Official Community Plan (OCP), and zoned “Agriculture (AG1)”.

The primary assessment criteria for this type of application is to review the proposal against the City’s existing land use policies related to the ALR and the City’s agricultural land base. The City’s OCP and Farming First Strategy are founded on the principle of maintaining the ALR land base and encouraging agricultural uses. This has been achieved through previous non-farm use applications at the site, which require the site to remain in the ALR and be remediated to a state capable of soil-based agriculture upon closure of the landfill.

The subject application is proposing to remove the site from the ALR, which is contrary to fundamental policies in the OCP and Farming First Strategy. In addition, the proposed exclusion does not provide significant benefits to agriculture, especially when compared to the significant financial gain that is likely to be achieved should the lands be excluded from the ALR and ultimately used for urban uses (e.g. industrial).

The landfill has been permitted to operate within the ALR since 1993 and the existing approvals ensure the land can be used for soil-based agricultural purposes once the landfill is decommissioned. The Agricultural Land Commission (ALC) has advised landfills can no longer be considered via a non-farm use application due to the passage of Bill 52, which prohibits construction waste debris as a permitted fill material within the ALR. City staff recognize the intent of this legislation, however; staff do not believe this legislation should apply to existing authorized landfill sites in the ALR prior to the adoption of this Bill. Staff recommend letters be sent to the Minister of Agriculture, Minister of Environment, Richmond Members of Legislative Assembly (MLAs) and the Premier of BC requesting the Provincial Government to consider all options to allow the existing landfill to operate in the ALR under a non-farm use approval. This would allow the landfill to continue to operate under conditions acceptable to the City and the ALC and also maintain the current ALR boundary and the requirement that the lands be remediated to a state capable of soil-based agriculture after the term has ended, consistent with existing City policy.

Background

There have been a number of approvals from Council and the ALC since the original approval for the landfill to operate in the ALR was granted, which are summarized in Attachment 2.

The applicant submitted the subject exclusion application prior to the September 30, 2020 deadline for individual landowners to submit exclusion applications to the ALC. As a result of *Bill 15 – 2019: Agricultural Land Commission Amendment Act*, only the Provincial Government,

Local or First Nation governments or prescribed public bodies may make exclusion applications now.

The applicant has indicated that the purpose of the subject exclusion application is to remove the properties from the ALR in order to continue the landfill operation. The applicant has provided a letter indicating the purpose and rationale for the proposal, which is included in Attachment 3.

As the proposed removal of the subject site from the ALR is contrary to fundamental policies in the City's OCP and Farming First Strategy, staff are recommending that the application be denied. The subject exclusion application will not proceed to the ALC unless authorized by City Council. Should Council deny the application, the ALR exclusion would not proceed any further.

City Council most recently demonstrated their commitment to maintaining the City's ALR boundary in 2020 when City Council denied a request to exclude 3 properties on Burrows Road involving approximately 5.6 hectares (13.8 acres) of land from the ALR (AG 19-855723 / AG 19-855800 / AG 19-855911).

Findings of Fact

A Development Application Data Sheet providing details regarding the development proposal is attached (Attachment 4).

Surrounding Development

To the North: Across the Granville Avenue unopened road allowance, properties zoned "Agriculture (AG1)", designated "Agriculture (AGR)" in the Official Community Plan (OCP) and located in the Agricultural Land Reserve (ALR), and a drainage canal designated Riparian Management Area (RMA).

To the South: Across Blundell Road, property zoned "Industrial (I)" and designated "Industrial (IND)" in the OCP. A Development Permit (DP 11-566011) was issued in 2017 to permit a 65 ha (161 acre) Industrial Logistics Park. A Development Variance Permit (DV 19-869780) was also issued in 2020 to increase the permitted building height for one of the buildings.

To the East: Across the No. 7 Road unopened road allowance, land designated "Industrial (IND)" in the OCP, and a drainage canal designated RMA. This area is under federal jurisdiction (Port Metro Vancouver).

To the West: Across the Savage Road unopened road allowance, properties zoned "Golf Course (GC)" and "Agriculture (AG1)", designated "Agriculture (AGR)" in the OCP and located in the ALR.

Related Policies & Studies

Official Community Plan / Farming First Strategy

The Official Community Plan (OCP) land use designation for the subject site is "Agriculture (AGR)", which comprises those areas of the City where the principal use is agriculture and food

production, but may include other uses as permitted under the *Agricultural Land Commission Act* (ALCA) (e.g. non-farm uses approved by Council and ALC).

The proposal to exclude the lands is inconsistent with the land use designation and the following policies:

OCP Policy / Farming First Strategy	Subject Application
Maintain the existing ALR boundary and do not support a loss of ALR land.	<ul style="list-style-type: none"> The proposal includes removing approximately 60 hectares (150 acres) from the ALR. The proposal does not include adding any land to the ALR so there is no off-set to the loss of ALR land. Removal of the properties from the ALR would result in a net loss of total ALR land. There are multiple other large ALR land holdings in the immediate vicinity, including land that is owned by Port Metro Vancouver. Excluding the subject site from the ALR will likely generate additional pressure for these lands to be used for industrial purposes.
Continue to encourage the use of the ALR land for farming and discourage non-farm uses.	<ul style="list-style-type: none"> The current ALC non-farm use approval allows the landfill operation to continue until the approved term (2035). The City and ALC non-farm use approvals granted to date require the site to be remediated to a state capable of soil-based agriculture after the term has ended (Class 2A with irrigation and drainage). The purpose of the application is to remove the properties from the ALR. If the land is removed from the ALR, the likelihood that the site will be returned to agricultural production as required by the current non-farm use approval will be diminished. Removing the lands from the ALR will create pressure for the site and other surrounding properties to be used for non-agricultural purposes.
Coordinate with Metro Vancouver to support the Regional Growth Strategy, which includes agricultural designations and policies for protection of agricultural land.	<ul style="list-style-type: none"> The properties are designated "Agricultural" in the Metro Vancouver Regional Growth Strategy. Excluding the land from the ALR is not consistent with the regional land use designation. The current land fill operation is permitted through a non-farm use application which supports the Agricultural designation. Exclusion from the ALR for the purpose of operating a land fill would be an urban use, which will likely require an amendment to the 2040 Metro Vancouver Regional Growth Strategy land use designation and urban containment boundary. The applicant delegated to the Metro Vancouver Zero Waste Committee meeting on July 16, 2021 in an effort to have Metro Vancouver express support for a change to the ALR regulations. Metro Vancouver staff provided a follow up report to the committee on November 17, 2021. The staff report indicated that Metro Vancouver has no authority with respect to ALC regulations and recommended that the no position be taken on the request. The committee received the report for information.

Agricultural Land Commission Act (ALCA)

As per the *Agricultural Land Commission Act* (ALCA), the purpose of the Commission includes the following:

- To preserve the Agricultural Land Reserve.
- To encourage farming of land within the agricultural land reserve in collaboration with other communities of interest.
- To encourage local governments to enable and accommodate farm use of land within the agricultural land reserve and uses compatible with agriculture in their plans, bylaws and policies.

In order to fulfill its purposes, the Commission must give priority to protecting and enhancing all of the following:

- The size, integrity and continuity of the land base of the agricultural land reserve.
- The use of the Agricultural Land Reserve for farm use.

As per the ALR General Regulation, the applicant was required to complete the following as part of the exclusion application submission to the ALC:

- Advertise the application on two separate occasions in a newspaper in general circulation in the municipality where the property under application is located.
- Serve a signed copy of notice to all registered owners of land in the ALR that share a common boundary with the property, including owners of ALR property separated by a public road.
- Installation of exclusion application signage.

The applicant has satisfied these requirements as per the ALR General Regulation. Staff have not received any correspondence from the public regarding the application.

Food Security and Agricultural Advisory Committee

The subject exclusion application was not referred to the Food Security and Agricultural Advisory Committee (FSAAC) as the application is contrary to existing City policy and staff are recommending the application be denied.

Analysis

Previous Non-Farm Use Applications

Due to the repeal of the Soil Conservation Act and incorporation of soil removal/fill regulations into the ALC Act, Ecowaste Industries Ltd. applied for a non-farm use application (AG 14-654361), which was approved by Council and the ALC in 2015, to permit the following:

- Development of four material recovery facilities related to the existing landfill operation.
- Continued operation of the existing landfill to an ultimate height of 18 m, for a period of 20 years (term ending in 2035).

In 2019, the applicant submitted another non-farm use application (AG 19-863866), in order to:

- Expand one of the previously approved material recovery facilities and replace the operator.
- Add two new material recovery facilities to the four facilities previously approved, for a total of six material recovery facilities.
- Add 20 years to the previously approved term to allow landfill activities to continue until 2055.
- No change to the ultimate landfill height of 18 m was requested.

Council endorsed and authorized the application to be forwarded to the ALC on February 10, 2020. The ALC's decision (Resolution #504/2020), dated October 19, 2020, approved the expansion of the material recovery facility and addition of two new material recovery facilities, but denied the term extension due to legislative changes regarding fill placement and the definition of prohibited fill in the ALR, which now includes demolition and construction waste. Montrose Industries Ltd. has also submitted a Zoning Text Amendment application (ZT 21-922710) to allow the material recovery facilities, but has been put on hold by the applicant until the matter of the operational term of the landfill has been resolved.

Following the ALC's decision to deny the term extension, staff had multiple discussions with the applicant regarding whether they intended to request that the ALC reconsider their decision. The applicant informed staff that they did not intend to submit a reconsideration request of the ALC's decision. As a result, on February 8, 2021, Council authorized staff to request a reconsideration of the ALC's decision to deny the term extension of the landfill and staff subsequently submitted a formal reconsideration request to the ALC. However, as per the ALC decision letter dated October 1, 2021, the ALC indicated that the City's reconsideration would not be considered.

The Mayor, on behalf of Council, also wrote the Minister of Agriculture requesting that the Minister review the reconsideration request. The Minister of Agriculture responded to the Mayor's letter indicating that no action would be undertaken while the reconsideration request was being considered by the ALC. Following the ALC's decision indicating that the ALC would not reconsider their decision regarding the term extension, the Mayor sent a follow-up letter to the Minister of Agriculture requesting that a review of the regulations occur to allow the ALC to consider the extension of the landfill term. The Minister provided a response to the Mayor's letter on March 29, 2022 indicating that the Ministry is looking into the matter and encouraging the affected parties to exhaust all available avenues to resolve the issue (Attachment 5).

Landfill Capacity and Design, Operations and Closure Plan

The applicant advised staff on May 3, 2022 that the landfill will reach the currently approved capacity limit much sooner than originally anticipated as the applicant has not proceeded with the construction of the material recovery facilities due to the uncertainty regarding the landfill term. The combination of not adding additional recycling capacity and an increase in volume of material received will result in the landfill reaching capacity in the near future (estimated 2025 based on the current 18m height limit).

The applicant advised that a new Design, Operations and Closure Plan (DOCP) was submitted to the Ministry of Environment (MOE) in February of 2022. City Staff requested that the applicant provide a copy of the material submitted to MOE, however, the applicant declined to provide the information. City Staff subsequently reached out to MOE and through MOE staff, the applicant provided a copy of the DOCP. The DOCP indicates that the applicant is seeking a substantial vertical expansion of the landfill that would see the final fill height increased from the currently approved 18 m height limit to 28 m and the term of the landfill extended to 2060. Cross-sections illustrating the proposed height increase and impacts to adjacent properties are provided in Attachment 6.

The DOCP is inconsistent with City and ALC approvals granted to date and was submitted to MOE without any consultation with the City or the ALC. The placement of fill within the ALR requires City Council and ALC approval. As a result, the Mayor, on behalf of Council, delivered a letter dated June 22, 2022 to the Minister of Environment, Minister of Agriculture and Richmond MLAs indicating that the DOCP is inconsistent with City Council and ALC approvals and requested that it be set aside or rejected. As of the date of this report, no response has been received.

Proposed Exclusion

Montrose Industries Ltd. has submitted an Agricultural Land Reserve (ALR) exclusion application to remove the following properties from the ALR (“subject site”):

- 7011 No. 7 Road – 132.5 acres (53.6 ha); and
- PID 024-397-423 – 17.5 acres (7.1 ha).

The applicant has indicated that the purpose of the subject exclusion application is to remove the properties from the ALR in order to continue the landfill operation beyond the approved term. The applicant also submitted a compensation package as part of the exclusion application, including the following:

- put into agricultural production two properties currently in the ALR and designated for agricultural use, owned by Montrose Industries Ltd. (6871 No. 7 Road & PID 003-574-229) (total area of the two parcels is approximately 77.5 ac (31.4 ha)).
- make a financial contribution towards City infrastructure projects that improves drainage and farm access in other parts of the City in the amount of \$25,000/acre for a total of \$3.75 million.
- establish a natural wetlands on a portion of the property at 8060 No. 6 Road (10 ha of the 32 ha site) as permitted under the ALCA and ALR Regulations for a 30 year term and contribute \$1 million towards the cost of constructing the wetlands.

The applicant has provided a letter to the City outlining the proposed package as part of the exclusion application, which is provided in Attachment 7.

Staff Assessment

Land-Use Policy Assessment

The proposed exclusion application includes removing approximately 150 acres (60 hectares) of land from the ALR and does not include adding any land into the ALR. Staff do not support the proposal for the following reasons:

- **Land is designated for farming:** the subject site is located within the ALR and is designated “Agriculture” in the City’s OCP and the Metro Vancouver Regional Growth Strategy (RGS). The subject site is located outside the urban containment boundary identified in the OCP and RGS. If the subject site were to be excluded from the ALR, the existing landfill operation would not be consistent with the “Agricultural” OCP designation as there would no longer be an associated ALR non-farm use approval and the landfill operation would be considered an urban use. Prior to urban uses being considered, an amendment to the City’s OCP and an application to Metro Vancouver to change the designation and urban containment boundary would likely be required. Removing the properties from the ALR is contrary to the objectives of the RGS and OCP to protect these areas from urban development.
- **Future use of the lands for agriculture:** the conditions associated with the ALC non-farm use approval for the current landfill operation require the site to be remediated to a state capable of supporting soil-based agriculture after the term has ended. Removing the subject site from the ALR would also remove the conditions associated with the non-farm use approval. The property owner would no longer be required to remediate the site to an agricultural state after closure of the landfill. Removing the land from the ALR will also create pressure for it to be used for non-agricultural purposes.
- **Protection of farmland is a high priority:** the City’s OCP and Farming First Strategy include policies to maintain the existing ALR boundary and do not support a loss of ALR land. This includes ALR land currently used for agriculture, as well as currently unused for farming, but which can be farmed in the future. The subject properties have the potential to be actively farmed with improvements to the land as per the conditions associated with the current non-farm use approval. The subject exclusion application would result in a loss of approximately 150 acres (60 hectares) of ALR land.

Land Value Escalation and Speculation

Removing the properties from the ALR will put significant pressure on the lands to convert to other uses (e.g. industrial) upon closure of the landfill. The exclusion of the site from the ALR will place added pressure on surrounding agricultural lands to be used for non-agriculture purposes. Removing the land from the ALR may also lead to increased agricultural land speculation, which could have detrimental effects on the City’s agricultural land base. In accordance with the City’s Industrial Land Intensification Initiative (ILII), the City is focused on intensify the use of existing industrial land, rather than expanding into non-industrial areas (specifically agricultural).

Staff received third party advice from an appraiser regarding the extent of land value increase that would occur should the land be excluded from the ALR. If the land is removed from the ALR and rezoned for landfill purposes, the land would have to be designated for industrial use, which would result in a substantial increase in value. Industrial land values are between \$4-11 million per acre while agricultural land sells between \$0.4-1.3 million per acre. Given the size of the site and the potential tenfold increase in value, the ALR exclusion has the potential to generate a gross land lift of approximately \$500 million to \$1.5 billion. The ultimate land value increase would vary based on the extent of services available to the site but given the subject site is adjacent to existing industrial development, it is likely the potential gross land lift would be on the high end of the scale.

If there is a desire to pursue exclusion from the ALR, staff recommend that a professional third party appraiser be engaged to accurately quantify the increase in the site value created through exclusion, as any compensation package should ensure the overall benefit is provided to agricultural activity in the City, not a private land owner.

Proposed Compensation Package Assessment

The applicant's proposed compensation package as part of the exclusion application includes putting two other ALR properties (6871 No. 7 Road & PID 003-574-229) into agricultural production. These properties are already in the ALR and there is no impediment preventing these land from being put into agricultural production. Accordingly, this initiative does not constitute any form of benefit to agriculture.

The package also proposes a financial contribution in the amount of \$3.75 million towards City drainage and farm access projects in other parts of the City. The proposed contribution is insignificant compared to the potential tenfold increase in the site value that could be realized. The City regularly constructs drainage improvements within the ALR as part of the City's Capital Plan, although the extent of improvements varying from year to year. The City's 5 Year Capital Plan (2022-2026) envisions \$139 million in drainage improvements throughout the City. The proposed contribution would not result in significant drainage improvements beyond those currently envisioned in the 5 Year Capital Plan.

The applicant's proposed compensation package also includes establishing a natural wetlands on a portion of their property at 8060 No. 6 Road for a 30 year term, while retaining ownership. Although the preservation of this area is important from a wildlife habitat perspective, it does not constitute a benefit to agriculture and in fact could be seen as contrary to agricultural objectives as it would preclude the use of the land for farming. In addition, the Provincial *Farm Practices Protection (Right to Farm) Act* protects normal farm practices within the Agricultural Land Reserve and has legal precedence over the environmental considerations. The applicant's package indicates that the proposed wetlands would be consistent with the ALC Act and Regulations, meaning that the proposed natural wetlands could be removed and used for agricultural purposes in the future. If there is a desire to pursue exclusion from the ALR, including the potential preservation of a wetland area, staff would require the applicant to provide an assessment and detailed proposal from a Qualified Environmental Professional (QEP), including the following information:

- how to reconcile the preservation of the area with the *Agricultural Land Commission Act* and its regulations, and the *Farm Practices Protection (Right to Farm) Act*;
- a detailed biophysical analysis and inventory of the site to identify existing environmental assets and wildlife habitat areas to be retained as a wetland, impact assessment for any proposed changes along with a mitigation and compensation strategy for any disturbance. This analysis would include provision of a detailed landscape plan indicating which area of the site would be retained, details on what improvements would be implemented, as well as a plan for monitoring and ongoing maintenance; and
- how the applicant would formalize their commitment to retain the area as an environmental asset.

Provincial Review of Bill 52

Staff recommends that letters be sent from the Mayor on behalf of City Council to the Minister of Agriculture, Minister of Environment, Richmond Members of Legislative Assembly (MLAs) and the Premier of BC asking the Province to review Bill 52 and to consider all options to allow the landfill to operate in the ALR under a non-farm use application subject to City and ALC approval.

This would allow the land to remain in the ALR, limit the detrimental impacts excluding the land from the ALR will have, and maintain the requirement that the lands be remediated to a state capable of soil-based agriculture upon closure. The current situation is a direct result of the adoption of Bill 52, which did not anticipate the impacts the legislation would have on existing landfills operating in the ALR.

Financial Impact

None.

Conclusion

Montrose Industries Ltd. has applied to exclude 7011 No. 7 Road & PID 024-397-423 from the Agricultural Land Reserve (ALR).

The proposal does not comply with the land use designation or applicable policies contained within the OCP. On this basis, it is recommended that the application be denied.



Steven De Sousa
Planner 2

SDS:cas

Attachment 1: Location Map and Aerial Photo

Attachment 2: Timeline of Previous Approvals

Attachment 3: Letter from the Applicant (Purpose & Rationale)

Attachment 4: Development Application Data Sheet

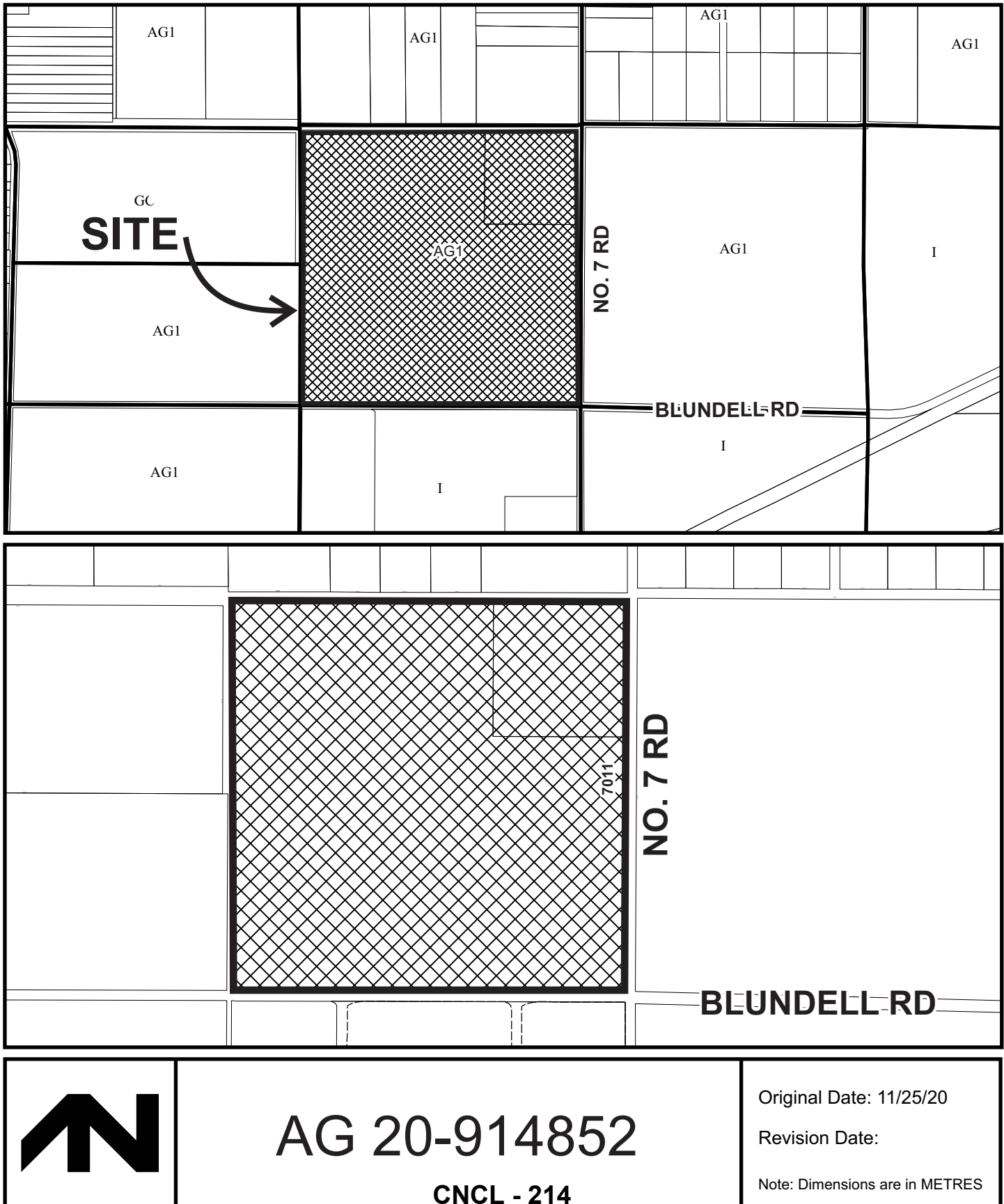
Attachment 5: Letter from the Ministry

Attachment 6: Cross-Sections of Proposed Height Increase

Attachment 7: Letter from the Applicant (Compensation Package)



City of
Richmond





City of
Richmond

**SUBJECT
PROPERTIES**



NO. 7 RD

BLUNDELL RD



AG 20-914852

CNCL - 215

Original Date: 11/25/20

Revision Date:

Note: Dimensions are in METRES

Timeline – Montrose (Ecowaste) Previous Approvals in the ALR

- 1993: Approval by Council and the Agricultural Land Commission (ALC) to allow the landfill operation in the ALR under the Soil Conservation Act (Permit S-271).
 - The approval requires the site to be remediated to a state capable of soil-based agriculture upon the end of the term (closure of the landfill). This includes covering the site with approximately 2 m of soils (consistent with the BC Contaminated Sites Regulations standards for agricultural land use) and ensuring a final agricultural soil capability rating of Class 2A is achieved. To further support soil-based agriculture, the remediation plan also requires the installation of irrigation and drainage required to support agricultural production. The original approval included a height limit of 8 m and a term of 5 years.
- 1999: Approval for a 10 year renewal to Permit S-271 to allow the continued operation of the landfill in the ALR.
- 2002: Repeal of the Soil Conservation Act resulting in soil removal and filling in the ALR being regulated and permitted through the ALC Act and related regulations (i.e., non-farm use application).
- 2009-2015: Exploration and development planning by the applicant for a large scale phased industrial development proposed for the site south of Blundell Road (outside of the ALR and designated in the OCP for industry). This resulted in shifting the focus of the landfill operation to filling the industrial site to the south in order to prepare for future industrial development.
- 2015: Council and the ALC approved a non-farm use application (AG 14-654361) for the subject site in the ALR to develop four temporary material recovery facilities associated with the landfill and continue the operation of the landfill until 2035, up to a maximum height of 18 m.
- 2019: the applicant submitted another non-farm use application (AG 19-863866) to expand one of the previously approved material recovery facilities, add two additional material recovery facilities, and extend the term of the landfill operation to 2055. No change to 18m maximum height proposed.
 - Council endorsed the non-farm use application and sent to the ALC on February 10, 2020.
 - The ALC approved the material recovery facilities, but rejected the request to extend the term of the landfill, due to changes in legislation regarding fill placement and the definition of prohibited fill in the ALR, which now includes demolition and construction waste. The landfill operation primarily accepts materials originating from demolition, land clearing and construction activities.
- 2020: The applicant submitted the subject exclusion application (AG 20-914852) prior to the September 30, 2020 deadline for individual landowners to submit exclusion applications to the ALC. As a result of *Bill 15 – 2019: Agricultural Land Commission Amendment Act*, only the Provincial Government, Local or First Nation governments or prescribed public bodies may make exclusion applications now.
- 2021: the applicant submitted a Zoning Text Amendment application (ZT 21-922710) to allow the material recovery facilities, but has been put on hold by the applicant until the matter of the operational term of the landfill has been resolved.
- 2021: submission by the City of a reconsideration request of the ALC's decision to deny the term extension of the landfill. ALC decision letter dated October 1, 2021, indicates that the City's reconsideration would not be considered.
- 2022: new Design, Operation and Closure Plan (DOCP) submitted to the Ministry of Environment (MOE) by the applicant in February. Staff were informed of the new DOCP submission to MOE by the applicant on May 3, 2022. DOCP indicates intention to increase height to 28m and extend landfill term to 2060.

Ecowaste Industries Ltd. ALR Exclusion Application ID #61386
Sept 23, 2020

Supplemental Information - Proposal & Rationale

1. Application and Properties

This application by Ecowaste Industries Ltd. (“Ecowaste”) is to exclude from the Agricultural Land Reserve two properties the company owns in Richmond totalling 60.8 ha (the “Properties”). The purpose of the exclusion is to enable Ecowaste’s landfill and its waste recycling / recovery / diversion facilities to continue to operate on these Properties beyond 2035.

In Agricultural Land Commission Resolutions 384/2015 and 385/2015 the Commission encouraged Ecowaste and the City of Richmond to consider whether these two Properties might be more appropriately used for industrial purposes. The ALC also suggested an alternative use such as industrial might relieve pressures on higher quality land that is actively used for agriculture. The Commission also considered that the length of time the Properties had been used as a landfill may have limited the site’s potential to effectively support a soil-based agricultural operation.

Furthermore, on August 26, 2020 the Commission contacted Ecowaste to recommend the company make an application to exclude the Properties from the ALR in order for the landfill and its waste recycling/recovery/diversion facilities to continue in operation beyond 2035.

The two Properties are located within the area bounded by Granville Road (north), No. 7 Road (east), Blundell Road (south) and Savage Road (west) in Richmond. Both are in the ALR. They are designated AGR (Agriculture) in Richmond’s OCP (Bylaw 9000) and zoned AG1 (Agriculture) in Bylaw 8500. Property 1 (PID 024-397-423) is 7.1 ha; Property 2 (PID 024-397-407) is 53.7 ha. Property 2 is located at 7011 No. 7 Road, Richmond. Property 1 is located Northeast of 7011 No. 7 Road.

2. History

The Properties were stripped of peat several decades before the landfill came into operation, a process which started in World War II. The peat was used to provide cushioning for the shipment of ammunition. Neither Property has been farmed since. There is no record of either having been farmed prior to WW II.

Ecowaste has nearly 50 years of waste management experience in Richmond. From 1971 to 1986 the company (then called Richmond Landfill Ltd.) operated a municipal solid waste landfill on 65 hectares of land previously owned by the Fraser River Harbour Commission. That property was excluded from the Agricultural Land Reserve in the 1970s. As that 65 ha property was being filled Ecowaste purchased the two Properties which are the subject of this application, and on which the company now operates its landfill for demolition, construction and land clearing (DLC) waste. Ecowaste has permission from the ALC, the City of Richmond, BC's Ministry of Environment and Climate Change (Operational Certificate 4922) and Metro Vancouver (Licences L005 and C007) for its operations.

An operating permit was initially issued by the Ministry of Environment in 1986. This was converted to an Operating Certificate in 1992 and updated to the current Operational Certificate 4922 by BC's Ministry of Environment & Climate Change Strategy under section 28 of the Environmental Management Act on September 6, 2017 (the "OC"). Under section 1.1.5 of the OC waste that can be accepted by Ecowaste and deposited as fill includes construction, demolition and landfill clearing debris, contaminated soils and other wastes.

Over the past 30 years Ecowaste has added recycling operations to its landfill operation. These include conversion of yard waste into compost, conversion of clean wood into biofuels and conversion of concrete into aggregate. The compost and aggregate products are used for landfill closure activities or sold commercially to the public or to custom soils manufacturers on site. Soils are also made available for use by area farmers to enhance both the amounts and capabilities of topsoil on farmland in Richmond and nearby farm communities. Ecowaste also treats contaminated soils through bioremediation and storage. Ecowaste's on-site tenants manufacture custom soils using wastewater treatment plant biosolids imported to the site and compost generated on site. Soils manufactured from regional waste water treatment plants have also been used to establish woodlots used for landfill leachate treatment, which is part of the landfill operation. Contaminated soils are treated by a soil bio-remediation company; once remediated they are either used on site in landfill construction or sold for other off-site uses.

The mix of materials accepted by Ecowaste are inert (non-polluting, non-toxic) and originate primarily from construction, demolition and land clearing activities in the Lower Mainland. The materials accepted consist mostly of wood (41% by weight), followed by asphalt (13%), building materials (10%), rubble (9%) and plastic (9%). Other land-clearing debris, metal, textiles, soil, paper, rubber, masonry, concrete, and insulation (excluding asbestos) make up the remainder. Ecowaste's current non-farm use application (Richmond file AG 19-863866; ALC file 59139) and pending as of this date, contemplates additional Materials Recovery Facilities ("MRFs") which will allow it to accept and process a broader range of wood, plastics, carpet, roofing and aggregates. None of these additional wastes will be landfilled.

3. Previous ALR Applications

Five applications have been made to the ALC over the past 40 years, including:

Application ID 22175/Legacy File: 11019
Northern Industries Ltd.
Soil/Fill Application
1980 - for the removal of 220,000 cubic metres of peat
Approved by ALC Resolution #100/1981

Application ID 40356/Legacy File: 20224
Richmond Landfill Ltd.
1986 - to extend land use onto 29 ha
Non-Farm Use Application
Refused by ALC Resolution #908/1986

Application ID 995/Legacy File: 27166
Ecowaste Industries Ltd.
Non-Farm Use
1992 - for further extraction of peat and deposit of materials
Approved by ALC Resolution #173/1993
With 10-year extension granted in 1998

Application IDs 54043 & 54044
Ecowaste Industries Ltd.
Non-Farm Use
2015 – to locate four operations related to the landfill operation and grant a 20-year extension (to 2035)
Approved by ALC Resolutions #384/2015 & #385/2015

Application ID 59139
Ecowaste Industries Ltd.
2019 – to revise the 2015 approval to allow Ecowaste to replace one of the four materials recovery facility operators approved by #384/2015 and #385/2015 with Ecowaste; to increase the footprint of that operation from 1.3 ha to 3.3 ha; to operate two additional Materials Recovery Facilities in addition to those approved in 2015; and to extend the term of approval of #384/2015 and #385/2015 by 20 years (to 2055).

4. Status of Properties

(a) Landfilling

No landfilling occurred on the two Properties between 2013 and 2020 as the site wasn't needed while the filling of Ecowaste's non-ALR south landfill was underway to prepare that site for the industrial park development. However, on Properties 1 and 2 additional grasslot space was created to assist with leachate processing through an irrigation system that is applied to willows and forage grasses. Once harvested, these plants are either used in the on-site compost program or baled and used for run-off and sedimentation control on site. An updated Design Operations and Closure Plan was submitted to the BC Ministry of Environment and Climate Change in December, 2018.

(b) Agriculture

In 2006 Ecowaste constructed a soil-plant system for use as an irrigation-based leachate treatment process. In 2007 it began creating topsoil using combinations of sand, biosolids, recycled-paper fibres and wood waste. These topsoils were used to establish treatment plots covering the capped portion of the landfill. This was then planted with fast-growing poplar trees. This was expanded between 2008 and 2010 using copiced willows. After 2010 there was further expansion. A portion was converted to forage grasses in 2018 and another portion will be converted this year. The soil-plant treatment plots are irrigated with leachate which has undergone treatment in our aeration pond and in the engineered wetland, providing additional leachate capacity and harvestable biomass. This system satisfies the Agricultural zoning of the site and provides Ecowaste with a biomass crop for harvest and use as soil, and for sediment control barriers. Other agricultural activities include:

- composting operations to produce soil blends and site cover,
- noxious weed management (implemented in 2015) to address Japanese knotweed, thistle and scotch broom infestation, and
- managing soil stockpiles.

5. Why an Exclusion?

Ecowaste's landfill is a non-farm use permitted under the Agricultural Land Commission Act (ALCA). This non-farm use was initially approved in 1993 with a 10-year extension granted in 1998. A further extension (until 2035) was granted by the Agricultural Land Commission in 2015. The 2015 ALC approval is included with the application documents.

As part of the 2015 approval Ecowaste was granted permission (1) to locate four ancillary operations (known as Tervita, Quantum Murray, Yardworks-Arrow and Urban Wood Waste Recyclers) related to the landfill onto the properties (Application 54043) and (2) to continue the operation of the landfill for a period of 20 years, thereby increasing the final elevation of the Properties from that which was previously approved (Application 54044).

In May 2019 Ecowaste applied to amend the 2015 ALC approval (i) to replace Urban Wood Waste Recyclers with Ecowaste as the operator of MRF #4, (ii) to enlarge the footprint of that facility, (iii) to build two additional materials recovery facilities on the landfill (MRFs #5 & #6), and (iv) to extend the term of the 2015 approval by 20 years, from 2035 to 2055. Ecowaste's amendment request was in the form of a non-farm use application (Application 59139). The City of Richmond endorsed and forwarded the application after a unanimous vote by Council.

None of these amendments, if approved, would require or result in any change to the waste stream coming to the landfill site, or any additional landfill material being deposited on the site, or any change to final elevation of the site approved in 2015. The result would be that more of the incoming waste would be reprocessed and recovered and the landfill would be able to continue operating for an additional 20 years before reaching capacity.

On August 26, 2020 the ALC contacted Ecowaste to advise of its concern that, as a result of changes in Bill 15-2019, the ALC could be prevented from granting a 20-year extension of the term granted in 2015. The ALC advised that the changes in Bill 15-2019 would not prevent the Commission from approving the replacement of Urban by Ecowaste as the operator of MRF #4 or from approving a larger footprint for that facility or from approving the two additional MRFs #5 and #6, if it otherwise chose to do so.

The reason given by the ALC was that Bill 15-2019 resulted in a new section of the Agricultural Land Reserve Use Regulation which provided that certain types of waste could not be used as fill on agricultural land. These had been approved by the ALC in 2015 and continue to be permitted under that approval; under Ecowaste's Operational Certificate 4922 issued under the Environmental Management Act; and under the licences issued by Metro Vancouver.

Because of this, and in order to avoid permanently closing the landfill in 2035, on August 26 the ALC recommended Ecowaste make an application to exclude its two Properties from the ALR. Also on August 26 Ecowaste was advised by the ALC that Bill 15-2019 did not prevent Ecowaste from continuing to operate until 2035 under its 2015 approval.

Furthermore, exclusion of the Properties is also consistent with two of the findings of the ALC expressed in its 2015 approval resolutions:

[13] Although the Commission has, through previous approval and related conditions, supported the reclamation of the Properties for agricultural purposes, the Panel discussed whether the most effective end use of the Properties, from a planning perspective, is agriculture. The Panel made no determinative decision in this regard, but encourages the Applicant, along with the City, to consider whether the Properties might be more appropriately looked at as a logical expansion of the adjoining industrial area.

[14] Conditions are in place that strives to ensure the future use of the Properties is agricultural. While the Panel remains certain these conditions are imperative, the agricultural future of a site that has serve[d] as a land fill for the amount [of] time in question, may have limited the potential for the Properties to effectively support a soil-based agricultural operation. As a result, considering alternative uses on the Properties, such as industrial, may be prudent especially if it relieves pressures on higher quality land that is actively used for agriculture.

If the Properties are excluded from the ALR Ecowaste will keep the landfill in operation until 2055 or until it reaches capacity. Ecowaste will also:

- Put into agricultural production two of its other ALR properties that are not being farmed – its 6.5 ha property (PID 003-560-261) at 6871 No. 7 Rd and its 24.9 ha property (PID 003-574-229) on Francis.
- Make a financial contribution towards City infrastructure projects that improve drainage and improve farm access in other parts of Richmond.
- Establish a natural wetlands on part of its 32 ha ALR property (PID 003-845-231) at 8060 No. 6 Rd. as permitted under the ALC Act and Regulations.

6. Additional Considerations

Are the properties capable of being farmed? No, as they are being used for a landfill and have been used for that purpose for many years.

Based on the BC Land Inventory (BCLI) "Land Capability Classification for Agriculture in B.C." system, the improved agricultural capability ratings applicable to the Properties are Class 2 and Class 3, more specifically approximately 90% (03LWF), 9% (7:02w 3:03LW) and 1% (6:3DW 4:3WN). However, the historical mapping for the Properties is not applicable due to (1) past peat extraction and (2) soil disturbance from decades of landfill use. Historical surveys prior to the peat extraction show the main agricultural limitations of the soils in the area were excess soil moisture, poorly decomposed peat and low fertility.

Are the Properties suitable for agricultural use? No, and they cannot be until the landfill operation ceases and only if the Properties are rehabilitated for farming. Even then, there will still be (i) possible consumer resistance to eating food that has been grown on a former landfill site and (ii) limited access for farm vehicles as the only road access is from the east along Blundell Road through Port Metro Vancouver's industrial operations and Blundell does not continue west to connect with No. 6 Rd.

The ALC itself has questioned the suitability of these Properties for agricultural use. In its 2015 decision the Commission determined:

"... the agricultural future of a site that has serve[d] as a land fill for the amount [of] time in question, may have limited the potential for the Properties to effectively support a soil-based agricultural operation. As a result, considering alternative uses on the Properties, such as industrial, may be prudent especially if it relieves pressures on higher quality land that is actively used for agriculture."

The ALC also addressed whether the most effective end use of the Properties was agriculture. It made no determinative decision in this regard but encouraged Ecowaste and the City ***"... to consider whether the Properties might be more appropriately looked at as a logical expansion of the adjoining industrial area."***

Will there be any additional adverse impact on adjacent farm properties if the exclusion were allowed? No. There are no working farms adjacent to the eastern, southern or western edges of the Properties. There are four working farms to the north: 15100, 15260, 15380 and 15460 Westminster Highway. All of these farms are accessed from Westminster. Ecowaste has several decades of experience working amicably with its neighbours – farmers and non-farmers alike – and the company is committed to continue doing so. Any minor impacts our neighbours currently experience as a result of the operation of the landfill would not change because of the proposed exclusion from the ALR, as the landfill would continue in operation until 2055 or until it reached capacity. (See letter dated June 20, 2019 from Ecowaste to the City of Richmond on “Adjacency Impacts”, included with this application.)

Will this set a precedent for similar exclusion applications from landowners in Richmond or Metro Vancouver generally? No. Ecowaste’s properties, their history of peat extraction, their use as a landfill and their location next to industrial uses are sufficiently unique to discourage any other landowner from claiming the proposed exclusion of the Properties as a precedent in another application. Furthermore, the ALC has twice suggested exclusion might be an option for these properties - in 2015 and 2020 – which in itself is unprecedented.

Could the proposed landfill be accommodated on lands outside the ALR or in the ALR but on land that is less capable? No. The site is already being used as a landfill; no other lands in the region outside the ALR are available or suitable for a landfill; and there are no less capable lands within the ALR of sufficient size available or suitable for a landfill. There is only one other landfill left in the Lower Mainland – the Vancouver Landfill in Delta – and it is scheduled to close in 2028.

Who else supports this? The existing landfill operation is supported by the Ministry of Environment and Climate Change and Metro Vancouver but neither has been asked for their opinion on this exclusion application. However, continuation of the landfill beyond 2035 supports many of the key strategies and objectives of both the ministry and Metro. And the ALC itself has suggested industrial use might be more appropriate than agriculture.

Despite the non-agricultural nature of the proposed uses are they important for the local community, region or province? Yes. The landfill already provides (and will continue to provide) a range of important services and benefits to Richmond, to the region and to the province as a whole, as described herein. By excluding the Properties and permitting the landfill to operate beyond 2035, these services and benefits will continue. There will also be several benefits to local agriculture, including:

- Reducing the demand for illegal dumping in the City and region, some of which now occurs on farmland.
- Increasing the range and quality of soil available to local farmers by treating contaminated soils through bioremediation and custom soils manufacturing.
- Producing ground wood for animal bedding or as hog fuel for greenhouse boilers.
- Reducing pressure by others to apply to the Commission to convert productive farmland to landfill operations.
- Bringing 30 more hectares of Richmond farmland into agricultural production.
- Providing funds for City infrastructure projects that improve drainage and improve farm access in other parts of Richmond.

Ecowaste will also work with the City to establish a natural wetlands on part of its 32 ha ALR property (PID 003-845-231) at 8060 No. 6 Rd., as permitted by the ALC Act and Regulations.

7. What's At Stake?

While Canada and the world face a climate emergency, at the regional level Metro Vancouver is facing a waste crisis. More specifically, the region is challenged with limited options when it comes to disposing of all the demolition, construction and land clearing waste being generated each year. Since Ecowaste's 2015 ALC approval, more DLC waste was generated in the Lower Mainland than had been anticipated; local governments have mandated that more of the waste stream be recovered; technology has been developed to make it possible to do so; and other landfill options for the region have either disappeared or, in the case of the Vancouver Landfill, advanced its anticipated closure date from 2036 to 2028. Ecowaste will soon be the only landfill of any type in the region. [See Appendix A for more complete discussion of the waste issues which are driving the need for Ecowaste to continue its landfill beyond 2035.]

Ecowaste has a plan to extend the life of its landfill and recycle/repurpose more materials to address these challenges. It involves investing in more and bigger MRFs on site and adding 20 years to the life of the landfill. This is designed to recover more materials coming to the landfill that would otherwise be buried. Ecowaste had anticipated that, if its current ALC non-farm use application were approved, the landfill and the additional materials recovery facilities would continue to operate until 2055. If the additional 20 year term requested in that application is not approved, the only way of ensuring Ecowaste can continue to operate beyond 2035 is to have the two landfill Properties excluded from the ALR.

Adding more years to the term approved by the City and ALC in 2015 will ensure sufficient DLC waste will be available to enable the landfill to justify the costs of the three Materials Recovery Facilities. Keeping the landfill in operation will also give the region more time to address the long-term waste crisis and to plan for an eventual replacement of the Ecowaste landfill. It is noteworthy that:

1. There would be no change to the waste stream coming to the landfill if the properties were excluded from the ALR.
2. There would be no change to the source of this waste, i.e. it would remain primarily the Lower Mainland.
3. There would be no organics or “green waste” coming to the landfill, as is the case now.

Currently Ecowaste’s landfill accepts 260,000 tonnes of DLC waste annually while the Vancouver Landfill accepts 70,000 tonnes. The latter is scheduled to close in 2028. When that happens the DLC waste that Vancouver Landfill currently accepts each year will either be directed to Ecowaste or sent out of the region, most likely to the US. Governments need to plan for this today, which is why Ecowaste is making this application. And we are prepared to make the investment needed without any public funds.

If Ecowaste’s landfill and MRFs can continue to operate until 2055 it will enable the region to recycle/recover 45% to 50% more construction and demolition waste from the region each year; recycle/recover more types of waste from the existing waste stream; and extend the life of the landfill from 2035 to 2055. This will serve the waste needs of the region more comprehensively and for a longer period, and directly support Metro Vancouver’s **Integrated Solid Waste & Resource Management Plan** including such ISWRMP strategies and actions as:

- Strategy 2.4 Target demolition, land clearing and construction (DLC) sector for increased reuse and recycling
- Action 2.4.2 Implement waste reduction strategies directed toward diverting DLC waste from disposal while supporting opportunities for beneficial use.
- Action 2.4.3 Review existing DLC recycling and processing capacity, project future needs and develop a strategy to address any identified gaps.

Strategy 2.7 Target wood for reuse, recycle and energy recovery

Action 2.7.3 Encourage highest and best use for wood following waste management hierarchy in the following priority: (a) reuse..., (b) recycle... (c) compost..., (d) ...produce biofuels, (e) process wood as a fuel...

Strategy 4.2 Ensure a disposal site is available for DLC waste

Action 4.2.1 Assess long-term disposal of DLC waste remaining after recycling in collaboration with the private sector

Action 4.2.2 Identify disposal sites for DLC waste remaining after recycling that will be available when existing disposal facilities reach their capacity

8. Summary

- Ecowaste wishes to continue to provide a valued service to the residents of the City of Richmond and the Lower Mainland through its construction and demolition recycling and disposal services, including the landfill operation.
- Ecowaste has operated on this site since 1985 and has a consistent record of responsibly handling all waste materials.
- The Ecowaste Landfill is the only dedicated local disposal option in the region for construction and demolition waste. The Vancouver Landfill provides limited disposal options for C&D waste and is scheduled to close in 2028; what Vancouver Landfill and Ecowaste Landfill cannot take now or in the future would have to be exported out of the region, likely out of the country.
- Ecowaste Landfill is in full compliance with its Operational Certificate 4922 issued by the Ministry of Environment and Climate Change Strategy, and with the licences issued by Metro Vancouver. It will continue to do so after exclusion of the Properties.
- Ecowaste also has a long history providing the City of Richmond with recycling of yard waste (into compost) and accepting soils from public works activities at a discount, which will continue.

- The private investment by Ecowaste in the materials recovery facilities is \$40 – \$50 million so they are only viable if (1) they are located on the landfill itself and (2) they have many more years to recover Ecowaste's costs.
- Even if the lands are excluded from the ALR the City will retain control over their use through its zoning and other bylaws, and through its regulation of servicing for water supply, wastewater collection and storm water collection and discharge.
- In Agricultural Land Commission Resolutions 384/2015 and 385/2015 the Commission encouraged Ecowaste and the City of Richmond to consider whether the Properties might be more appropriately used for industrial purposes.
- The ALC also suggested an alternative use such as Industrial might relieve pressures on higher quality land that is actively used for agriculture.
- The Commission also considered that the length of time the Properties had been used as a landfill may have limited the site's potential to effectively support a soil-based agricultural operation.
- In August of 2020 the ALC recommended the company make an application to exclude the Properties from the ALR in order for the landfill and its waste recycling / recovery / diversion facilities to continue beyond 2035.

Contact: John Moonen, John Moonen & Associates Ltd.
5330 Montiverdi Place, West Vancouver, B.C. V7W 2W8
604.921.6433; 604.786.7654
johnmoonen@telus.net

Appendix A

As the population of the region grows, the amount of DLC waste increases, other landfill options disappear and technology improves, there will be an even greater demand for recycling and diverting waste from landfills. We believe Ecowaste's landfill is the ideal place for them to be located. In Metro Vancouver's November 2017 **"Biennial/5-Year Progress Report on the Integrated Solid Waste & Resource Management Plan ("ISWRMP")** the amount of construction and demolition waste disposed of at the Vancouver Landfill and by private DLC landfills (including Ecowaste's) grew from 306,065 tonnes in 2010 to 351,076 tonnes in 2016:

Year	Vancouver Landfill	Private Facilities	Total
2010	140,734	165,331	306,065
2011	196,498	169,961	366,459
2012	185,317	173,374	358,691
2013	159,303	233,039	392,342
2014	132,721	260,951	393,672
2015	124,044	266,338	390,382
2016	118,168	232,908	351,076

The total figure increased to 371,521 tonnes in 2017 [see MV's **"2017 Recycling and Solid Waste Management Summary"**] and to 420,000 tonnes in 2018. With the recent loss of two other private landfills in the region, Ecowaste is having to accept a growing share. It accepted 86,000 tonnes of DLC waste in 2010; this grew to 190,000 tonnes in 2014 and to 260,000 tonnes in 2019. When the Vancouver Land Fill closes in 2028 this number will increase significantly.

In a 2016 report by Tetra Tech for Metro Vancouver entitled **"2015 Demolition, Land-clearing and Construction Waste Composition Monitoring Program"** the percentage of wood at VLF in 2015 was found to be significantly higher than it was in 2011. It had increased by 29% over 4 years. Wood now makes up over 40% of the materials accepted by Ecowaste: in 2015 this was 77,726 tonnes of the 190,000 tonne total. The Tetra Tech report also found that 27,720 tonnes of wood were sent "out-of-region" in 2015, out of a total of 70,000 tonnes leaving the region.

This cannot continue, which is one of the reasons in 2013 Ecowaste sought and obtained approval for Urban Wood Waste Recyclers to build and operate MRF #4 on its site. Now a larger MRF than originally approved by Richmond and the ALC is desperately needed. And additional materials recovery facilities (MRF #5 and MRF #6) need to be put in place to address the growing crisis.



AG 20-914852

Attachment 4

Address: 7011 No. 7 Road & PID 024-397-423

Applicant: Montrose Industries Ltd.

Planning Area(s): East Richmond

	Existing	Proposed
Owner:	Montrose Industries Ltd.	No change
Site Size:	<ul style="list-style-type: none">7011 No. 7 Road: 132.5 ac (53.6 ha)PID 024-397-423: 17.5 ac (7.1 ha)Total: 150 ac (60.7 ha)	No change
Land Uses:	Landfill activities and related uses	No change
OCP Designation:	Agriculture (AGR)	No change
Zoning:	Agriculture (AG1)	No change
Agricultural Land Reserve:	The site is contained in the ALR	Proposed removal of the site from the ALR

File: 0280-30

Ref: 196755

His Worship Mayor Malcolm D. Brodie
City of Richmond
6911 No. 3 Road
Richmond, BC V6Y 2C1
Email: mayorandcouncillors@richmond.ca

Dear Mayor Brodie,

Thank you for your letter of November 3, 2021, regarding the Agricultural Land Commission's (ALC) decision on EcoWaste Industries Ltd.'s (EcoWaste) application. In your letter, you request that the ministry review the matter and consider legislative changes to allow EcoWaste's landfill to extend its operations while remaining within the ALR. I apologize for the delayed response; the combination of the wildfire season followed by intense flooding has created challenging times for the agriculture sector in our province.

I understand that EcoWaste submitted a non-farm use application to expand and extend its operations in the Agricultural Land Reserve (ALR) to 2055. This application was not approved by the ALC. The City of Richmond (the City) requested reconsideration of this decision. This request was refused by the ALC because it did not meet the legislated criteria for reconsideration. EcoWaste has requested that the City make an application to the ALC to exclude the landfill from the ALR, which will be considered by the City in the coming months.

Protecting the ALR from illegal dumping of demolition and construction waste is important to the preservation of agricultural land. Government made regulatory changes in 2019 to expressly prohibit the use of this waste as fill on the ALR. The provision of legitimate landfills to accept and manage demolition and construction waste is a critical component to protecting the entire ALR because it reduces barriers to compliance with illegal dumping restrictions.

The Ministry is looking into the matter and encourages the affected parties (e.g., EcoWaste, local government, etc.) to exhaust all available avenues to resolve this issue.

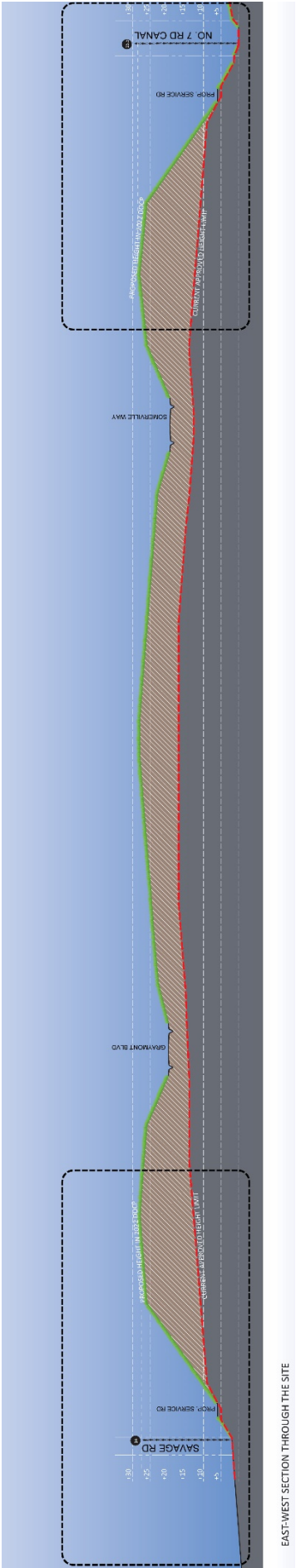
.../2

Thank you again for your follow-up communication and your continued efforts to support agriculture in the province.

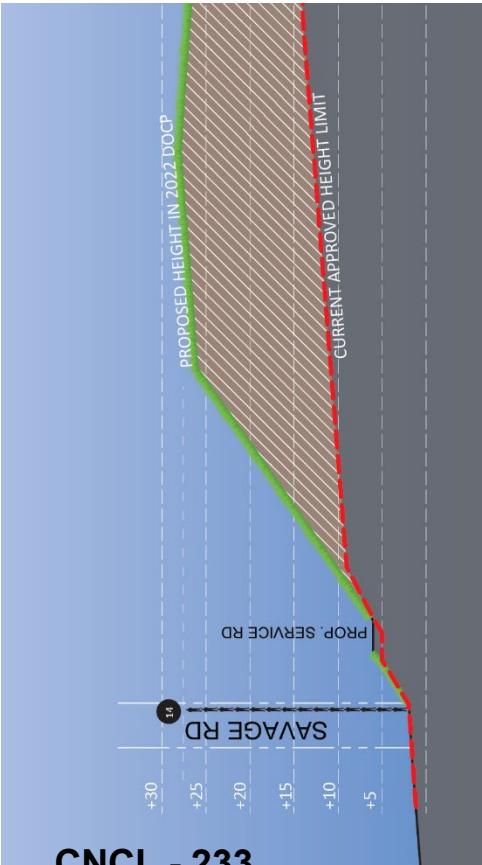
Sincerely,

A handwritten signature in blue ink, reading "Lana Popham". The signature is fluid and cursive, with the first name "Lana" being more prominent and stylized than the last name "Popham".

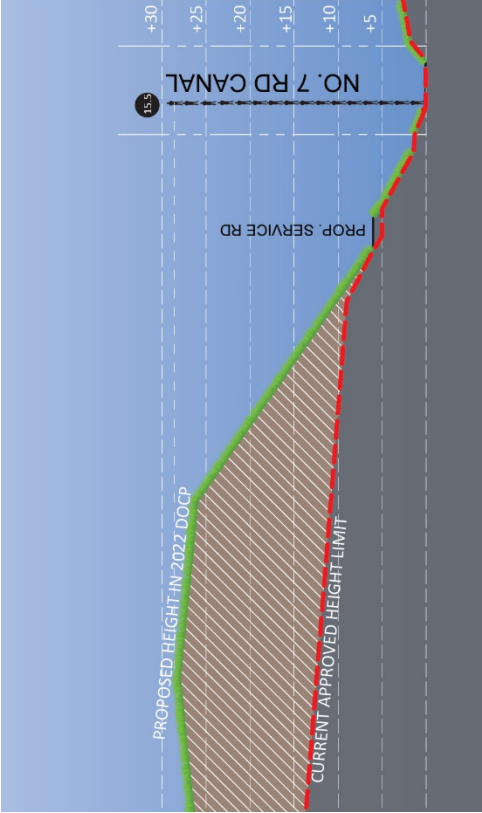
Lana Popham
Minister

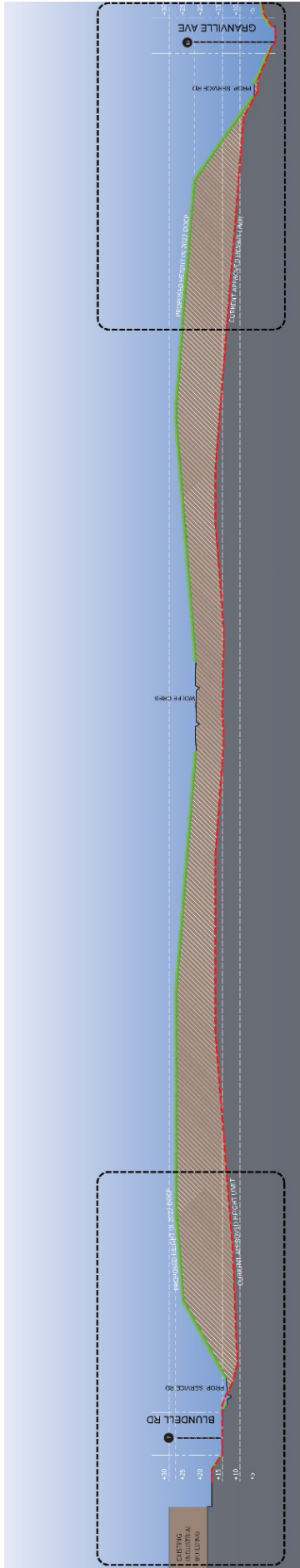


EAST-WEST SECTION THROUGH THE SITE

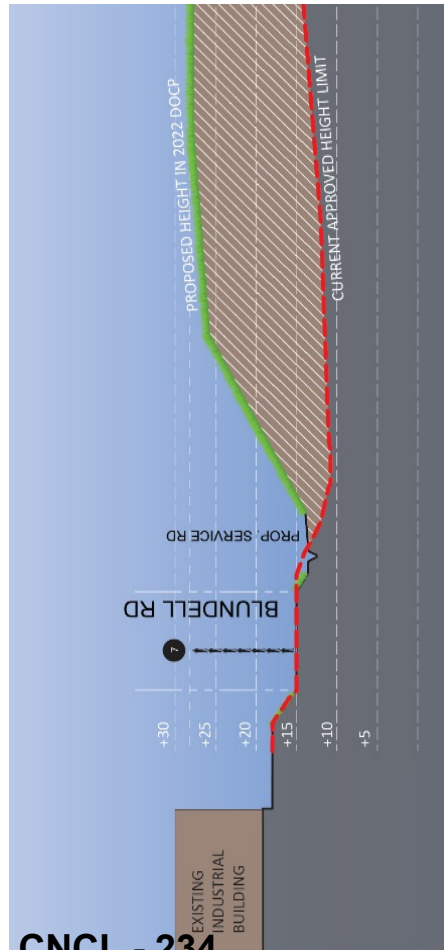
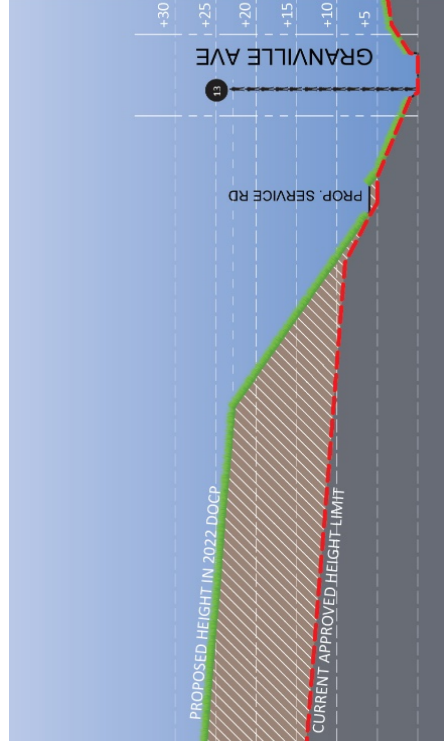


CNCL - 233





NORTH-SOUTH SECTION THROUGH THE SITE





POTENTIAL VIEW ALONG BLUNDELL ROAD

January 21, 2022
File: **AG 20-914852**

Delivered via email only

Steven De Sousa
Planning & Development Division
City of Richmond
6911 No. 3 Road
Richmond BC
V6Y 2C1

Dear Steven De Souza,

I am writing in response to the questions and issues you raised in your March 5, 2021, letter regarding Montrose's application to exclude 7011 No. 7 Road & PID 024-397-423 from the Agricultural Land Reserve (**processed by the City of Richmond under reference number AG 20-914852**). In September 2021, I became CEO of Montrose Industries and will be the primary contact point going forward.

Since joining Montrose, my informal discussions with City of Richmond councillors and all other stakeholders has confirmed, in our view, a broad understanding and agreement on the value of securing the future of this landfill which provides significant benefits to both Richmond and the broader Metro Vancouver region and beyond. Our landfill is one of only two operating landfills in the Lower Mainland, and without approval of our exclusion application, we will be forced to begin a wind-down process in late 2022 or early 2023 for closure in 2024.

Each stakeholder I talk to has encouraged Montrose to follow up directly with City staff on the proposals we outlined in our initial application. These proposals explain how we can work together to provide a benefit to agricultural production for the City, enhance City infrastructure and provide critical ecological system functions through the creation of a wetland.

An update on our proposals to the City of Richmond

In your March 2021 letter you requested additional information on the proposals included in our initial application, which I have provided below:

- a) **Put into agricultural production two of Montrose's other ALR properties that are not being farmed.** You wrote in your letter that *"staff do not consider this a benefit to agriculture as the lands are already in the ALR and there are currently no impediments to bringing these lands into agricultural production."* We believe there are benefits in using this land for agricultural production rather than having it lie fallow. We are currently working with potential partners on proposals that will bring these lands into agricultural production

so they can contribute to the local food supply and provide local employment. We will continue to keep the City informed as we go forward.

- b) **Make a financial contribution towards City infrastructure projects that improve drainage and improve farm access in other parts of Richmond.** In your March 2021 letter you asked us to provide additional details and to quantify our financial contribution. Montrose is prepared to make a financial contribution of \$25,000 for each of the 150 acres we have requested to be excluded from the ALR, with the monies earmarked for agricultural enhancement projects that improve drainage, expand farm access or make other needed improvements to enhance farming in Richmond. The total value of this contribution would be \$3.75 million.
- c) **Establish a natural wetlands on part of our 32-hectare ALR property at 8030 No. 6 Road as permitted under the ALC Act and Regulations.** In your March 2021 letter you asked for more details on the proposed wetlands and how it could coordinate with efforts to protect Sandhill crane habitat. Montrose is prepared to set aside approximately 10 hectares of this 32-hectare site for an extended term lease to create a wetland, within the rules set out by the ALC for such use. We estimate a market cost to us of \$4.5 million for the loss of use of this land for 30 years. We would also contribute up to \$1M towards the cost of constructing the wetlands. The result would be an important wetland ecosystem that could provide crucial habitat to Sandhill cranes as well as other animal and plant species.

Additional context and rationale

We note that the main reason we are applying for exclusion, is it would facilitate our ability to continue operating until 2055 instead of 2035, thus providing for the long term, a unique and crucial facility for the Region and significantly advance broad recycling goals and results.

To this goal, in 2020, Richmond City Council unanimously approved our application to construct a new materials recovery facility at our site and to extend our operating term by 20 years, to 2055. The City forwarded our application to the ALC for approval. However, the ALC could not approve an operating extension beyond 2035 given that amendments to the ALR Use Regulation in 2019 prohibited placing construction and demolition waste on ALR lands.

In addition, an impetus for our exclusion application to the City originally came from the ALC itself. In 2015 and again in 2020, the ALC encouraged Montrose and the City of Richmond to consider whether the land under discussion might be more appropriately used to expand the adjoining industrial area rather than be used for agricultural purposes.

If the City is concerned that the current agricultural land use designation of these properties will be lost as a result of their being excluded from the ALR, the City will continue to have complete control over zoning the land should the properties be excluded from the ALR.

Our application supports important City-endorsed policies

Your March 2021 letter noted that Montrose's proposed application was "contrary to existing City policies regarding maintaining the existing ALR boundary." While we appreciate this, we submit that several aspects of this application support other City and City-endorsed policies, including:

- (a) **"Support the use of agricultural land for local food production and encourage a local food network to increase local food supply and consumption"** (from the City's Farming First Strategy) by bringing into production over 30 hectares of land that have never been farmed;
- (b) **"Continue improvements to irrigation and drainage infrastructure in support of agricultural production"** and **"Support farm access to properties located in the ALR"** (from the City's Farming First Strategy), by providing the City with \$3.75 million to spend on irrigation, drainage, farm access and other improvements;
- (c) **"Target demolition, land clearing and construction (DLC) sector for increased reuse and recycling"** and **"Ensure a disposal site is available for DLC waste"** (from Metro Vancouver's Integrated Solid Waste and Resource Management Plan) by ensuring the continued operation of the landfill; and
- (d) **"Preserve wildlife habitat, the natural environment and our natural and cultural heritage"** (from the City's Parks, Recreation and Cultural Services Master Plan), by creating wetlands.

We welcome the opportunity to meet with you and other City staff to discuss these proposals in more detail. Our goal is to work together on short- and long-term solutions that enable the City to:

- responsibly meet the waste disposal and material recycling needs of its residents,
- support food production,
- invest in needed agricultural infrastructure projects, and
- create new environmentally protected wetlands.

I also encourage you to take a look at the video at <https://vimeo.com/loftymedia/ecowaste> to see our site and learn more about our long-term vision for being part of Richmond and the Lower Mainland's sustainable future. I look forward to continuing this discussion with you.

Sincerely,

Michael Kennedy
President & CEO
Montrose Industries Ltd.

cc: John Moonen



City of Richmond

Report to Committee

To: Public Works and Transportation Committee

Date: June 21, 2022

From: Lloyd Bie, P.Eng.
Director, Transportation

File: 02-0775-50-6708/Vol
01

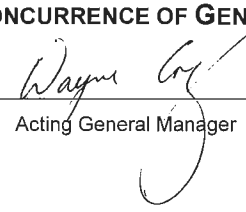


Re: Cycling Network Plan Update – Final Plan

Staff Recommendation

That the update of the Cycling Network Plan, as described in the report titled “Cycling Network Plan Update - Final Plan,” dated June 21, 2022 from the Director, Transportation, be endorsed for implementation.

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

Att. 4

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

Staff Report

Origin

In October 2021, Council endorsed the Phase 2 engagement activities to support the update of the City's Cycling Network Plan (the Plan). This report summarizes the results of the Phase 2 engagement activities and subsequent analyses, and presents the final Plan (Attachment 1). The Plan has a 15-year time horizon with a prioritised implementation strategy that fits within that timeframe and supports Strategic Direction 4 of the Community Energy and Emissions Plan 2050 (CEEP 2050) to achieve a cycling mode share of 10% by 2030. Going forward, the intent is to regularly update the Plan to ensure that the City's cycling network and policies reflect the community's current needs, continue to support the City's long-term mobility and climate change objectives and reflect best practices with respect to cycling facility planning and design.

This report responds to the following referral arising from the discussion of bike lane infrastructure at the January 7, 2020 meeting of the General Purposes Committee:

- (1) *That staff review and analyze that all new bike lane infrastructure is protected and that when bike infrastructure is renewed, lane protection is included, and report back;*
- (2) *That staff explore implementation of alternative lane configurations, including Dutch intersections, bike lane pairing, and Vision Zero principles, including the following:*
 - (a) *new technologies that could be implemented;*
 - (b) *colour of lanes and markings;*
 - (c) *synchronization options;*
 - (d) *connecting lanes;*
 - (e) *various types of lane protection; and*
 - (f) *challenges of parking in bike lanes;**and report back; and*
- (3) *That consultation on bike lanes include various stakeholders including Advisory Committee on the Environment and HUB Cycling.*

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.

Analysis

Phase 2 Engagement

Phase 2 consultation focused on three major objectives:

- Validating the findings from the route level evaluation
- Refining feedback heard during Phase 1 engagement
- Understanding how stakeholders and the public prioritize between different cycling network improvements and connections at the implementation stage

Activities

All engagement activities took place on-line during November 1-30, 2021. As with Phase 1, public engagement was held via the City's Let's Talk Richmond site, which hosted a survey, mapping tool and ideas board for the general public and students. Public awareness of the engagement process included issuing a news release, promoting on the City's social media channels, inclusion on the City website, posting a notice at transit shelters in the City Centre that have a digital panel, and installation of temporary signage along bike routes across the city. Separate stakeholder sessions were convened with relevant external agencies¹, the Advisory Committee on the Environment and the Richmond Active Transportation Committee.

Results

The Let's Talk Richmond site recorded 811 visitors who contributed 528 completed surveys, 31 ideas, 66 map pins, and 43 additional comments (Attachment 2). The results informed the finalization of the updated Plan including a prioritized implementation strategy.

Cycling Network Evaluation

Informed by the Phase 1 and 2 engagement results, a two-step evaluation process was used to identify priorities and plan interim network phases focusing first on the wider route-level benefits and then the segment-by-segment prospects. An evaluation matrix was used based on the following key themes from Phase 1 engagement: safety, connectivity, utility and convenience, feasibility, network gaps, and social equity.

Results indicate higher priority in central Richmond and the City Centre along major corridors, and decreasing priority moving out towards lower density areas. The evaluation shows the following segments as receiving the highest relative scores (Figure 1):

- Routes in the City Centre to provide greater cycling access to a density of jobs and destinations
- Southern extension of No. 2 Road bike lanes from Westminster Highway to Granville Avenue to enhance cycling connections to Burkeville
- Northern extension of the paved Shell Road Trail from Highway 99 overpass to River Road to complete a north-south link in east Richmond

¹ The Ministry of Transportation and Infrastructure, TransLink, Vancouver Airport Authority, Richmond School District, Metro Vancouver, ICBC, HUB Cycling, Richmond RCMP, and Vancouver Coastal Health.

- Upgrading shared road segments on Garden City Road and Westminster Highway to provide designated cycling facilities

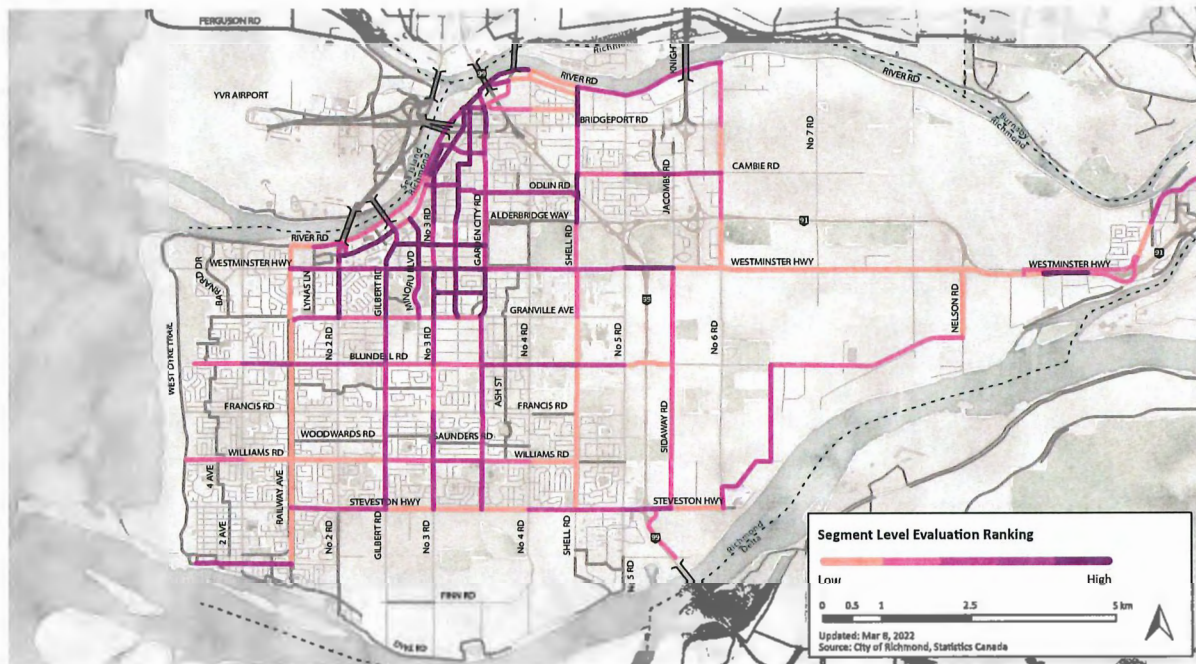


Figure 1: Segment Level Evaluation Results

Prioritized Implementation Strategy

The results of engagement and the priority network evaluation provided considerable insight to projects with high potential benefits. Improving safety and comfort are the overarching themes, which are most significantly impacted by the level of exposure to motor vehicle traffic. Accordingly, an approach that prioritizes the physical separation of cyclists from traffic whenever feasible presents the greatest opportunity to increase cycling in Richmond. The projects were prioritized in three five-year tranches of short-, medium-, and long-term based on transportation planning principles and feedback heard during engagement.

Beyond the key themes of the evaluation matrix previously noted, the implementation strategy also includes several key objectives for network expansion:

- An emphasis on transecting and multi-purpose (commuter and recreational) routes
- A concern for ensuring basic levels of local and regional connectivity
- An awareness of the City's current cycling capital plan and ongoing cycling improvements
- A core network that locates most residents within 800 metres of a major cycling route
- A finer grain network in the City Centre to support greater access to a density of jobs and destinations
- A focus on intersection improvements at major roads

As this plan has a time horizon of 15 years, there are remaining planned cycling routes (as shown in the Official Community Plan) that are not identified due to:

- The project did not score relatively high based on the evaluation criteria
- The project will be implemented as part of a larger City project rather than as a stand-alone cycling project (e.g., improvements to River Road east of No. 6 Road, which would be addressed as part of the City's Dike Master Plan).

Figure 2 illustrates the short-, medium- and long-term priorities with the key projects within each timeframe summarized below. The short-term priorities align with Transportation's existing 5-Year (2022-2026) Capital Plan. The majority of these projects are currently funded and in the design or implementation stage (Attachment 3).

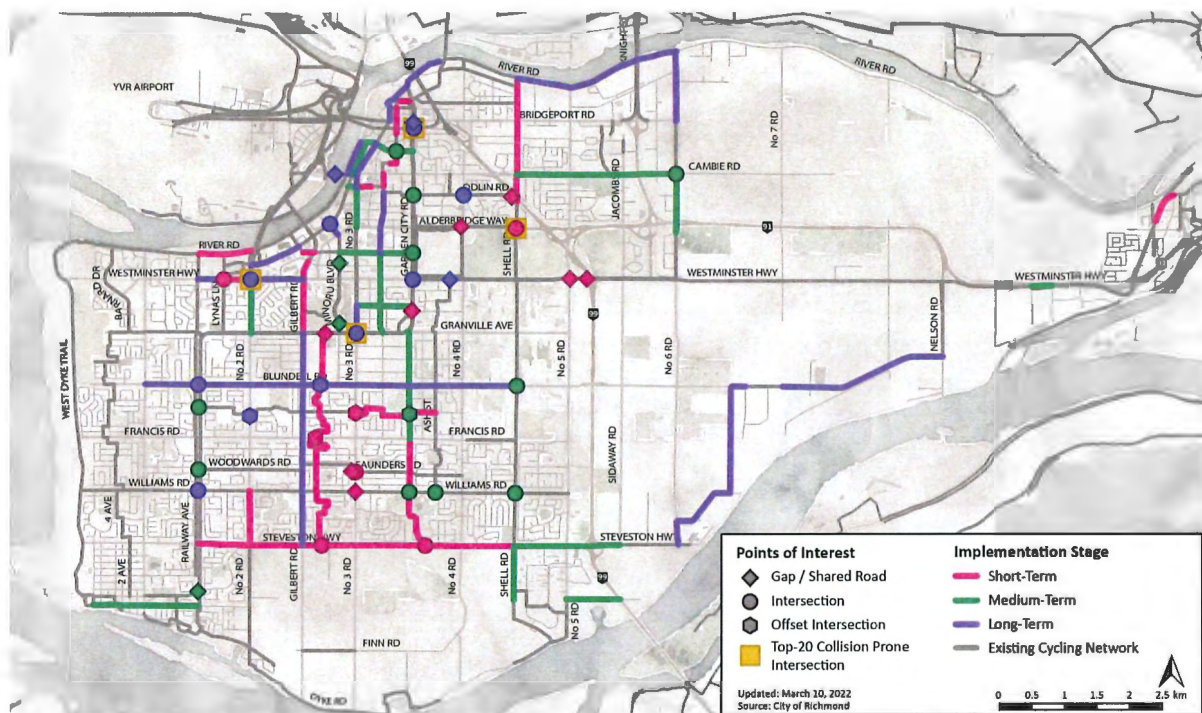


Figure 2: Map of Implementation Plan – Short, Medium and Long-Term Priorities

Short-Term Priorities (2022-2026)

- Develop a core protected cycling network in the City Centre
- Completion of parallel neighbourhood bikeways as alternatives to long-term routes on Gilbert Road and Blundell Road
- Completion of Shell Road and Steveston Highway cycling facilities in preparation for medium- and long-term connections

Medium-Term Priorities (2027-2031)

- Continue increased connectivity and protection in the City Centre
- Connections to Steveston, Ironwood, East Cambie, and the Fraser River Tunnel Crossing
- Completion of a central loop of directional bike lanes on Garden City Road, Williams Road, Railway Avenue, and Granville Avenue
- Projects dependent on redevelopment or collaboration with other agencies that are likely to occur at this stage

Long-Term Priorities (2032-2036)

- Expanded/enhanced connections to Hamilton and southeast Richmond
- Completion of new east-west and north-south corridors on Blundell Road and Gilbert Road respectively
- Further connectivity and protection improvements within the City Centre
- Projects dependent on redevelopment or collaboration with other agencies that are likely to occur at this stage

Estimated Costs of Unfunded Priority Projects

Table 1 summarizes the range of estimated costs for unfunded projects (i.e., projects not already part of an approved Capital Budget or secured through the development process). These low and high cost ranges are indicative only and based on a review of unit costs for recent comparable projects. Site specific designs and estimated costs (such as property acquisition, utility relocation and environmental management costs) will be prepared prior to projects being presented to Council for consideration as part of future capital programs.

Table 1: Estimated Costs to Fund the Implementation Strategy

Phase	Total # of Projects	# of Projects Already Funded	Estimated Cost to Fund Remaining Projects (\$Millions) ⁽¹⁾	
			Low	High
Short-Term (2022-2026)	29	15 ⁽²⁾	\$6	\$12
Medium-Term (2027-2031)	29	8	\$19	\$37
Long-Term (2032-2036)	25	9	\$20	\$39
Pilots/Interim Improvements	4	0	\$3	\$5
Total	87	33	\$48	\$93

(1) Estimated costs are indicative only and were generated based on previous cycling projects. Site specific designs and cost estimates will be developed and presented to Council for consideration of future capital programs.

(2) Fifteen projects are fully funded and a further five projects are partially funded (e.g., funded for design but not for construction).

Low range costs typically involve providing quick-win or interim solutions (e.g., installation of delineators between the vehicle lane and the adjacent painted bike lane) and/or adding cycling facilities within the existing right-of-way. The latter may involve street reallocation that changes the existing use of a roadway such as the removal of on-street parking or a vehicle lane, reducing the vehicle lane width, or reducing the boulevard and/or raised median width.

High range costs reflect expansion of the road right-of-way to accommodate cycling infrastructure while maintaining the existing road features (e.g., on-street parking, the number and width of vehicle lanes, the width of the boulevard and median).

Funding Considerations

Historically, the City has expanded the cycling network by focusing on projects that can be accommodated within the existing right-of-way or, where right-of-way is needed, waiting for the adjacent development process. Completion of these low impact projects has sufficiently progressed that now the City will need to consider street reallocation to support the cost-effective

and timely expansion of the cycling network in line with CEEP 2050 targets to achieve a cycling mode share of 10% by 2030.

Implementation with Street Reallocation

Over the past five years (2018-2022), annual City funding via Roads Development Cost Charges for active transportation projects has averaged \$3.2 million or \$16 million over the five-year period. Subject to Council approval in future capital programs of the same annual City funding and conservatively assuming that the City can secure approximately one-third of these costs as an external grant (total of \$6 million), this combined baseline funding of \$22 million is sufficient to fund each five-year phase of the prioritized implementation strategy at the low cost estimate with street reallocation.

Implementation without Street Reallocation

Without street reallocation, there is a cost premium that in turn impacts the ability to achieve completion of the projects within the time horizon of the Plan. Of the projects identified in the medium- and long-term phases, 10 projects comprising 19 kilometres of facilities are candidates for street reallocation. These projects will require a minimum of an additional \$23 million to implement without street reallocation, which is equivalent to seven years at current City funding levels. The additional funding required will be higher as the \$23 million estimated does not include property acquisition to expand the road right-of-way.

The potential impacts of street reallocation are context sensitive for each relevant project. Thus, staff anticipate undertaking the following activities prior to inclusion of the project in a future capital program:

- Technical analysis to quantify the traffic impacts of any street reallocation
- Consultation with the impacted neighbourhood
- Presentation of the results including advantages/disadvantages of feasible options for Council consideration

Resource Considerations

Over the 15-year time horizon of the Plan, 89 projects are identified that could cost up to \$104 million, which averages to six projects per year with an average annual budget of \$7 million per year. Should the Plan be endorsed, additional staffing or other resources will be necessary for program delivery of the medium- and long-term phases based on the number of projects, the relatively large budgets and the complexity of some of the projects.

Further analysis and conceptual design of the proposed projects will be required to gain a better understanding of potential resource impacts. Staff envision that prior to each five-year tranche, a report outlining the estimated additional requirements will be presented to Council for consideration.

Policies, Programs and Initiatives

In addition to improved existing and new cycling infrastructure, the Plan includes supporting policies and education initiatives tailored to the Richmond context. The focus areas reflect policy needs and challenges identified through public and stakeholder engagement, as well as areas with a strong connection to encouraging and enabling cycling activity.

Bicycle Parking

The provision of safe, secure, attractive, and convenient bike parking facilities is an important factor in encouraging more people to cycle. The need for secure and covered parking facilities was heard throughout Phase 2 engagement. Survey respondents ranked “Secure Bike Parking” as the third highest investment priority behind “Network Expansion or Upgrades” and “Maintenance and Repair of Network.” The Plan includes guidance across four areas (Figure 3).

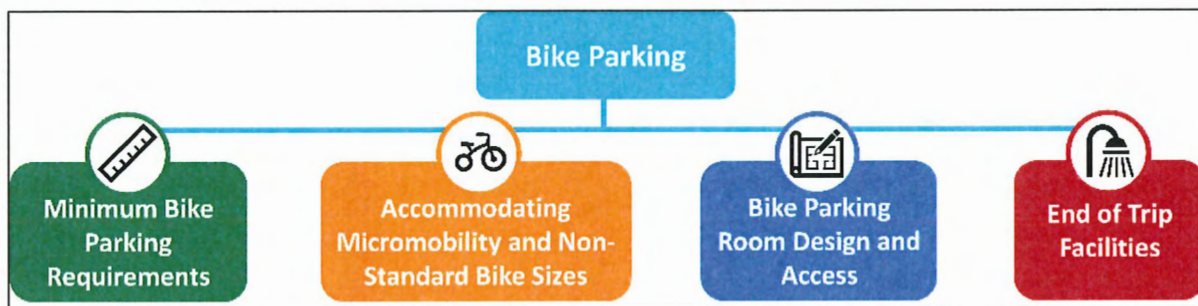


Figure 3: Components of Bike Parking Policy

A future staff report anticipated later in 2022 will propose updated off-street bicycle parking requirements for Section 7.14 (Provision of On-Site Bicycle Parking Facilities) of Zoning Bylaw 8500 including:

- Alignment of the number of required multi-family residential bicycle parking spaces to unit square footage or the number of bedrooms to better match the number of household occupants
- Access to electrical outlets for charging e-bikes and other electric micro mobility devices
- Provision of end-of-trip facilities (e.g., bike maintenance facilities, showers, change rooms, and clothes lockers for use by bike commuters)

Programs and Initiatives

Societal and personal factors, such as a lack of training and negative perceptions around safety, can act as barriers to encouraging more cycling. The Plan identifies existing and new programs that can address these factors and help shift behaviour (Figure 4).

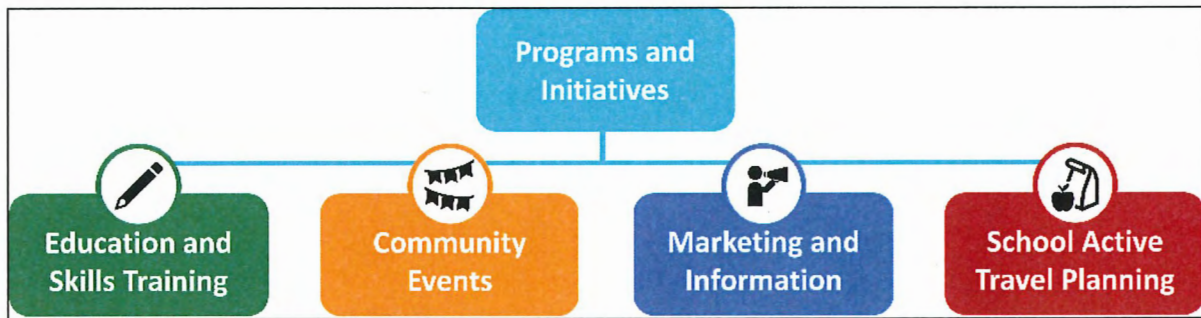


Figure 4: Types of Programs and Initiatives to Encourage Cycling

The Plan recommends continuation of the City's existing initiatives that include:

- The delivery of cycling skills education courses for all Grade 6 and 7 public school students, including in-class lessons, on-bike safety training and street ride education, as well as similar programs for adults.
- Participation in regional cycling events (e.g., Go by Bike Week, Bike to Shop) that aim to reward existing cyclists and encourage new cyclists to try cycling for transportation and to continue cycling after the event.
- Staging of annual free guided bike ride for the community to discover Richmond's on- and off-street bike routes.

New opportunities to encourage cycling based on feedback from the engagement process include greater wayfinding to guide cyclists and formalizing a branded bike route that circumnavigates the island as the "Tour de Richmond." Further considerations include facilitating the introduction of shared e-bike services, which can increase access to cycling via the electric assist, and expanding data collection to evaluate the performance of infrastructure and programs, monitor trends, produce analysis, and identify changes that may be required.

Infrastructure Design Review

The update includes a technical review of best practices for cycling infrastructure design to help refine existing and identify new standards and guidance that may be best suited for the Richmond context. The standards and guidance reviewed reflect both feedback heard during engagement as well as future gaps and challenges that may emerge with the types of cycling facilities being considered for Richmond.

Several cycling infrastructure design concepts relevant to the Richmond context were reviewed. The Plan provides an overview of the design considerations and recommended approach for the following concepts:

- Fully Protected Intersection (Dutch Style): Intersection with dedicated queuing and crossing areas for cyclists that are often physically separated from motor vehicles and pedestrians.
- Neighbourhood Street Bikeways: Intersection where the local street is off-set and does not connect directly across the arterial road thereby requiring cyclists to travel along a short section of the arterial road before crossing.

- Multi-Use Pathways – Intersections: Intersection of off-street two-way multi-use pathway including accommodation for cycling turning movements.
- Multi-Use Pathways – Separation of Users: Thresholds for separation of pathway users and the use of bike calming measures to mitigate conflicts due to the speed differential between cyclists and other pathway users, and amongst cyclists with different skills and comfort levels.
- Channelized Right-Turn Lanes and On-/Off-Ramps: Intersections of cycling facilities with road connections that allow motorists to make a higher speed right turn or to speed up/slow down between a provincial highway and a municipal road.
- Bus Stops: Interaction of on-street cycling facilities with buses and off-street cycling facilities with pedestrians as they cross between the bus stop and sidewalk.
- Cycling Facility Transitions: Alignment of the transition between one-way cycling lanes to two-way multi-use pathway at an intersection or mid-block.

The overarching objective of these new design concepts is to provide protected cycling facilities that are comfortable for all ages and abilities, and to improve safety and connectivity. The new design concepts will be pursued in future capital projects as appropriate.

Next Steps

With Council approval of the Plan, staff anticipate providing annual reports on the progress of the Plan that summarize completed actions over the past year and identify upcoming actions to support continued delivery. On that basis, activities planned for the remainder of 2022 include:

- Communications: The Plan and a reader-friendly Executive Summary (Attachment 4) will be posted on the City website. Completion of the Plan will be communicated to the public via social media and other community engagement tools, and to all stakeholders that participated in the engagement program.
- Capital Projects: Implementation of approved cycling-related capital projects for short-term priorities will continue. For future projects identified as medium-term priorities, staff will analyse and quantify the resource and potential road reallocation impacts for future consideration by Council.
- Cycling Infrastructure Design: The new infrastructure design standards will be incorporated into the City's Engineering Design Guidelines.
- Program and Policy Initiatives: A staff report anticipated to be presented later in 2022 will propose updates to the off-street bicycle parking requirements of Zoning Bylaw 8500. Staff will continue to monitor and facilitate expansion of the City's shared e-bike pilot program to expand access to cycling for the community and continue existing cycling-related education and promotional events.

Financial Impact

None. Future expenditures required for implementation of the Plan will be presented to Council for consideration during the annual budget process.

Conclusion

With a phased implementation strategy to achieve a safer, more comfortable and expanded active transportation network, this update to the Cycling Network Plan will help the City achieve multiple mobility, climate action and community wellness objectives – particularly a 10% cycling mode share and a 50% reduction in community GHG emissions by 2030.



Fred Lin, P.Eng., PTOE
Senior Transportation Engineer
(604-247-4627)



Joan Caravan
Transportation Planner
(604-276-4035)

JC:jc

- Att. 1: Cycling Network Plan
- Att. 2: Summary of Phase 2 Engagement Results
- Att. 3: Short-Term Priorities – Funding Status
- Att. 4: Cycling Network Plan – Executive Summary

Report
May 2022

Cycling Network Plan Update



CNCL - 250



City of Richmond
Our ref: 23743801
Client ref: 6897532

BINNIE

steer

Cycling Network Plan Update



Prepared by:

Steer
Suite 1030 – 999 W Hastings Street
Vancouver, BC V6C 2W2
Canada
Tel: (604) 629 2610
www.steergroup.com

Prepared for:

City of Richmond
6911 No. 3 Road
Richmond, BC
V6Y 2C1
Canada
Client ref: 6897532
Our ref: 23743801

Contents

1	Introduction	1
1.1	Project Overview	1
2	Existing Cycling Network.....	3
2.1	Introduction.....	3
2.2	Cycling Comfort Level.....	5
2.3	Cycling Ridership	6
3	Priority Network Evaluation.....	7
3.1	Introduction.....	7
3.2	Results	10
	Implementation Strategy.....	13
4.1	Introduction.....	13
4.2	Approach	13
4.3	Key Considerations for Implementation	16
4.4	Priorities by Stage.....	17
4.5	Short-Term (2022-2026).....	19
4.6	Medium-Term (2027-2031).....	22
4.7	Long-Term (2032-2036).....	25
5	Policies, Programs, and Initiatives.....	28
5.1	Introduction.....	28

5.2	Bike Parking	28
5.3	Programs and Initiatives	34
5.4	Wayfinding.....	38
5.5	Lighter, Quicker, Cheaper / Pilot Projects	38
5.6	Enhanced Safety	38
5.7	Equity	39
5.8	Data Collection.....	40

CNCL - 252

Figures

Figure 1.1:	Inputs into Project Objectives	1
Figure 1.2:	Project Phases Overview	1
Figure 1.3:	Summary of Phase 1 and Phase 2 Engagement Activities	2
Figure 2.1:	Cycling Network by Facility Types	3
Figure 2.2:	City of Richmond's Existing Cycling Network by Facility Type	4
Figure 2.3:	Cycling Comfort Level Criteria	5
Figure 2.4:	Cycling Comfort Level – Existing Cycling Network	5
Figure 2.5:	Cyclist Comfort Level by Facility Type	5
Figure 2.6:	Average Monthly Cyclist Volumes and Climate Data (Jan 2020 – Dec 2021)	6
Figure 3.1:	Routes Included in the Route Level Evaluation.....	8
Figure 3.2:	Route Level Evaluation Results	11

Figure 3.3: Segment Level Evaluation Results.....	12
Figure 4.1: Intersection of the Railway Greenway and Williams Road.....	15
Figure 4.1: Legend for Interpreting Implementation Phases.....	17
Figure 4.2: Map of Implementation Plan – Short, Medium and Long-Term Priorities.....	18
Figure 4.3: Map of Short-Term Priorities.....	21
Figure 4.4: Map of Medium-Term Priorities.....	24
Figure 4.5: Map of Long-Term Priorities.....	27
Figure 5.1: Components of Bike Parking Policy	28
Figure 5.2: Cyclist on Lansdowne Road.....	33
Figure 5.2: Types of Programs and Initiatives to Encourage Cycling	34
Figure 5.3: Cyclist on the Railway Greenway	40

Appendices

A	Phase 1 Engagement Summary
B	Phase 2 Engagement Summary
C	Existing Network Analysis Summary
D	HUB Cycling/TransLink – State of Cycling Comfort Level Criteria
E	Implementation Strategy: Expanded Project Descriptions
F	Map of Implementation Plan and Future Major Routes
G	Infrastructure Design Review Memo
H	Comparison of Metro Vancouver Bike Parking Requirements
I	Micromobility Review Memo (July 2020)

Table 4.4: Medium-Term Route Improvements	23
Table 4.5: Long-Term Gap / Shared Road and Intersection Improvements ...	25
Table 4.6: Long-Term Route Improvements	26
Table 5.1: City of Richmond On-Site Bicycle Parking Requirements.....	29
Table 5.2: European Cities by Bicycle Mode Share and Apartment Parking Requirements.....	29
Table 5.3: Comparison of Bicycle Parking Bylaw Specifications - City of Richmond and City of Victoria Zoning Bylaws.....	32
Table 5.4: City of Coquitlam Off-Street Zoning Bylaw.....	33

1 Introduction

1.1 Project Overview

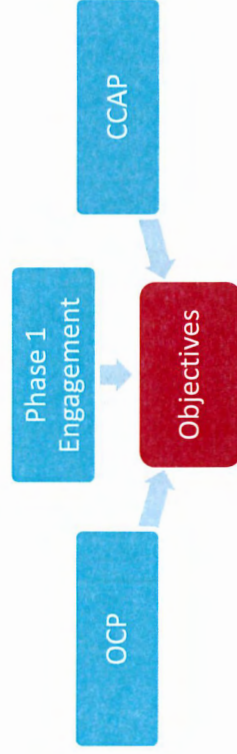
1.1.1 Policy Context

The City of Richmond's Official Community Plan (OCP) identifies the need to reduce vehicle trips by 34% between 2008 and 2041 in order to achieve local mobility, air quality and livability goals. The Community Energy & Emissions Plan 2050 (CEEP 2050), adopted in February 2022, accelerates OCP targets to increase cycling mode share from 1% in 2008 to 10% by 2030.

In 2008, the City Centre Transportation Plan (CTTP) was completed and incorporated into the City Centre Area Plan (CCAP). The CCTP identifies cycling-related strategies and policies and a planned network of bike routes within the City Centre. Further cycling-related strategies and a planned city-wide major street cycling network, including a complementary network of local street bikeways, were included within the update of the OCP in 2012.

Since the completion of the CCAP and OCP, continued population growth, a high level of development activity, and the arrival of the Canada Line have brought considerable changes to the city. Simultaneously, the last decade has seen an evolution in the design of cycling facilities and an expansion of small electric mobility devices.

Figure 1.1: Inputs into Project Objectives



1.1.2 Project Objectives

This update to the Cycling Network Plan (CNP), originally adopted in 1996, will help the City respond to its policy objectives by identifying what the future cycling network will look like over the next 15 years and a phased implementation strategy to achieve it, including short-term, high priority projects. This update to the CNP set out with the following objectives to increase cycling:

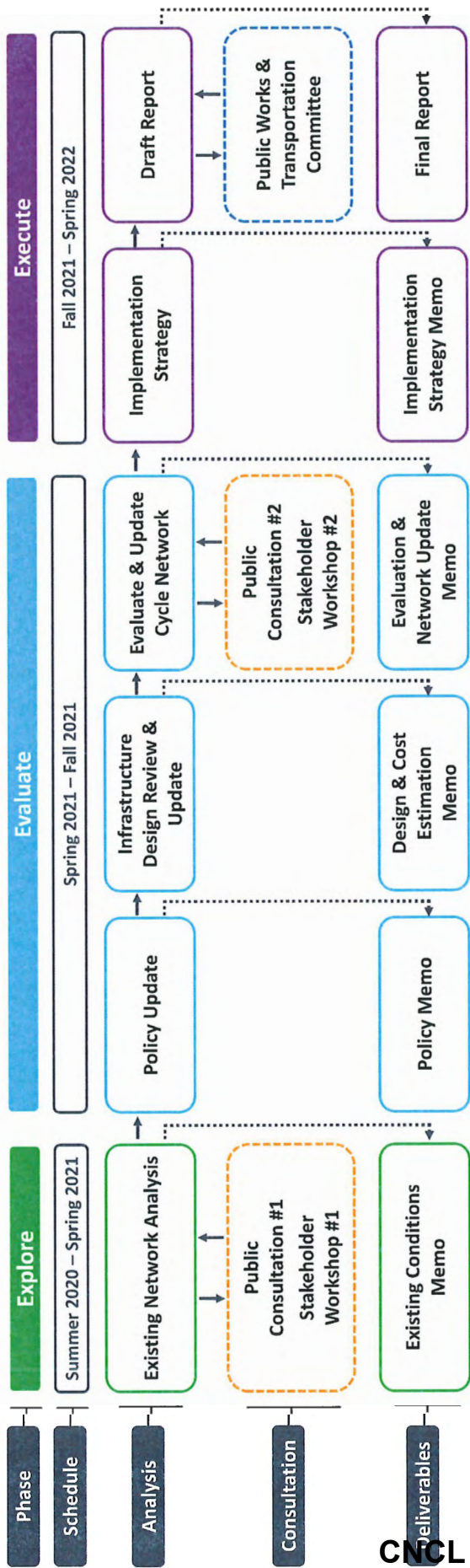
- Use as a viable and sustainable option, for all ages and abilities
- **Safety and access** to key destinations and transit
- **Network connectivity** within Richmond, and between adjacent cities
- **Infrastructure** with designs reflecting current and emerging standards

Through the planning process, the City also sought to develop a CNP that reflects the community's input. Hence, these initial objectives were revised to reflect recurring themes and messages from Phase 1 engagement. The following key themes were distilled from the feedback:

- **Connectivity**
- **Feasibility**
- **Network Gaps**
- **Safety**
- **Social Equity**
- **Utility and Convenience**

These key themes are discussed in Chapter 3 and formed the building blocks of the priority network evaluation framework.

Figure 1.2: Project Phases Overview



1.1.3 Process/Project Phases

The development of the CNP was divided into three phases to **explore** the existing conditions, **evaluate** and update the future cycling network plan, and **execute** a final Cycling Network Plan by prioritizing investments through an implementation strategy. Figure 1.2 presents the subtasks, consultation phases and associated deliverables within each phase of work.

1.1.4 Engagement Approach

As shown in Figure 1.2, this project used a multi-phase approach to public engagement – reporting back on what was heard and sharing initial evaluation results – to enhance responsiveness to community feedback and better address regional, local and site-specific considerations at the prioritization and implementation phase.

Phase 1 engagement focused on gathering public and stakeholder input on existing conditions and recommendations for future improvements. Phase 2 engagement targeted three major objectives:

- Validating findings from the route-level evaluation (detailed in section 3.2.1)
- Refining feedback heard during Phase 1 engagement
- Understanding how stakeholders and the public prioritize between different improvements and connections at the implementation stage

To reach a broad audience and enable participants to share their contributions from a comfortable location during the COVID-19 pandemic, public engagement was delivered online through the *Let's Talk Richmond* platform. Phase 1 ran over the month of June 2021 and Phase 2 was completed during the month of November 2021.

During these engagement periods, several activities were conducted to gather public and stakeholder input including:

- Internal stakeholder consultation with:
 - City of Richmond Staff
 - Advisory Committee on the Environment
 - Richmond Active Transportation Committee
- External stakeholder workshop (see attendees in Table 1.1)
- Public consultation for both the public and students via the *Let's Talk Richmond* portal

Figure 1.3 provides a high-level summary of the engagement activities and participation. Detailed results from both phases of engagement are documented in Appendices A and B. Key findings have informed recommendations and are referenced throughout this report.

Table 1.1: External Stakeholder Workshop Attendees

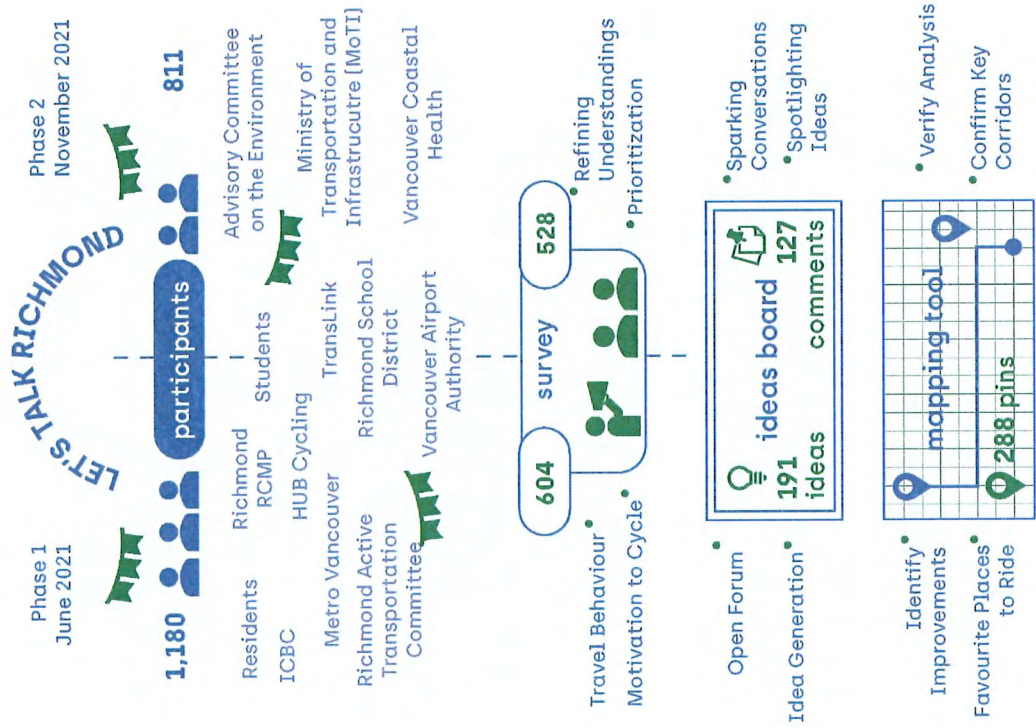
Attendees
HUB Cycling, Insurance Corporation of British Columbia (ICBC), Metro Vancouver, Ministry of Transportation and Infrastructure (MoTI), Richmond Active Transportation Committee, Richmond School District, Richmond RCMP, TransLink, Vancouver Airport Authority, Vancouver Coastal Health

1.1.5 Document Structure

This report is divided into five chapters with a depth of reference materials available in the Appendices. **Chapter 1** outlines the project objectives, phases and engagement approach. **Chapter 2** recaps the current conditions of the cycling network including available facility types and comfort levels.

Chapter 3 details the approach and results of the priority network evaluation. The implementation strategy, including approach, key considerations and stages, is provided in **Chapter 4**. Finally, **Chapter 5** recommends further cycling-related policies, programs and initiatives.

Figure 1.3: Summary of Phase 1 and Phase 2 Engagement Activities



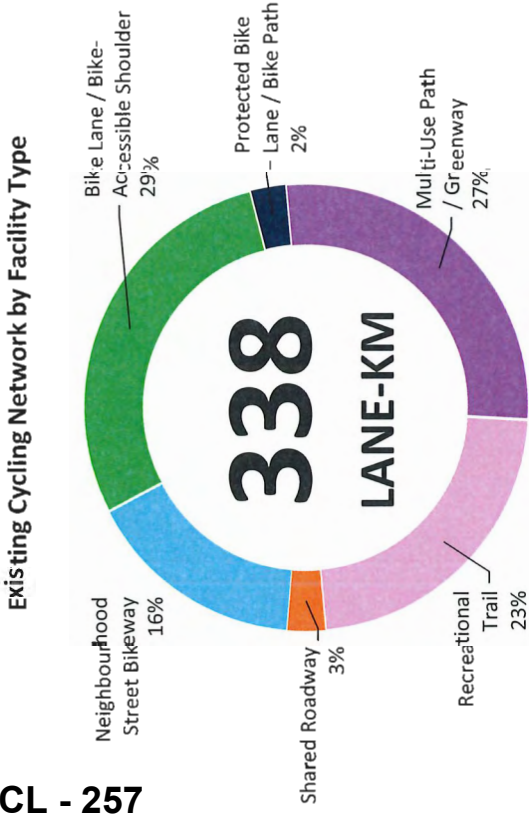
2 Existing Cycling Network

2.1 Introduction

As of 2021, Richmond’s cycling network comprises more than 330 lane-km of cycling facilities with a mix of facility types. Figure 2.1 illustrates the composition of the existing cycling network by facility type. The key characteristics of each facility type are summarized in Table 2.1, with detailed facility descriptions available in Appendix C.

The Existing Cycling Network map, Figure 2.2 on the following page, shows the distribution of cycling facilities throughout the city by facility type.

Figure 2.1: Cycling Network by Facility Types



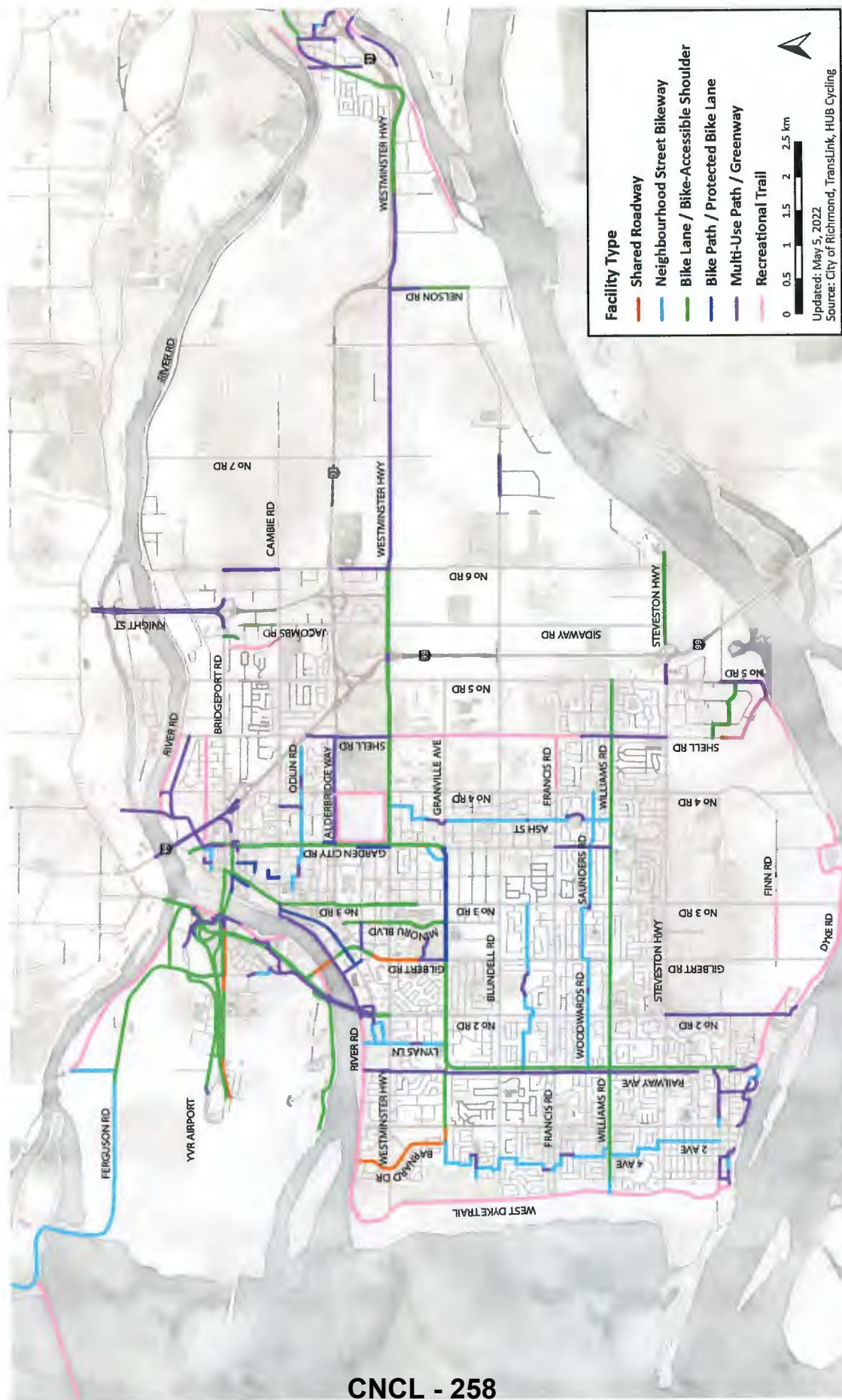
CNCL - 257

Table 2.1: 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 bidirectional 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 major roads	On-street sharrow markings with shared roadway signage

As the cycling network develops, balancing the needs for enhanced safety with an expanded network will continue to require a combination of facility types to accommodate different users and trips of varying purposes through the city.

Figure 2.2: City of Richmond's Existing Cycling Network by Facility Type



2.2 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 Cycling’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 C.

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 (see Figure 2.3). Additionally, comfort levels tend to decrease as both traffic speeds and volumes increase.

Figure 2.3: Cycling Comfort Level Criteria



Inherent design features of different facility types lend themselves towards lower or higher levels of comfort. Thus, while Figure 2.4 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 2.5 highlights that this is primarily accounted for by off-street Recreational Trails and Multi-Use Paths/Greenways.

Figure 2.4: Cycling Comfort Level – Existing Cycling Network

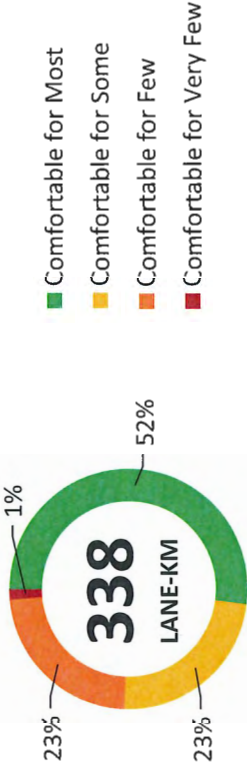
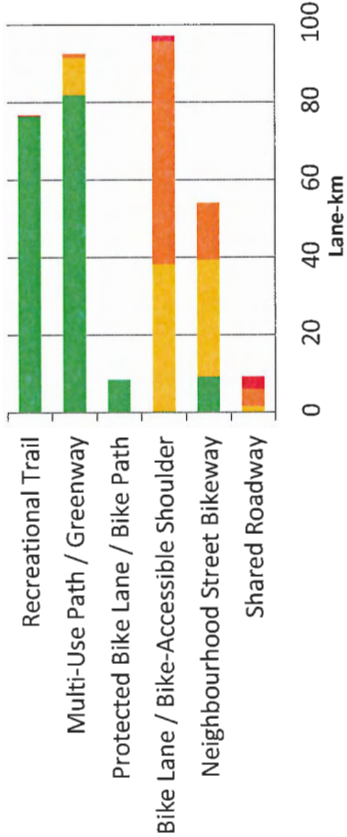


Figure 2.5: Cyclist Comfort Level by Facility Type



The majority of remaining facilities are considered ‘comfortable for some’ (23%) or ‘comfortable for few’ (23%). 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 older adults.

Importantly, facility types are not evenly distributed across the network and may serve different user groups or trip purposes. This is particularly true of perimeter Recreational Trails like the Dyke Trails, which offer limited utility for general purpose trips or commuting.

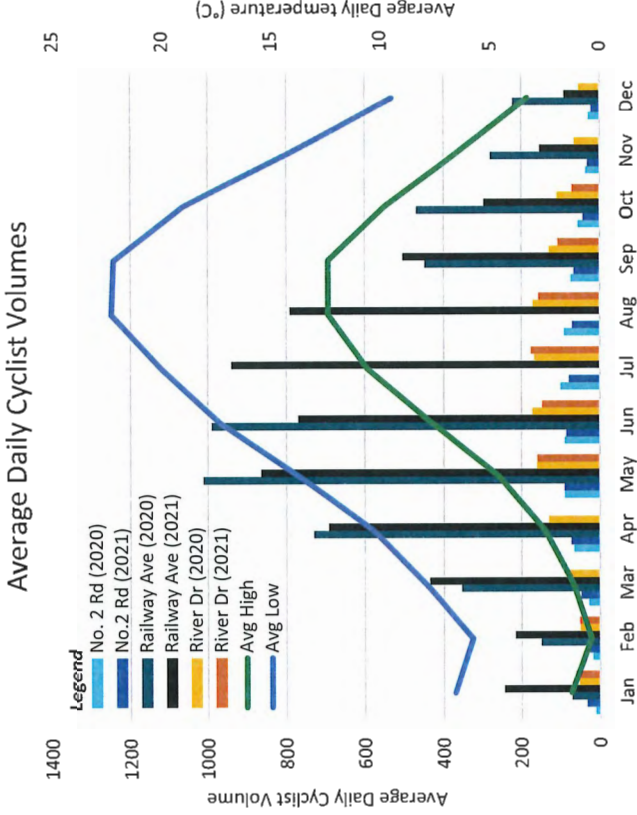
2.3 Cycling Ridership

Installed in late 2019, bike counters on the River Drive multi-use path (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 2.6 shows the average daily count of cyclists at the City's three bike counter locations for 2020 and 2021 alongside average historical precipitation and temperature data for Richmond.

While the relative cycling rates vary greatly by location (approx. 5-10 times many average daily cyclists on the Railway Greenway in March to June 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 the app-based fitness tracking service *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, around one in seven 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 for 2020 and 2021 by users of the *Strava* platform in Richmond.

Figure 2.6: Average Monthly Cyclist Volumes and Climate Data (Jan 2020 – Dec 2021)



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. 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 in the future will help to better understand cycling patterns as the network evolves. Such an expansion will 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.

3 Priority Network Evaluation

3.1 Introduction

Figure 3.1 presents the set of major and minor routes that were considered during the network evaluation, mainly drawing from the OCP and CCAP.

While the OCP and CCAP together present a roadmap for the ultimate cycling network, implementing this network requires a phased delivery approach that reflects the relative priorities of different projects. When making these decisions, an evaluation of the potential of different routes is informative for identifying priorities and planning interim network phases.

Hence, this project carried out a two-step evaluation process: first assessing the wider route-level benefits and then assessing the segment-by-segment prospects of potential cycling investments. In this way, routes that were outside the scope or 15-year timeline of this plan (e.g., cycling facilities on River Road east of No. 6 Road, which will be considered as part of the Dike Master Plan, or a future pedestrian- and cyclist-only crossing over the Middle Arm) could be excluded before assessing the opportunities and challenges of network improvements in a more targeted way. The evaluation was developed around several key themes identified during Phase 1 engagement.

3.1.1 Key Themes

Based on public and stakeholder feedback during Phase 1 engagement, several key themes emerged that could be codified into the evaluation of potential projects:

- **Community Support** – Emphasizing priority projects and corridors identified during public engagement
- **Connectivity** – Establishing wider cycling connections to important local and regional areas as well as the existing cycling network
- **Feasibility** – Costs and constraints, impacts on other modes

- **Network Gaps** – Completing missed connections in the existing major cycling network and improving wayfinding
- **Safety** – Improving cycling comfort and serving all ages and abilities
- **Social Equity** – Targeting improvements in areas with high proportions of equity-deserving groups to improve conditions on the major streets these cyclists are likely already using
- **Utility and Convenience** – Improving access to key cycling destinations, including activity centres, transit hubs, schools, employment centres, population centres, and parks

3.1.2 Methodology

Not all the themes identified could be easily operationalized into practical evaluation criteria. For example, each cycling network improvement that completed a network gap, expanded the network by adding a new facility, or added a layer of protection to an existing route or intersection could achieve greater safety for cyclists. Hence, safety and comfort were combined in an all-encompassing objective for developing the cycling network as outlined in section 4.2.1.

Likewise, the themes of feasibility and network gaps were not considered in the first step of the evaluation, which was used to exclude lower priority routes and validate preliminary high-scoring routes identified during Phase 2 engagement. Instead, for those routes shortlisted through the initial route level evaluation, these considerations were reviewed at the segment level where the relative impacts of segments with existing right of way constraints or interrupted facilities could be more reliably assessed. Table 3.1 and Table 3.2 present the evaluation criteria used in each step of the evaluation process.

Routes Used in Evaluation

0 0.5 1 2.5 km 5 km

Updated: May 27, 2022
Source: City of Richmond

Table 3.1: Route Level Evaluation Criteria

Objective	Evaluation Criteria	Relative Scoring
Community Support	Priority route from Phase 1 engagement or provides a continuous corridor, including east-west neighbourhood bikeways	High/Medium/Low
	Regional – is a Major Bike Route (TransLink), Regional Greenway (Metro Vancouver), or entry point for adjacent municipalities	Yes/No
Connectivity	Directly connects between several routes in the existing cycling network or provides a new east-west or north-south corridor	Yes/No
	Provides a direct connection to at least one neighbourhood centre in the OCP	Yes/No
	Provides a direct connection between East Richmond and the wider cycling network	Yes/No
	High percentage of households spending 30% or more of income on housing	High/Medium/Low
Social Equity	High percentage of low-income households based on Statistics Canada low income measure (LIM) thresholds	High/Medium/Low
	High percentage of population identifying as Indigenous	High/Medium/Low
	Improves access to activity centres, transit hubs and schools within a 200m radius	High/Medium/Low
Utility / Convenience	Provides direct access into and within employment centres and areas of high population density	High/Medium/Low

CNCL - 263

Table 3.2: Segment Level Evaluation Criteria

Objective	Evaluation Criteria	Relative Scoring
Community Support	Priority route from Phase 2 engagement	High/Medium/Low
Connectivity	Creates or extends an east-west or north-south corridor	Yes/No
Feasibility	Entire segment is within municipal jurisdiction	Yes/No
	Overlaps with planned projects in the current 5-year capital plan	Yes/No
	Extent and likelihood of requiring further right of way expansion to add/improve cycling facility	High/Medium/Low
Network Gaps	Completes a gap in the existing cycling network or upgrades an existing shared road facility	Yes/No
Safety	Improves cycling comfort by adding new cycling facility or adding separation to an existing facility.	Yes/No
Social Equity	High percentage of households spending 30% or more of income on housing	High/Medium/Low
	High percentage of low-income households based on Statistics Canada low income measure (LIM) thresholds	High/Medium/Low
	High percentage of population identifying as Indigenous	High/Medium/Low
	Improves access to activity centres, transit hubs, schools, and parks within a 200m radius	High/Medium/Low
Utility / Convenience	Intersects with the City Centre	Yes/No

Evaluation criteria were assessed using spatial analysis tools in QGIS and visual inspection. The final score for both the route level and segment level evaluations reflects the average scores of each of the objectives. In other words, the average score among all criteria within each objective was taken before equally weighting the combined results for each objective.

Two measures were developed from 2016 Canadian Census data (results for the 2020 census were not available at the time of analysis): population densities and social equity. In addition, employment centres were derived from relevant land uses in the OCP. Routes overlapping with areas of increased employment uses and population densities were evaluated as providing higher utility and convenience. To assess social equity, a three-criteria average level of disadvantage was developed that targeted key components of social equity critical to the Greater Vancouver context. The Core Housing Need measure was also assessed but did not considerably alter the results of the social equity analysis.

To carry out the route level evaluation, major and minor routes from the OCP and the CCAP were grouped into continuous segments, generating 61 discrete routes for analysis. During the segment level evaluation, the remaining routes were further broken down into sections of approximately 800 metres in length, in alignment with the distance between arterial roads and key intersections. The continuous shading in Figure 3.2 compared to the intermittent shading in Figure 3.3 provides an indication of the different scales of each stage of the analysis.

3.2 Results

3.2.1 Route Level Evaluation

Results from the social equity evaluation showed that equity deserving populations are more likely to be living near and within the City Centre. Hence there is a strong correlation between prioritizing routes for equity seeking groups and prioritizing routes within the urban core. Routes adjacent to and within the City Centre similarly scored high on utility and

convenience, given the density of population, employment, and destinations in the area. Top routes for community support reflected the results from Phase 1 engagement (detailed in Appendix A), while top routes for connectivity included Steveston Highway, Westminster Highway, Blundell Road, No. 3 Road, Garden City Road, Shell Road, and Cambie Road (between Shell Road and No. 6 Road).

Aggregate results from the route level evaluation are shown in Figure 3.2. In general, scores were highest in Central Richmond and the City Centre along major corridors, decreasing toward the edges of residential development. In sharing these results during Phase 2 engagement (see Appendix B), we also heard priorities to extend routes on Gilbert Road, Shell Road (between Alderbridge Way and River Road), River Road (east of Shell Road), and No. 3 Road (in the City Centre).

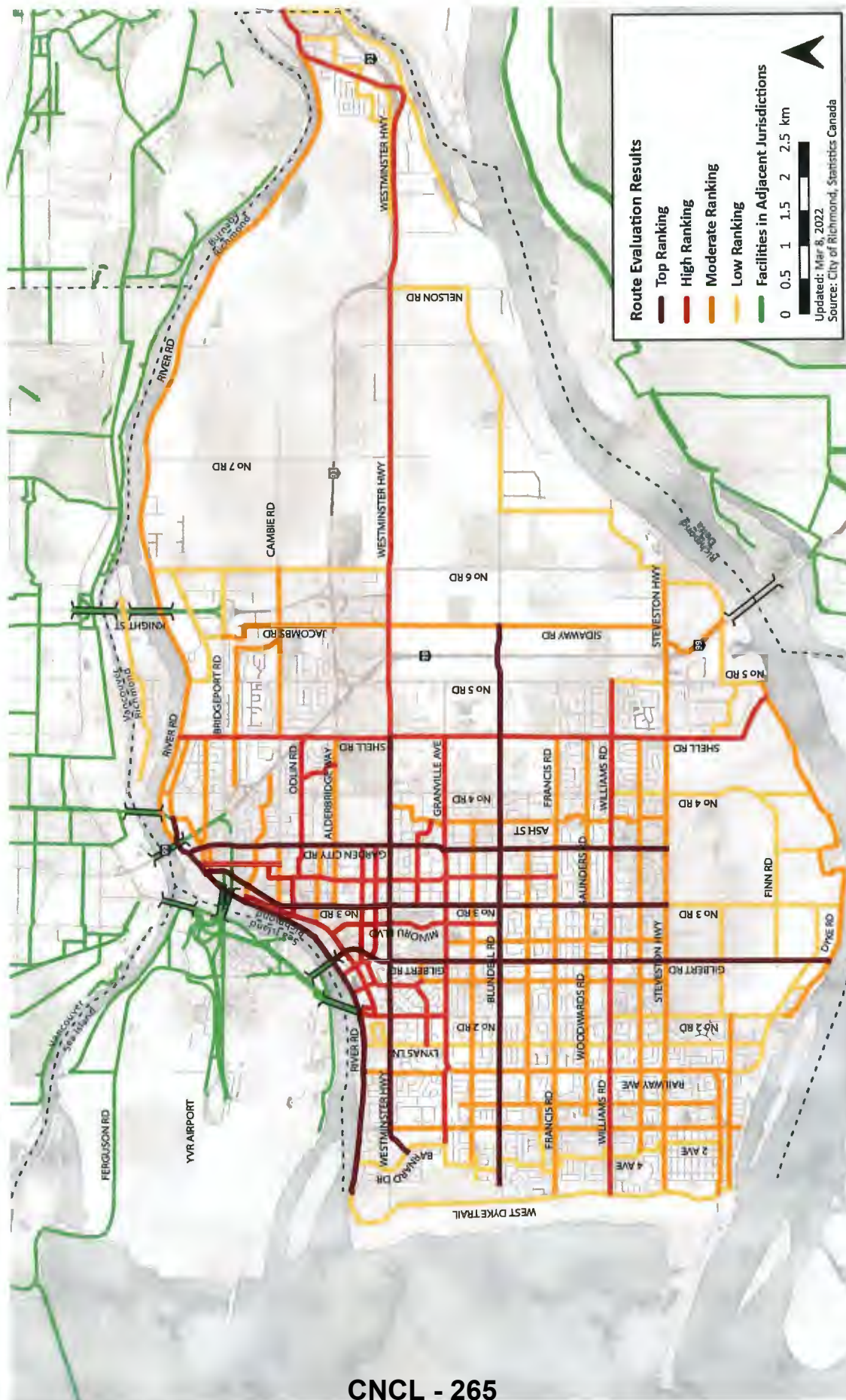
3.2.2 Segment Level Evaluation

Building on the results of the first evaluation, the segment level evaluation provides a finer grain investigation of the evaluation criteria for routes that could potentially serve as major corridors within the interim cycling network proposed by this plan. In this way, it is possible to identify segments with high potential as well as look at parallel corridors in closer detail. For example, the corridors of No. 2 Road, Gilbert Road and No. 3 Road all emerged as top ranking during the route level evaluation but serve a similar area of the city.

Figure 3.3 depicts the results of the segment level evaluation and shows the following segments as receiving the highest relative scores:

- Routes in the City Centre
- Southward extension of No.2 Road facilities to Granville Avenue
- Northward extension of paved Shell Road facilities to River Road
- Replacing shared road segments on Garden City Road
- Replacing shared road segments on Westminster Highway

Figure 3.2: Route Level Evaluation Results



CNCL - 265



4 Implementation Strategy

4.1 Introduction

The results of engagement and the priority network evaluation provided considerable insight to projects with high potential benefits. To move forward with prioritization, a series of planning principles were distilled from feedback and trends, informing our approach to identifying short-, medium-, and long-term investments. This approach and other key considerations are summarized below, before outlining projects to be undertaken in each stage of the implementation. For detailed project rationale, please refer to Appendix E. A map of the implementation plan and future major routes from the OCP is provided in Appendix F.

4.2 Approach

4.2.1 Safety and Comfort

While perceptions of cycling comfort and stress cannot be tied to a single variable, they are most significantly impacted by the level of exposure to motor vehicle traffic. The needs and comfort levels are also not unique across different cycling groups (e.g., road/touring cyclists, commuter cyclists, recreational cyclists). Despite some differences, an approach that is geared toward improving safety and viability of the network for all ages and abilities (AAA) by prioritizing the separation of cyclists from traffic whenever feasible presents the greatest opportunity to increase cycling use in the City of Richmond.

Cycling comfort and safety were also central themes of feedback received during public and stakeholder engagement. While select safety improvements are mentioned within this plan, many more decisions pertaining to safety and comfort will need to be made during the site/corridor design stage. Moving forward, the following principles will be

central for progressing safety and comfort objectives in later decision-making at the implementation stage:

- **Design for the AAA user, prioritizing separation from traffic whenever feasible.** Achieving mode share goals and broadening the cycling user base is strongly dependent on designing facilities that are comfortable for most. While some destinations may only be accessible by highly constrained corridors and neighbourhood street bikeways may also provide a suitable alternative route in some instances, a progression toward protected and separated facilities on major routes should be the default assumption.
- **Future proof facilities by considering the spatial requirements of both emerging and increasing walking and rolling needs.** For example, bicycle facilities built to minimum standards do not well accommodate cargo bicycles while electric bicycles may increase the prevalence of faster moving cyclists. If it is possible that multi-use paths may reach minimum thresholds for separation of cyclists and pedestrians, there should be sufficient space to allow for this separation in the future.
- **Address intersection conflicts,** recognizing that the intersection and the mid-block conditions both contribute to cycling safety and comfort. Uncomfortable intersections may further present major barriers to overall cycling network connectivity. Both design (e.g., concrete barricades) and operational (e.g., signal phasing) improvements should be considered and are detailed in Appendix G.
- **Strive to provide a consistent facility type along a corridor.** However, facilities are often built out over time in sections and design best practices and local policy may evolve. Where transitions between facility types are necessary, locate them where they are safe, clear to all users, and offer a seamless connection (e.g., following a no-parking zone or at a low-traffic intersection).

4.2.2 Major Routes

As previously mentioned in Chapter 3, existing and future major cycling routes were evaluated based on the themes of *feasibility, connectivity, utility and convenience, social equity, community support and completing network gaps*. With most routes presenting new connections and real improvements to the network but with finite resources, this implementation plan was further informed by a few key objectives in recommending priorities for major network expansion:

- **An emphasis on transecting and multi-purpose routes.** In many instances, routes may play an important role temporally for commuter cyclists and still have the potential to service recreational needs in off peak hours. Shell Road is one strong example; conversely, improvements to a rural perimeter route such as the South Dyke Trail do not deliver these dual benefits to the same extent.
- **A concern for ensuring basic levels of local and regional connectivity.** This includes connections to more distant communities within Richmond such as Hamilton, Ironwood, Steveston, and Burkeville, as well as surrounding municipalities. For example, connections to the No. 2 Road Bridge, Canada Line Bridge and Massey Tunnel as well as crossing Highway 99 are included.

CNCL - 268

- **An awareness of the current cycling capital plan and ongoing cycling improvements.** Short-term recommendations are sensitive to align with and not deprive resources from projects that the City is already moving forward.
- **A core network, locating most residents within 800 metres of a major cycling route.** On a local scale, routes do connect better or worse to different destinations. At a network level, distributing coverage is an important directive for this planning horizon. Hence, while each of No. 2 Road, Gilbert Road and No. 3 Road were identified as key north-south routes through engagement, Gilbert Road was preferred in alignment with the overall distribution of routes in the network.

- **A finer grain network in the City Centre.** Separated cycling facilities are particularly important within Urban Centres, with greater access to a density of jobs and destinations and increased prevalence of high-traffic routes. This also aligns with TransLink's recent Regional Transportation Strategy: Transport 2050, which supports urgent action to put separated cycling facilities within the Urban Centres. It also responds to our findings of a higher prevalence of equity deserving groups in the City Centre (see section 3.2).

4.2.3 Minor Routes

In select cases, minor routes (generally neighbourhood street bikeways on local roads) have been prioritized within this plan. These routes align with existing short-term planning decisions (i.e., 5-year cycling capital plan) and provide a nearby alternative route to long-term priorities identified for the major bike network. In most cases, continued expansion of neighbourhood street bikeways is generally low-cost, beginning with paint and wayfinding signage, and should progress.

In some cases, more costly improvements to neighbourhood bikeways may be required. One example is where local streets do not directly connect with each other across an arterial road. In such cases, intersections for neighbourhood street bikeways often need to be 'off-set,' with cyclists travelling along a small section of the arterial before crossing.

In the Phase 2 engagement survey, participants were asked to rank their most preferred improvements to increase comfort levels when using neighbourhood bikeways. The most preferred choice was "safer crossings at major streets (e.g., traffic signals, green paint, refuge islands)." In alignment with this priority and overall cost considerations, the implementation plan for neighbourhood bikeways has focused on intersection improvements at major roads, specifically **those intersections with average hourly traffic volumes in any travel direction exceeding 500 vehicles**.

Going forward, to improve cyclist visibility and wayfinding, a wider, low-cost program of upgrades to neighbourhood bikeway intersections with lower traffic volumes should also be considered.

4.2.4 Intersection Prioritization

In addition to neighbourhood bikeway intersections, intersections of other cycling facility types have also been prioritized. With so many candidate intersections and ongoing improvements to the cycling network possibly altering cyclist travel behaviour, a forward-looking set of selection criteria was developed. As mentioned, neighbourhood street bikeways were selected based on higher traffic volumes. Otherwise, only intersections where two cycling facilities (e.g., one east-west and one north-south route) intersected were considered for improvements within this plan. The rationale for this decision is that these intersections are more likely to have a higher number of cyclist turning movements, thereby increasing the potential for interactions with motorists. From this short-list, only intersections that met one or more of the following criteria were included:

- Intersections where **5 or more incidents involving cyclists** were reported to ICBC between 2014 and 2019
- Intersections with average hourly traffic volumes exceeding **1,500 vehicles** in any travel direction
- Intersections where a **new cycling facility** is being connected to an **existing protected bike path**

Generally, intersection improvements have been envisioned to occur **alongside completion of a new route**. However, as many neighbourhood street bikeway intersections are located on existing routes or at major arterials with no cycling facility, the following additional criteria were applied to include the following cases:

- Short-term completion of unsignalized intersections at arterial roads
- Medium-term completion of intersections at arterial roads with an existing pedestrian priority crossing

Figure 4.1: Intersection of the Railway Greenway and Williams Road



4.3 Key Considerations for Implementation

4.3.1 Piloting Improvements

Constraints and trade-offs are likely to be faced in some corridors during the project implementation stage. For example, on-street parking spaces or turning lanes may need to be removed to fit cycling facilities within the existing right of way. When faced with these decisions, temporary installations present a great opportunity to collect data and identify good routes and potential design improvements.

Rapid implementation facilities are also a cost effective and quick means for providing separation (e.g., flexible bollards) to existing routes. Candidate routes to initially target in the existing cycling network include **Granville Avenue, Garden City Road, Westminster Highway, and Williams Road.**

4.3.2 Phasing and Sequencing

Projects are generally grouped as being short- (0-5 years), medium- (6-10 years), or long-term (10-15 years). Results from public engagement provide further insight to prioritize projects on a project by project or annual basis.

Fixing shared road segments was the most upvoted idea on the Let's Talk Richmond Ideas Board platform during Phase 1 engagement, with "fix bicycle lanes that suddenly turn into regular roads" receiving 30 votes. While missed connections and shared road segments generally exist due to corridor constraints, these improvements are often viewed as a top priority.

Longer length facilities will likely also be delivered in segments, presenting opportunities to prioritize individual portions of the route before others. In these instances, building out from the existing network is preferred to maximize network connectivity and minimize gaps. In addition, survey participants were also asked during Phase 2 engagement to rank destinations from highest to lowest priority when completing routes in multiple segments. Canada Line stations and schools were the top choices and would be good locations to target with initial improvements.

4.3.3 Stewardship

As the network expands, so too do considerations for maintenance and asset management once facilities are implemented. One key consideration at the site level is the provision of new bike counters to expand understandings of cycling behaviour and ridership and inform future improvements.

4.3.4 Street Expansion versus Reallocation

At the design and segment level, cycling projects face differing constraints and vary in the magnitude of street redesign and rebuild that may be required. Several proposed projects are planned to be completed as part of an existing program (e.g., the City's current 5-year capital plans for cycling facilities) or new building development (e.g., Brown Road Extension), while other corridors are less fixed in their design or approach.

As this plan is not prescriptive regarding the segment level design of projects, some decisions with important cost implications will still need to be determined at the implementation stage. Namely, whether to build new cycling infrastructure through expansion of the street right-of-way or through street reallocation (i.e., removal of parking or motor vehicle lanes).

Street reallocation is one way to extend limited cycling infrastructure funding and enable timely completion of new facilities. To assess the relative costs of separated cycling facilities installed within the existing right of way and those installed by expanding the right-of-way, key unit costs were reviewed for comparable projects. From this exercise, estimated cost savings of more than \$20 million could be achieved for this plan by pursuing the reallocation of parking and motor vehicle lanes for cycling investments. This estimate is based on an initial inspection which found that 10 major routes representing nearly 40 lane kilometres of proposed projects are candidates for street reallocation. This is a conservative estimate as it does not include the costs of property acquisition, which further increases the costs of expanding the street right-of-way.

4.4 Priorities by Stage

Figure 4.2: Legend for Interpreting Implementation Phases

1

First priority for completion during phase

2

Second priority for completion during phase

D

Dependent on development or other agency

Cost

L

Less than \$250,000

M

Between \$250,000 and \$1 Million

H

Between \$1 Million and \$3 Million

VH

Greater than \$3 Million

E

Funded by existing program or development

SC

Special case (not costed)

Note: Costs represent very rough estimates based on comparable projects and have not been informed by site specific concept designs.

steer

6897532

May 2022 | 17

The following pages details the three phases of the implementation plan. To interpret the tables, a legend is provided in Figure 4.2. Note that the **costing ranges provided are only indicative**, having been adopted from recent, comparable projects. Site specific costs, such as property acquisition, utility relocation and environmental management costs have not been considered. Initial design work is necessary to increase the accuracy of such estimates.

Short-Term (2022-2026):

- Development of core protected cycling network in City Centre
- Early completion of parallel neighbourhood bikeways as alternatives to long-term routes on Gilbert Road and Blundell Road
- Completion of Shell Road and Steveston Highway in preparation for medium-term and long-term connections

Medium-Term (2027-2031):

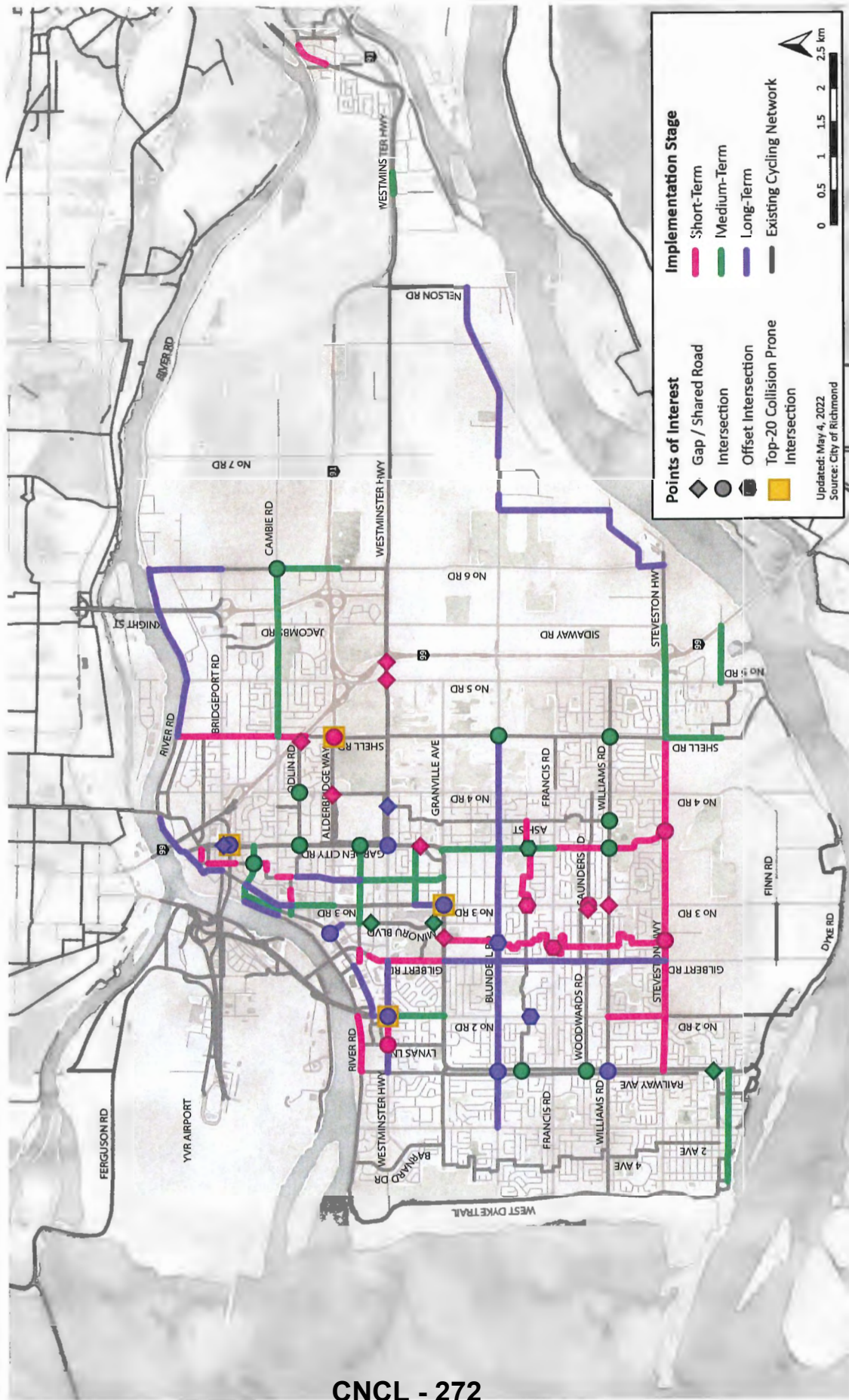
- Connections to Burkeville, Steveston, Ironwood, East Cambie, and the future Fraser River Crossing
- Completion of central loop of directional bike lanes on Garden City Road, Williams Road, Railway Avenue, and Granville Avenue
- Increased connectivity and protection in the City Centre
- Projects dependent on redevelopment or collaboration with other agencies that are likely to occur at this stage

Long-Term (2032-2036):

- Connections to Hamilton and Southeast Richmond
- Completion of new east-west and north-south corridors of Blundell Road and Gilbert Road respectively
- Further connectivity and protection improvements within the City Centre
- Projects dependent on redevelopment or collaboration with other agencies that are likely to occur at this stage

CNCL - 271

Figure 4.3: Map of Implementation Plan – Short, Medium and Long-Term Priorities



4.5 Short-Term (2022-2026)

Table 4.1: Short-Term Gap / Shared Road and Intersection Improvements

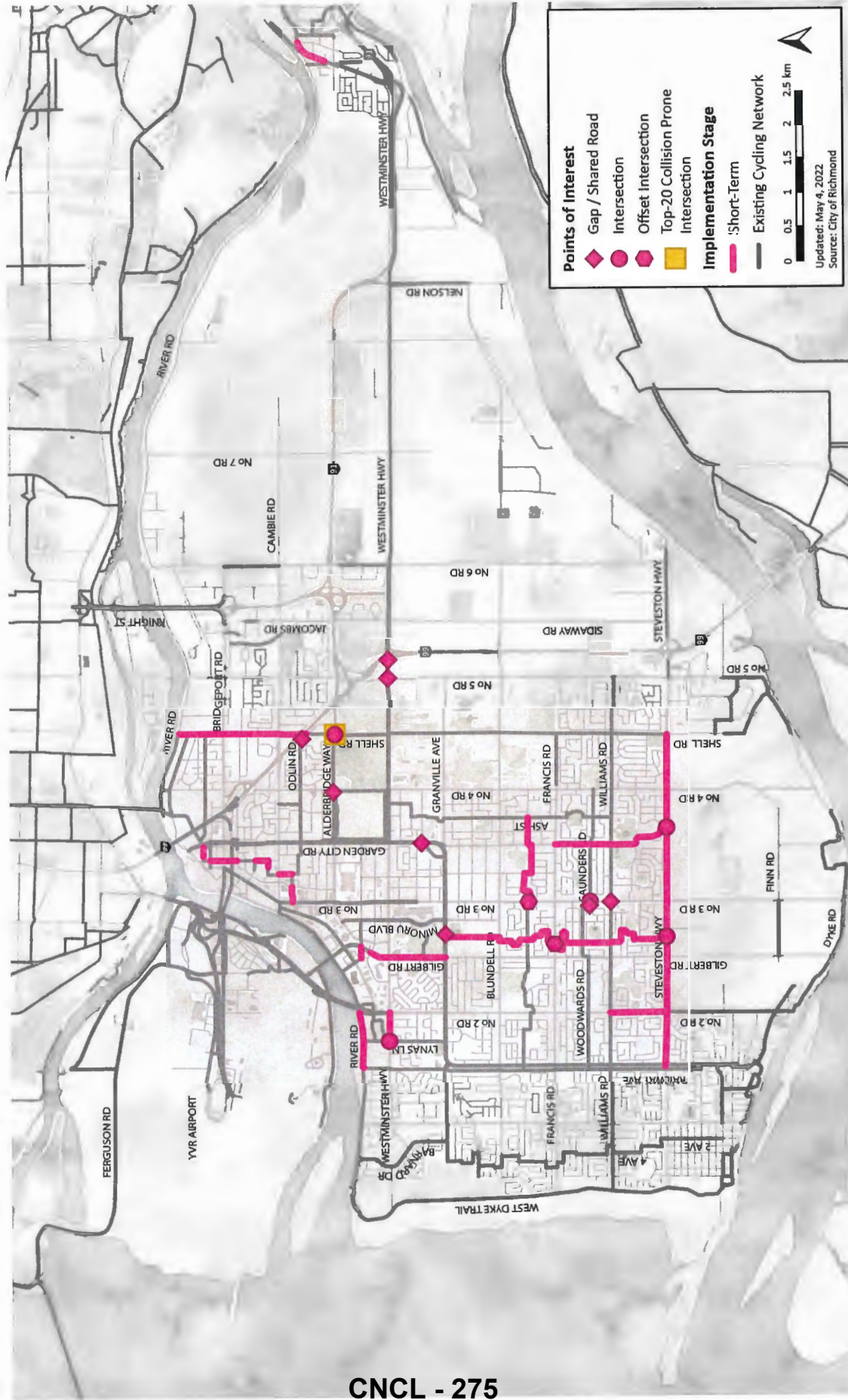
Point ID	Location Name	Description	Priority	Cost
SG-ALD	Alderbridge Way west of No. 4 Road	Complete gap in multi-use path	1	L
SG-WH-C	Westminster Hwy and No. 5 Road	Separate eastbound bike lane from the right turn lane approaching the intersection	1	E
SG-GCR	Garden City Road (Cook Road to Citation Drive)	Add green paint treatment for cyclists crossing right turn lane for Citation Drive	1	L
SG-WH-D	Westminster Hwy at SB Hwy 99 On-Ramp	Add green paint treatment for cyclists crossing on-ramp (dependent on MoTI)	D	SC
SG-SAU	Saunders Road and No. 3 Road	Widen path to increase visibility of cyclists emerging from off-street pathway on Woodwards-Saunders Neighbourhood Bikeway	2	E
SG-OD	Odlin Road and Shell Road	Provide new cycling connection between cul-de-sac and Shell Road, creating continuous east-west connection from the Shell Road MUP to the City Centre (dependent on MoTI)	D	SC
SG-ALD	Alderbridge Way and Shell Road	Upgrade busy, wide intersection to connect bi-directional MUP facilities	1	E
SG-LUC	Lucas Road and No. 3 Road	Improvements to off-set intersection (30m spacing) on Crosstown Neighbourhood Bikeway	1	M
SI-WH-A	Lynas Lane and Westminster Hwy	Upgrades to support cyclist turning movements (e.g., bike boxes)	1	M
SI-WIL	Williams Road at No. 3 Road	Separate bike lanes from the right turn lane in both directions approaching the intersection	1	L
SI-MDB-A	Minoru Gate and Granville Avenue	Improvements to wayfinding, the eastbound travel lane, and intersection to connect cyclists from Moffatt Road seeking to travel westbound on Granville Avenue	2	L
SI-MDB-B	Bamberton Drive and Steveston Hwy	New pedestrian and cyclist-controlled intersection to connect on-street facility on Midtown Neighbourhood Bikeway and off-street facility on Steveston Highway	2	M
SI-MDB-C	McCutcheon Place and Schaefer Gate at Francis Road	Improvements to off-set intersection (50m spacing) on Midtown Neighbourhood Bikeway	2	M
SI-GCR	Mortfield Gate and Steveston Hwy	Upgrade existing intersection with cyclist push buttons and green paint	2	M
SI-SAU	Saunders Road and No. 3 Road	Upgrade existing pedestrian crossing to a pedestrian signal with green paint on Woodwards-Saunders Neighbourhood Bikeway	2	M

Table 4.2: Short-Term Route Improvements

Route ID	Route Name	Description	Priority	Cost
S-SH	Shell Road (Alderbridge Way to River Road)	Extend existing MUP north of Highway 99 to connect to East Cambie and Bridgeport areas. One of the most requested new routes during Phase 1 engagement	1	VH
S-SS	Sexsmith Road and Brown Road (Beckwith Road to Browngate Road)	Frequently identified as a network gap during engagement, these segments offer an alternative route to access Bridgeport Station and the Canada Line Bridge (to Vancouver)	1	E
S-CH	Charles Street (Existing MUP to Van Horne Way)	Improves connections between Sexsmith Road / Brown Road and nearby routes	1	M
S-BG	Browngate Road (Hazelbridge Way to No. 3 Road)	Improves connections between Sexsmith Road / Brown Road and nearby routes	1	E
S-GIL	Gilbert Road (Elmbridge Way to Granville Avenue)	High priority project from engagement replacing existing shared road segment and enhancing connections to Minoru Park, Richmond General Hospital and Samuel Brighthouse Elementary	1	H
S-LDR	Lansdowne Road (Pearson Way to Gilbert Road)	Completes network gap, extending connections to the Middle Arm Greenway	1	E
S-LBD	Lucas Road – Bowcock Road – Dayton Avenue	Completes east-west Crosstown Neighbourhood Bikeway between Railway Avenue and the Parkside (Ash Street) Neighbourhood Bikeway	1	E
S-WH-A	Westminster Hwy (Lynas Lane to No. 2 Road)	Safer connection southbound from the No. 2 Road Bridge to Granville Avenue via Lynas Lane	1	E
S-MDB	Moffatt Road – Deagle Road – Bamberton Drive	Short-term north-south Midtown Neighbourhood Bikeway between City Centre and Steveston Hwy MUP as alternative to Gilbert Road	2	E
S-MAG	River Road (McCallan Road to Middle Arm Greenway)	Extending paved segments of the Middle Arm Greenway westward along the south side of River Road to meet McCallan Road supports a continuous recreational and off-street connection to the Railway Greenway	2	E
S-STH	Steveston Hwy (Railway Avenue to Shell Road)	Direct east-west connection between Ironwood and Steveston, and recreational routes	2	E
S-WH-B	Westminster Hwy (Fraser's Gate to Smith Cres)	Priority upgrade of shared road facilities identified in Phase 1 engagement	2	E
S-GCR	Garden City Road – South Arm Park – Ryan Road (Francis Road to Steveston Hwy)	Complete gaps in the existing MUP south of Francis Road, and begin expansion of Garden City Road route south to connect to Steveston Hwy MUP	2	E
S-No2	No. 2 Road (Williams Road to Steveston Hwy)	New northern extension of No. 2 Road MUP as a key route in the cycling network	2	E

CNCL - 274

Figure 4.4: Map of Short-Term Priorities



4.6 Medium-Term (2027-2031)

Table 4.3: Medium-Term Gap / Shared Road and Intersection Improvements

Point ID	Location Name	Description	Priority	Cost
MG-RW	Railway Avenue (Garry Street to Moncton Street)	Extend off-street MUP to address feedback from engagement and cyclist-vehicle collisions at Garry St	1	H
MG-MIN	Minoru Blvd	Upgrades to existing shared road segments to provide separate bike lanes	1	L
MI-GCR	Garden City Road, Bowcock Road and Dayton Avenue	Improvements to off-set intersection (60m spacing on Crosstown Neighbourhood Bikeway	1	M
MI-WIL-A	Williams Road and Garden City Road	Upgrade existing signalized intersections with cyclist push buttons and green paint	1	M
MI-WIL-B	Williams Road and Ash Street	Upgrade existing signalized intersections with cyclist push buttons and green paint	1	M
MI-SH-A	Shell Road and Williams Road	Upgrade for transitions between bi-directional facilities on Williams Road and MUP on Shell Road	1	H
MI-OD-A	Odlin Road and Garden City Road	Add bike boxes and cyclist-activated signals for cyclists making left-turns at this wide intersection on the Odlin Road Neighbourhood Bikeway	2	H
MI-OD-B	Odlin Road and No. 4 Road	Upgrade existing signalized intersections with cyclist push buttons and green paint on Odlin Road Neighbourhood Bikeway	2	M
MI-No6	No. 6 Road and Cambie Road	Bring No. 6 Road MUP through intersection and create strong link to future Cambie Road facilities (e.g., space for cyclists to queue outside of travel lane)	2	M
MI-RW-A	Railway Avenue and Woodwards Road	Upgrade existing pedestrian crossings with cyclist push buttons and green paint	2	M
MI-RW-B	Railway Avenue and Colbeck Road	Upgrade existing pedestrian crossings with cyclist push buttons and green paint	2	M
MI-CAP	Sexsmith Road and Capstan Way	Protected intersection to support of safe through and turning movements for cyclists at high-traffic intersection with completion of Capstan Way route	D	E
MI-LDR	Lansdowne Road and Garden City Road	Improve wide, high-traffic intersection with completion of Lansdowne Road route	D	E
MI-SH-B	Shell Road and Blundell Road	Add pedestrian and cyclist-controlled crossing (dependent on coordination with CN Rail)	D	SC

CNCL 276

Table 4.4: Medium-Term Route Improvements

Route ID	Route Name	Description	Priority	Cost
M-GCR	Garden City Road (Granville Avenue to Francis Road)	Completes the final leg of a central loop of bi-directional bike lanes on Garden City Road, Williams Road, Railway Avenue, and Granville Avenue	1	VH
M-No2	No. 2 Road (Westminster Hwy to Granville Avenue)	More direct connection from Granville Avenue to the No. 2 Road Bridge with access to Burkeville, YVR, Iona Beach Regional Park, and Vancouver	1	H
M-WH	Westminster Hwy (McMillan Way to Graybar Road)	Upgrade 300m eastbound segment of shared roadway to improve safety concerns, as heard during engagement	1	M
M-BG	Browngate Road Extension (No. 3 Road to River Pkwy)	Direct connection between existing protected facilities on River Parkway and protected facilities on Sexsmith Road-Brown Road	1	M
M-CAP	Capstan Way (River Road to Garden City Road)	Connections to protected facilities on Sexsmith Road and a future extension of River Parkway, as well as the new Capstan Canada Line Station	D	E
M-No3	No. 3 Road (Browngate Road to Alderbridge Way)	Southbound connection to establish direct north-south link between other parts of the network, including Lansdowne Road, Cook Road and Browngate Road	D	E
M-RPK	River Pkwy Extension (Capstan Way to Cambie Road)	Extension of pedestrian and cycling facilities to connect with Middle Arm Greenway, providing a safer alternative to parallel segments of No. 3 Road	2	H
M-CAM	Cambie Road (Shell Road to No. 6 Road)	Connections to East Cambie and East Richmond, as heard during engagement	2	VH
M-No6	No. 6 Road (Cambie Road to Commerce Pkwy)	Completes network gap, providing a cycling connection across a major highway, with connections to East Cambie and East Richmond	2	H
M-LD	Lansdowne Road (Minoru Blvd to Garden City Road)	Continuous east-west route in City Centre connecting to Richmond Olympic Oval, Lansdowne Canada Line Station and Kwantlen Polytechnic University	D	E
M-CK	Cook Road (No. 3 Road to Garden City Road)	East-west route in City Centre, with connections to Richmond-Brighouse Canada Line Station and William Cook Elementary with future potential for extension to Minoru Park	2	H
M-CO	Cooney Road (Lansdowne Road to Granville Avenue)	North-south route that enhances connections to several nearby routes in the City Centre	D	E
M-MO	Moncton Street (No. 1 Road to Railway Avenue)	Direct east-west route into Steveston Village from Railway Avenue	2	VH
M-STH	Steveston Hwy (Shell Road to Sidaway Road)	Provides connections to Ironwood and Riverport, an improved crossing of Highway 99 for cyclists, and connections to future Fraser River Crossing (dependent on MoTI)	D	SC
M-RM	Shell Road (Steveston Hwy to Horseshoe Slough Trail) and Rice Mill Road (No. 5 Road to Massey Tunnel)	Improves cycling connections to the future Fraser River Crossing within municipal jurisdiction and on roads with lower traffic volumes	2	H



4.7 Long-Term (2032-2036)

Table 4.5: Long-Term Gap / Shared Road and Intersection Improvements

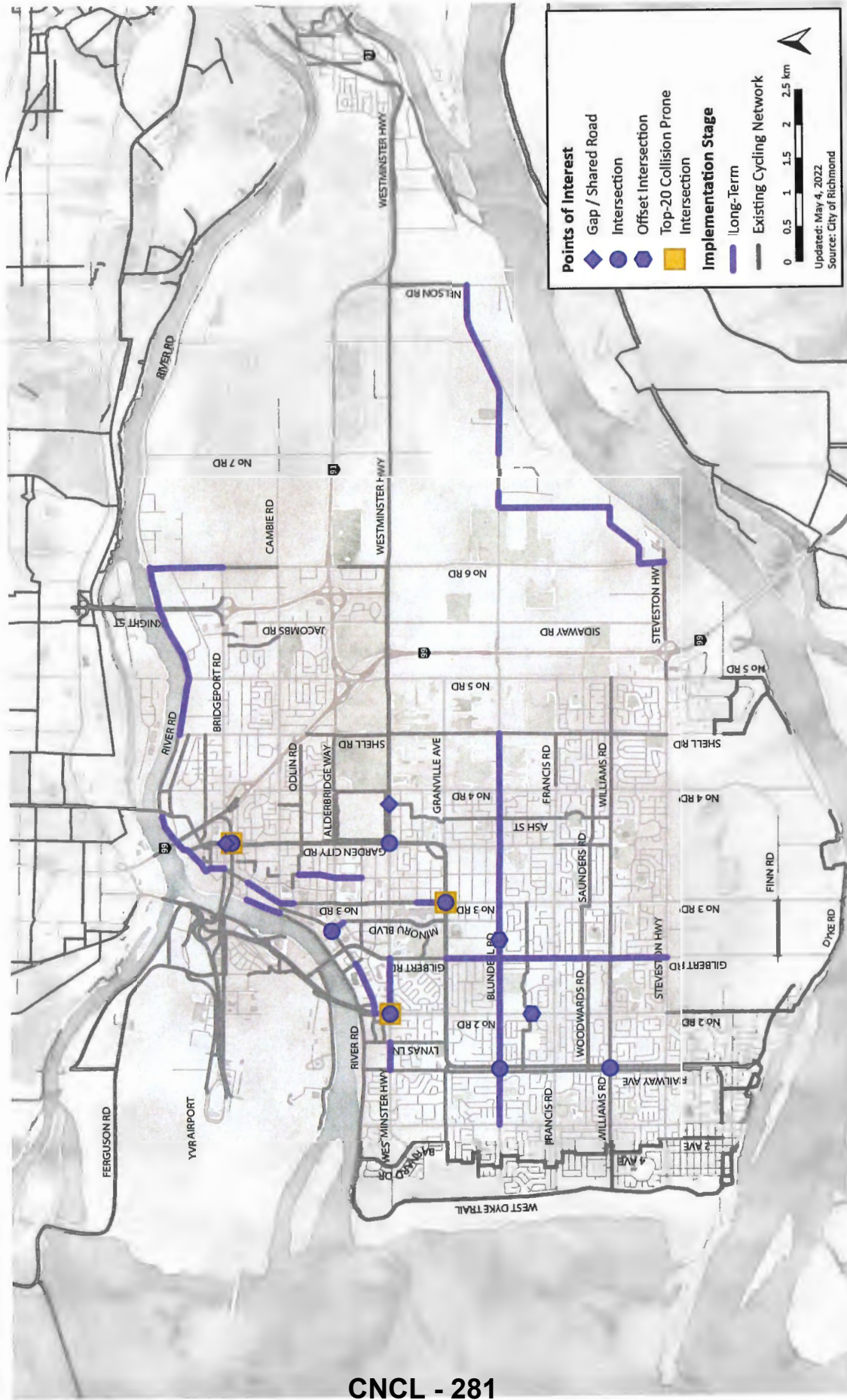
Point ID	Location Name	Description	Priority	Cost
GI-GCR	Garden City Road (Bridgeport Road-Sea Island Way)	Upgrade substandard facility in the southbound direction	1	L
LI-GCR	Garden City Road and Sea Island Way	Improvements to high traffic intersection that is among the top 20 collision prone intersections, most requested for improvements during engagement	1	E
LI-BLU-A	Blundell Road and Moffatt Road	Improvements to off-set intersection (90m spacing) on Midtown Neighbourhood Bikeway	1	M
LI-BLU-B	Blundell Road and Railway Avenue	Improvements to high traffic intersection with a higher number of collisions involving cyclists	1	H
LI-WH-A	Westminster Hwy and No. 2 Road	Additional improvements to high traffic intersection that is among the top 20 collision prone intersections with a higher number of collisions involving cyclists	1	E
LI-WH-B	Westminster Hwy and Garden City Road	Improvements to high traffic intersection to support of safe through and turning movements as the Westminster Highway route terminates	1	H
LI-WIL	Williams Road and Railway Avenue	Upgrades to support transitions between bi-directional facilities on Williams Road and the multi-use path on Railway Ave	1	H
LI-No2	No. 2 Road at Colville Road and Danube Road	Improvements to off-set intersection (50m spacing) on Crosstown Neighbourhood Bikeway	1	M
LI-MIN	Minoru Blvd and River Pkwy	New intersection with existing River Parkway protected bike lane facility	D	E
LI-No3-C	No. 3 Road and Granville Avenue	Improvements to high traffic intersection that is among the top 20 collision prone intersections with a higher number of collisions involving cyclists	2	E
LI-ASH	Westminster Hwy and Birch Street	Current alignment of the Parkside (Ash Street) Neighbourhood Bikeway on Birch Street connects to Westminster Highway at a divided median – upgrade or realign to Alder Street with pedestrian signal to allow westbound connections	2	M

CNCL - 279

Table 4.6: Long-Term Route Improvements

Route ID	Route Name	Description	Priority	Cost
L-GIL	Gilbert Road (Granville Avenue to Steveston Hwy)	Top new route requested during both phases of public engagement, providing a north-south route mid-point between Garden City Road and Railway Avenue	1	VH
L-BLU	Blundell Road (No. 1 Road to Shell Road Trail)	New east-west route with potential to provide future cycling crossing of Highway 99	1	VH
L-WH	Westminster Hwy (McCallan Road to Gilbert Road)	Extension providing improved connections between the Railway Greenway and the City Centre	2	H
L-BRN	Brown Road Extension (Odlin Road to Lansdowne Road)	New north-south roadway corridor per the City Centre Area Plan that includes cycling facility	D	E
L-RIV-A	River Road (No. 2 Road to Lansdowne Road)	Completion of western leg of protected River Road route	2	H
L-MIN	Minoru Blvd (River Pkwy to Alderbridge Way)	Redevelopment along Alderbridge Way will present opportunities to extend Minoru Boulevard with cycling facility	D	E
L-No3-A	No. 3 Road (River Road to Bridgeport Road)	Completion of continuous cycling facilities on No. 3 Road with connections to Canada Line stations as well as the Moray Channel and Airport Connector Bridges	D	E
L-No3-B	No. 3 Road (Capstan Way to Browngate Road)		1	M
L-No3-C	No. 3 Road (Cook Road to Granville Ave)		2	H
L-RIV-B	River Road (No. 3 Road to Tait Waterfront Park Trail)	Initial segments of new route requested during engagement between the Canada Line Bridge and the Middle Arm Greenway	D	E
L-MAG	Middle Arm Greenway / River Road (Capstan Way to Cambie Road)	Extending the current off-street multi-use path from Cambie Road to Capstan Way will provide wider network connections, as well as a quieter north-south alternative to No. 3 Road	2	H
L-RIV-C	River Road (Shell Road to No. 6 Road)	Initial segment of the North Arm Trail providing a route for East Richmond and road cyclists	2	VH
L-No6	No. 6 Road (River Road to Bridgeport Road)	Completes connections for East Cambie, providing an alternative route from Hamilton via Westminster Highway	2	H
L-VFPA	Blundell Road Extension through Southeast Richmond	Alternative route from Hamilton to southern destinations in Richmond (dependent on Vancouver Fraser Port Authority)	D	E

Figure 4.6: Map of Long-Term Priorities



CNCL - 281

5 Policies, Programs, and Initiatives

5.1 Introduction

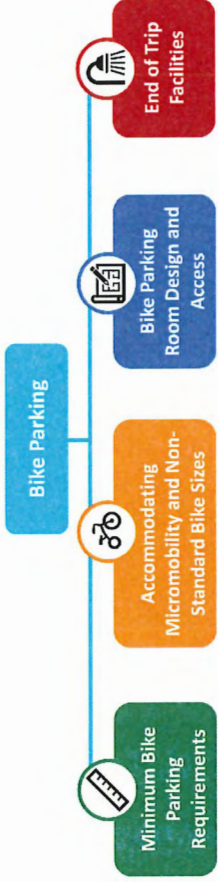
This Chapter recommends actions to review, refine existing and develop new supporting policies and education initiatives that are well suited for the City of Richmond context. The policy and programming focus areas developed in this document reflect policy needs and challenges identified through public and stakeholder engagement (including City staff), as well as areas with a strong connection to encouraging/enabling cycling behaviours.

The approach also considered best practice design guidance, considering whether elements may be suited to the local context, to inform more concrete policy recommendations.

5.2 Bike Parking

The provision of safe, secure, attractive, and convenient bike parking facilities is an important factor in encouraging more people to cycle. There are several components of bike parking policy as shown in Figure 5.1. However, caution should be applied when considering prescriptive requirements that dictate a narrow form and function for bike parking as this may also discourage innovative approaches to meeting bike parking needs in the longer term.

Figure 5.1: Components of Bike Parking Policy



5.2.1 Minimum Bike Parking Requirements

Bike parking can often be a barrier to cycling if there is not enough of it, it is not weather protected, there is a perceived risk of theft, or parking is out of the way and difficult to find and access. One important policy tool to help ensure high standards for bike parking, is minimum bike parking requirements for different types of facilities and uses.

The need for secure and dry parking facilities was heard throughout Phase 2 engagement. In the *Let's Talk Richmond* Public Survey, "Secure Bike Parking" was ranked as the 3rd highest investment priority, behind "Network Expansion or Upgrades," and "Maintenance and Repair of Network."

Existing Requirements

On-Site Bike Parking Requirements for the City of Richmond are outlined in **Section 7.14 of the City's Zoning Bylaw**, reproduced in Table 5.1. Included are minimum bike parking requirements for residential (Town Housing, Apartment Housing and Mixed Commercial/Residential Uses) and non-residential uses, with specific requirements for both Class 1 (long-term secured) and Class 2 (short-term) bicycle parking.

A side-by-side comparison of on-site bike parking requirements from other Metro Vancouver municipalities is available in Appendix H. Notably, Class 1 requirements for residential uses are similar between Richmond, Coquitlam, and New Westminster. The City of Vancouver requires additional residential spaces per dwelling unit based on unit size. Class 2 requirements in the City of Coquitlam are allocated based on building entrances. Among these cities, the City of Richmond has the highest Class 1 and Class 2 bicycle parking requirements for educational uses.

Table 5.1: City of Richmond On-Site Bicycle Parking Requirements

Minimum Number of On-site Bicycle Parking Spaces Required		
Use	Class 1	Class 2
Town Housing	1.25 spaces per dwelling unit	0.2 spaces per dwelling unit
Apartment Housing		
Mixed Commercial/Residential Uses		
General and Convenience Retail	0.27 spaces per each 100.0m ² of gross leasable floor area greater than 100.0m ²	0.4 spaces per each 100.0m ² of gross leasable floor area greater than 100.0m ²
Restaurant		
Office		
Private Club	0.27 spaces per each 100.0m ² of gross leasable floor area greater than 100.0m ²	0.78 spaces per each 100.0m ² of gross leasable floor area greater than 100.0m ²
Religious Assembly		
Indoor Recreation		
Education – Elementary School	1 space for each 3 staff members	2 spaces for each 10 students
Education – Secondary School	1 space for each 3 staff members	3 spaces for each 10 students
University Education	1 space for each 4 staff members; plus 1 space for each 10 students	1 space for each 10 students
General and Heavy Industrial	0.27 spaces per each 100.0m ² of gross leasable floor area greater than 100.0m ²	0.27 spaces per each 100.0m ² of gross leasable floor area greater than 100.0m ²
Hotel		
Spectator Entertainment		
Major Health Service		
Community Care Facility, Major		

Source: City of Richmond Zoning Bylaw

Policy Considerations

As the City of Richmond aims to increase the use of cycling from 1% of trips in 2008 to 10% of trips made in 2030, increasing the amount of bike parking required is a key policy tool for achieving this goal.

According to a 2018 study by the European Cyclists' Federation, there is a correlation between bike parking spaces required per apartment and cycling mode share (Table 5.2).

There are **different types of bike parking facilities**, which range from bike racks (lower cost, lower security/weather-protection) to bike lockers, to bike parking stations/rooms (higher cost, higher security/weather-protection). Each of these facilities come with their own design considerations, but generally **bike racks** are considered for short-term parking and **bike lockers or rooms** are considered for long-term parking.

Table 5.2: European Cities by Bicycle Mode Share and Apartment Parking Requirements

City, Country	Population	% of Trips made by Bike	Required Bike Parking Spaces per Apartment
Glasgow, United Kingdom	592,000	3	1.25
Bergen, Norway	271,949	3	1.75
Frankfurt (Oder), Germany	58,237	4	1.4
Zurich, Switzerland	402,762	8	1.75
Trondheim, Norway	181,513	9	2.0
Dresden, Germany	543,825	12	1.5
Nurnberg, Germany	506,000	13	2.0
Rostock, Germany	206,011	14	2.0
Munich, Germany	1,450,381	17	1.75
Darmstadt, Germany	143,499	17	2.0

Source: Adapted from European Cyclists' Federation, Making Buildings Fit for Sustainable Mobility (2018)

Moving forward, policies for the City of Richmond to consider include:

- **Ensure Bike Parking Requirements Align with Mode Share Goals:** As building lifespans can last multiple decades, updated bike parking minimums for residential and commercial buildings may be required to ensure they align with the City's long-term goal to increase cycling trips.
- **Align Residential Bike Parking Requirements with Number of Occupants:** Consider aligning the number of required bike spaces to unit square footage or number of bedrooms to better match the number of household occupants.

According to Statistics Canada (2017), 8.6% of commuters who live at UBC (Electoral Area A) commute by bicycle. A **(Smith, Bigazzi) 2018 study** found that even though UBC requires new buildings to have 1.5 bike parking spaces per residential unit, this requirement is "...deficient, leading to heavy parking congestion."

- **Advocate to TransLink for More Long-Term Secure Bike Parking at Transit Stations:** In the Phase 2 Public Survey, respondents were asked to prioritize destinations for providing bike lockers and bike rooms. Canada Line stations and Bus Exchanges were among the highest priorities (1st and 4th, respectively). TransLink is responsible for the provision of bike parking facilities at transit stations across the region. In Richmond, there are a total of 4 bike locker locations at 4 Canada Line Stations and 1 bike parkade at Bridgeport Station.
- **Work with Recreation Facilities, Community Centres and Schools to develop new Bike Parking Requirements:** In the Phase 2 Public Survey, Community Centres were also ranked highly (3rd) among destinations to prioritize bike lockers and bike rooms. The City should work with stakeholders to explore the development of new bike parking facility requirements for recreation facilities, community centres and schools.

- **Work with Stakeholders to Determine Approach to Implement Bike Parking in City Centre, Commercial Areas and Neighbourhood Centres:** In the Phase 2 Public Survey, the City Centre, commercial areas, and neighbourhood centres ranked 2nd, 5th and 6th, respectively, for where respondents would prioritize new bike lockers and rooms. The City should work with stakeholders to determine how long-term, publicly-accessible parking for cycling can be implemented (e.g., public/private space, funding, etc.) in these locations.

5.2.2 Accommodating Micromobility and Non-Standard Bike Sizes

Over the past decade, cycling has undergone a revolution, ranging from new business models (bike-share) to new technology (electric bicycles or e-bikes). There is also more widespread use of other small electric devices (e.g., scooters, hoverboards) – often termed ‘micromobility’ – that have broadened the term ‘active transportation,’ and should now be considered when planning and designing storage space for such devices. In addition, as more people cycle, a wider spectrum of bicycles may be used, such as cargo bikes, which do not have the same spatial needs as traditional bike sizes.

During Phase 2 engagement, feedback was received on the Ideas Board that there should be consideration towards wider/cargo bikes and electric scooters.

Policy Considerations

- **Provide Bike Parking Requirements that are Flexible and Can Accommodate a Range of Micromobility Devices:** According to the **B.C. Active Transportation Design Guide** (2019), e-scooters and other small electrically-powered devices have similar parking considerations as bicycles, such as security, infrastructure flexibility and proximity to electrical outlets. When outlining configuration and design requirements in bike parking policy, flexibility may need to be considered for these types of devices. The Design Guide also recommends that 10% of all bicycle parking spaces be able to accommodate larger, non-standard bicycles such as cargo-bikes.

- **Modify Requirements in Commercial Areas:** Consider higher minimum requirements and more flexibility to accommodate non-standard bicycle sizes in commercial areas, as there may be a higher ratio of these bikes in these areas than residential areas (e.g., use for goods delivery). Likewise, bike parking rooms deserve greater emphasis, given the increased value of e-bikes and other electric mobility devices.
- **Ensure More Bike Parking Spaces have Access to Electrical Outlets:** For e-bikes, the Design Guide also recommends that 50% of long-term and 10% of short-term bike parking spaces in new multi-unit residential and commercial developments have access to electrical outlets for charging.
- **Designate Parking Locations for Dockless Bike/E-Scooters:** At the street level, cities and dockless bike/e-scooter share operators are increasingly encouraging customers to either use parking 'corrals' in high volume or crowded areas, or to drop off their bikes/e-scooters in the furniture zone of sidewalks. Designating locations provides cities and operators more control over the start and end location of bikes/e-scooters, increases predictability for users and non-users alike, and reduces encroachment in the public right-of-way. Corrals should be marked with neutral, non-branded, or universal-branded signage to best inform customers of where bikes/e-scooters should be parked. In determining appropriate parking locations, most cities use the following guidelines:
 - Bikes/e-scooters should not be parked within 1.5m – 4.5m of a crosswalk or curb ramp.
 - Bikes/e-scooters parked on sidewalks may only be parked in the street furniture zone, unless otherwise permitted.
 - A minimum 1.8m clear path is required for all sidewalk corral locations.
 - If using bike racks or other lock-to equipment, cities should ensure that shared micromobility vehicles do not restrict parking options for people using personal bikes and e-scooters.
 - Locate bike/e-scooter parking corrals close to loading zones, allowing them to be easily serviced and re-distributed.

CNCL - 285

5.2.3 Bike Parking Room Design and Access

In addition to being accessible, functional and convenient, bike parking facilities that are attractive may also encourage more people to cycle.

For long-term secure bike parking, particularly bike rooms, it is important to outline requirements that are clear and directive of the amount and type of bike parking facilities required. But there should also be design flexibility to enable innovative solutions and help make rooms more attractive.

Existing Bike Parking Room Requirements

Bike Parking Room Requirements for the City of Richmond are outlined in Section 7.14 of the City's Zoning Bylaw, which details minimum dimensions for bicycle parking and design requirements.

- **Bike Parking Room Requirements:** Existing requirements for long-term secured bicycle parking include that it be at-grade, within sight of the building entry or security room, be lighted with uniform 160 lux (min.) lighting, have a maximum of 40 bicycle spaces per room or compound, have solid opaque walls with a steel frame.

Policy Considerations

- **Adopt More Flexible Bike Parking Room Requirements:** Balancing for security concerns, consider flexibility around the description of security features, lighting levels, maximum number of bicycles per room/compound, materials used for the walls, doors and windows, the acceptable forms of bike racks, and the maximum number of bicycle spaces provided in each room.
- **Explore More Flexible Bike Parking Room Location Requirements:** While it is important that bike rooms are easily accessible to a building entrance, allowing bike rooms that are not within sight of the entrance may enable larger, more flexible and optimal bike room dimensions and designs. However, wayfinding between the building entrance and bike parking facility must be clear, with circulation accessible throughout (e.g., wide doorways, inclined ramps/escalators if grade-change, etc.).

To provide an example of policy from another municipality in B.C. for possible guidance, Table 5.3 outlines the City of Victoria Zoning Bylaw No. 80-159 Schedule C: Off-Street Parking Regulations, Section 3: Bicycle Parking.

Table 5.3: Comparison of Bicycle Parking Bylaw Specifications - City of Richmond and City of Victoria Zoning Bylaws

City of Richmond Zoning Bylaw – 7.14 Provision of On-site Bicycle Parking Facilities	City of Victoria Zoning Bylaw – 3.1 Bicycle Parking Specifications
<p>7.14.5 On-site bicycle parking shall be provided as follows:</p> <p>a) Class 1: Long-term secured bicycle parking shall be at-grade, within sight of the building entry or security room. Bicycle parking shall be provided in the form of waterproof bicycle lockers, secured bicycle rooms, or secured compounds within a building complete with bicycle racks. A maximum of 40 bicycle spaces may be provided in each bicycle room or compound.</p> <p>Bicycle rooms, compounds or bicycle locker areas shall be lighted with uniform 160 lux (min.) lighting which yields true colours.</p> <p>A maximum of 33% of the required Class 1 spaces shall be vertical spaces that support the bicycle without the bicycle being suspended on the wheels or hung above ground.</p> <p>Bicycle rooms shall have the following:</p> <ol style="list-style-type: none"> solid opaque walls with a steel frame and door with the door hinged from the inside unless hinges are tamper-proof; a security window constructed of a laminate of tempered glass and polycarbonate in a steel frame for permanent visual access; and an entry door to the bicycle room with a separate lock and key or a programmed entry system. <p>Bicycle compounds shall extend from floor to ceiling and have industrial-grade (No. 7 gauge or higher) chain-link walls and door</p> <p>Bicycle lockers shall have lockable doors which open to the full height and width of each locker, be grouped together, not be located at the head of bicycle parking, and have clear minimum dimensions</p>	<p>3. (a) Each bicycle parking, long term space required under this Bylaw must:</p> <ol style="list-style-type: none"> be designed and installed to the minimum dimensions shown in Table 4 of this Schedule; be provided as a bicycle rack that is permanently anchored to the ground or a wall; have a minimum unobstructed height clearance of 2.1m between the floor and any mechanical equipment, or, if there is no mechanical equipment, between the floor and the ceiling; be provided in a secure, weather-protected, dedicated bicycle parking facility accessible to residents, employees or other identified users of the building; be located in a bicycle parking facility accessible through an entry door with a minimum width of 0.9m; and be located within one floor of finished grade and, if accessed by a stairwell only, the stairwell must include a ramp for bicycles. <p>3. (b) At least half of the bicycle parking, long term spaces required under this Bylaw must be ground anchored.</p>

CNCL - 286

5.2.4 End of Trip Facilities

End of trip facilities can be another important factor that may make the experience of cycling more comfortable for riders, particularly for work commutes. These amenities can include bike maintenance facilities (providing tools and work space), as well as showers, change rooms and clothes lockers for use by bike commuters. The number and size of end of trip facilities required should be reflective of the number of bike parking spaces.

During Phase 2 engagement, External Stakeholder Workshop feedback indicated that end of trip facilities and expanding needs should be considered, including amenities such as e-bike/e-mobility charging and repair stations.

Figure 5.2: Cyclist on Lansdowne Road



The *B.C. Active Transportation Design Guide* (2019) discusses bicycle repair stands and shower and change room facilities in more detail. **Not Just Bike Racks**, a guide by HUB Cycling, also provides examples of well-designed bike rooms in Metro Vancouver including their amenities.

Policy Considerations

- **Adopt Requirements for End of Trip Facilities:** Work with stakeholders to determine the types of facilities and the extent to which they should be required in new non-residential buildings.

For further policy guidance, in July 2021, the City of Coquitlam adopted requirements that all non-residential buildings provide end of trip facilities and all buildings provide Bicycle Maintenance facilities. Refer to **City of Coquitlam Zoning Bylaw No. 5112, 2021**, 711 Off-Street Bicycle Parking, and 712 Off-Street Bicycle Minimum Design Standards (shown in Table 5.4).

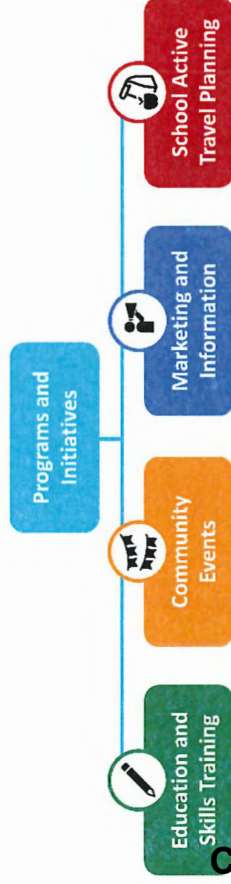
Table 5.4: City of Coquitlam Off-Street Zoning Bylaw

<u>City of Coquitlam Zoning Bylaw – 712 Off-Street Bicycle Parking Minimum Design Standards</u>	
(3) End of Trip Facilities	<p>a) Where bicycle parking, long-term is required for non-residential buildings minimum two on-site amenity rooms are required and shall include as a minimum the following features: shower, changing room, water closet, wash basin, mirror, and electrical outlet.</p> <p>b) Personal storage lockers shall be provided within close proximity to the on-site amenity rooms in non-residential buildings. The number of personal lockers shall equal the number of bicycle parking, long-term spaces on the site.</p>
(4) Bicycle Maintenance Facilities	<p>a) Where bicycle parking is required on-site, bicycle maintenance areas shall be provided for each building and shall include as a minimum the following: work space and desk, repair stand, wash station, and bicycle tire air pump.</p>

5.3 Programs and Initiatives

While bike access and bike facilities are important factors in encouraging cycling, there are also societal and personal factors that can act as barriers. These include lack of training, motivation, community, and negative perceptions around safety, comfort and convenience. Several programs can address these factors and help shift behaviour (Figure 5.2).

Figure 5.3: Types of Programs and Initiatives to Encourage Cycling



The City of Richmond, TransLink and other community-based organizations already operate various programs locally; however, there are additional examples of successful programs for the City to consider. These programs can be operated by City staff, community partners, or private businesses, and range from being passive information to active programming and events. Many municipalities have dedicated budgets for such programs.

5.3.1 Education and Skills Training

Education and skills training activities are important to ensure community members can cycle safely and confidently. Education can range from basic bike riding skills to bike maintenance and repair. There can also be information on new emerging devices, such as e-bikes, and messaging to help motorists understand how to safely drive around people cycling.

Education can range from passive safety campaigns to skills workshops. In-person education can also be fun and help build a sense of community around cycling. The recent pandemic has also presented an opportunity for agencies to develop and improve virtual education events and materials.

Existing Initiatives

There are a variety of bicycle educational programs in the City of Richmond, either with support/funding from the City, or delivered by community-based organizations. These include:

- **Bike to School Education for Students:** In collaboration with the Richmond School District, the City annually funds the delivery of bike skills education courses for all Grade 6/7 students, including in-class lessons, on-bike safety training and street ride education.
- **Learn-to-Ride Bike Camps for Kids:** Private companies offer bike camps, which range from teaching kids who are just starting to ride to those that are more comfortable riding.
- **Learn to Ride Education for Adults:** In cooperation with the Immigrant Services Society of BC, the City annually funds beginner courses targeted to recent immigrants. The City also funds bike maintenance courses for adults that are delivered by HUB Cycling.
- **Cycling Workshops for Employers/Companies:** HUB Cycling offers interactive (or online) workshops and lunch and learns for staff of all riding abilities. These workshops can cover basics of bike maintenance, city cycling, e-biking, and fall or winter cycling.
- **Educational Materials:** The City of Richmond's website has an [Events and Resources page](#) for cycling, which includes a list of publications from active transportation organizations.

Proposed Policies and Initiatives

The City of Richmond should continue to support and develop these existing programs and resources. Other ways the City can continue to advance cycling in the city through education may include:

- **Advocate for Cycling to be More Prominent in Driver Training and Education:** ICBC's driver training programs and materials could include more components about cycling facilities and how to drive safely in the presence of cyclists.

- **Advocate to the Province to Include Cycling Skills Training and Testing in School Curricula:** This will ensure that students province-wide receive training, and not just those students who attend schools that have local champions or partnerships with local agencies and programs.
- **Support Expanded Bike to School Education for Students:** Expanding cycling education and adding peer-to-peer cycling training in both elementary and high schools can help improve cycling confidence. These efforts can be supported by encouraging the development of a student advocacy 'club' for biking to school issues and opportunities.
- **Support the Development of a Local 'Bike Kitchen':** UBC's Bike Kitchen was founded in 1999 as a space for students to learn how to maintain, repair and build their own bicycles. The facility also recycles abandoned and donated bikes to provide students with reliable and reasonably priced bicycles and parts. The creation of a similar place with a community centre or community-based organization is worthy of exploration.

CNCL - 289.

Provide Training sessions for City Staff and Staff of Partner Agencies:

Providing on-going education of cycling for staff can help increase knowledge of beneficial bike planning, design and operations practices.

Encourage Community Centres and Community-Based Organizations

to Host Skills Training and Safety Programs: While the City already partners with local advocacy groups (e.g., HUB Cycling) to offer bike training classes to adults, these efforts could be expanded through new partnerships with local community-based organizations and partially or fully subsidizing the delivery of targeted training. Skills and safety training programs offered by community centres or other community-based organizations are fun, build community, and may offer new opportunities for cycling if targeted to demographics or segments of the population that are historically underrepresented in cycling.

- **Offer More Educational Materials:** To build on the materials already provided on the City website, offering and promoting other educational materials, such as online courses, handbooks, or infographics can be an effective way to help community members educate themselves on their

own time. The topic of materials can range from how to ride safely, to shared pathway and trail etiquette. These can be developed by the City or a community-based organization.

- **Ensure There are Multilingual Options for Education:** Whether education is offered through materials or workshops, ensuring that there can be offerings in different languages can be effective in reaching a wider cross-section of the community. Outreach via engaged cultural organizations is an important step in connecting with the target audience. For example, the City provided funding to HUB Cycling to support the production of the Get Cycling handbook in 5 languages. In San Francisco, Bike East Bay has offered cycling education programs in both Cantonese and Spanish.

5.3.2 Community Events ^{and more}

Community events can be great places to deliver information about cycling, generate excitement and help build a sense of community around biking.

Events can be bike specific (e.g., Go by Bike Week in Metro Vancouver) or community-wide with a bike activity (e.g., bike share operator having a booth at a popular local destination). Community-wide events can also be effective ways to reach a broader cross-section of the population.

Existing Initiatives

There are already several regular events that are either organized by, or take place in, the City of Richmond including:

- **Island City, by Bike Tour:** Free, family-oriented annual event offering guided cycling tours of some of Richmond's bike routes. The event is delivered by the City of Richmond and additional activities include a bus bike rack demo and Richmond RCMP bike registry to discourage theft.
- **Go by Bike Week:** Weeklong event that aims to reward existing cyclists and encourage new cyclists to try cycling for transportation and to continue cycling after the event. The event is run twice a year by HUB Cycling.

- **Commuter Challenge BC:** An annual competition during Canadian Environment Week (1st week of June) between Canadian cities to see which one can cut its air pollution the most by using active and/or sustainable modes of transportation.
- **Bike Valet:** Some events (e.g., Canada Day) in the city offer bicycle valet services that provide secure, coat-check style bicycle parking to event attendees. Major City events offer Wheel Watch, operated by the City, while other events may use Bike Valet, which is offered by Better Environmentally Sound Transportation (BEST).

Proposed Policies and Initiatives

There are several ways the City of Richmond can continue to develop cycling in the city through community events, such as:

Further Integrate Cycling as a Component of Community-Wide Festivals:

Encourage more people to cycle to city events such as the Richmond Maritime Festival and Canada Day celebrations. If available, offer a bike-share discount and provide pre-organized secure bike parking areas, or simply have a table where there can be marketing materials about cycling in the city.

- **Encourage Themed Bike Events:** Encourage community organizations to locate cycling events in Richmond. Local examples include Bike the Blossoms (Vancouver Cherry Blossom Festival), Bike Rave (VVVE), and Ride Don't Hide (Canadian Mental Health Association).
- **Permit Community-Led Open Streets:** Temporarily close streets to motor vehicles and encourage people to walk, bike and use the street as a public space. This can be run or programmed by the City, local businesses, or community-based organizations. Famous international examples include Bogota's Ciclovía and Portland's Sunday Parkways. Car Free Day in the City of Vancouver and the City of North Vancouver's Open Streets program are local examples. The Open Streets Project Toolkit may also serve as a resource.

5.3.3 Marketing and Information

Marketing can help raise awareness of opportunities, shift negative perceptions and help develop a stronger community culture towards cycling. This can be passive information or active marketing campaigns.

Existing Initiatives

- **Tourism Richmond:** The City of Richmond's destination marketing organization already features cycling prominently as an outdoor activity, advertising its "more than 80 kilometres of designated routes; you'll coast past lots of camera-worthy urban, historic, and nature loving spots."
- **City Website:** The City of Richmond's website has a section on cycling in the city, including resources, events, and maps.

Proposed Policies and Initiatives

- **Enact Public Messaging and Marketing Campaigns:** Purposeful messaging about cycling in Richmond can be targeted and personalized, and may come through a diverse array of marketing channels, such as social media, new outlets, radio ads, etc. It can be used for purposes such as increasing awareness about cycling opportunities in the city (e.g., to attract more visitors) or as a campaign on public safety. The City of Vancouver has marketing campaigns for cycling as a component of their Active Transportation Promotion & Enabling Plan.
- **Explore Developing a Cycling Brand for the City:** Some municipalities actively promote cycling to encourage residents to cycle or to attract visitors. Some jurisdictions develop a specific cycling brand as part of a larger tourism and economic development strategy. For instance, Copenhagen's 'I Bike CPH' is recognized internationally. Developing a brand with stakeholders can help build awareness, and the credibility and reputation of cycling in Richmond.
- **Consider Embedding Cycling in City Marketing Materials:** Consider how to embed and align cycling and behaviour change with other initiatives in the proposed City of Richmond Marketing Plan.

- **Create an Employer Outreach Program:** Employer Outreach Programs can be local government-led initiatives that engage and support local employers to encourage their staff to travel by active and sustainable modes. Locally, the City of Vancouver has recently piloted an employer outreach program called VanGo, which provides resources and guidance to employers as part of the City's larger Transportation Demand Management strategy.
- **Ensure Marketing is Inclusive:** Having material, outreach, customer service, and web platforms in multiple languages, or having visuals include 'non-sport' cyclists, as well as people of colour, Indigenous peoples, women, and other historically underrepresented riders can help broaden the number of communities feeling included in cycling initiatives. An example of this is the Faces of Indego Campaign in Philadelphia.
- **Promote Bicycle-Friendly Business Programs:** Having a community or business organization create a list of bike-friendly businesses that may offer rentals, bike parking, discounts, or awards for cyclists can help promote Richmond as a cycling destination and support local businesses. A possible example may be HUB Cycling's Bike Friendly Business Certification.

CNCL - 291

5.3.4 School Active Travel Planning

School Active Travel Planning (SATP) is the encouragement and facilitation of having more students walk or bike to and from school. This shift can come through education, infrastructure or encouragement activities. While some of these activities have been described earlier, SATP deserves special attention as youth can be a demographic that require tailored approaches, there can be lots of potential for them to do more travel by walking or cycling, and habits developed at school may stick with them through later in life. Improving school active travel planning was heard through public engagement, with ideas such as identifying school champions and having roundtables for parent concerns.

Existing Initiatives

- **City of Richmond-TransLink TravelSmart Partnership:** In the past, the City has partnered with TravelSmart, TransLink's transportation demand management (TDM) program, to implement strategies that can lead to increased use of walking and cycling (as well as transit and carpooling) to school.

Proposed Policies and Initiatives

- **Measure Progress for Active Travel to Schools:** Develop a strategy and metrics (e.g., mode share) for active transportation to and from schools, and then conduct annual surveys of staff and students to monitor progress. The City of Edmonton is hoping to accomplish this, as outlined in their recent cycling plan. Students can also be empowered to take part in walkability audits, identifying unsafe areas or gaps for the City to consider future improvements such as signalized crossings.
- **Expand Safe Routes to School Initiatives:** In addition to cycling skills and safety training for all Grade 6/7 students, the City could advocate for integration of cycling awareness into provincial curriculum (Social Studies cover transportation and climate change, Physical Education covering cycling skills) and support infrastructure improvements (e.g., new crosswalks, gap connections to the cycling network, bike parking facilities), or events such as bike rodeos.
- **Champion Local Participation in Provincial Programs and Partnerships:** The B.C. government partnered with BC Health Communities Society to develop the Active School Travel Pilot Program, which provides funding, information and resources to participating schools. The City could advocate to the Richmond School Board for broad local participation in cycling-related assessments, skill-building opportunities, incentives and infrastructure programs.
- **Support Education for Parents, Guardians and School District Staff:** Partner with community-based organizations and the Richmond School District to offer education to parents and administrators on the safety and benefits of walking and riding to school for students.

5.4 Wayfinding

Wayfinding is an important component of communicating with cyclists. Signage can help with directions and indicate connections to other routes and the length of time and distance to reach destinations. It can also be a component in creating a distinctive sense of place along cycling routes.

During engagement, stakeholders consistently expressed a desire for better cycling connections within the region. Beyond physical infrastructure, clear and continuous wayfinding design standards that can help guide cyclists across different municipalities are an important supportive action.

Proposed Policies and Initiatives

- **Establish a City Wayfinding Strategy:** The City could produce a comprehensive plan and design standard for bicycle wayfinding in Richmond, aligned or integrated with pedestrian wayfinding. An example of a recent comprehensive wayfinding strategy, is [Toronto TO360](#), which includes [specific wayfinding for cycling](#).

CNCL 292

- **Align Wayfinding Policy and Design with TransLink:** TransLink developed [wayfinding guidelines](#) for cycling in 2013 and the City is using this standard for signage along its neighbourhood bikeways. The City could further identify how to align with these guidelines, taking inspiration from the guidelines of adjacent municipalities.
- **Tour de Richmond:** Through public engagement, many respondents commented on the desire for a Tour de Richmond: a touring cycling route around Richmond that provides a reliable riding experience around the city. A similar initiative to consider is the [Green Necklace](#) urban greenway in the City of North Vancouver.

5.5 Lighter, Quicker, Cheaper / Pilot Projects

To support recent increases in walking and cycling, cities globally and regionally have relied on materials that are quick to implement or temporary (e.g., pylons as a means of protection for bike lanes). These efforts are often supported by reallocating motor vehicle lanes or further traffic calming measures. This approach of rapidly implementing new or

upgraded active transportation facilities or plazas with materials that are ‘Lighter Quicker Cheaper’ is popular for pilot projects that can be a precursor to permanent facilities and was emphasized by stakeholders during engagement.

Existing Initiatives

- **Increased Use of Pilot Projects:** The City should consider expanding this approach of piloting projects to test new ideas more quickly and cheaply, as well as to demonstrate changes to the public to gather feedback and build support. The installation of delineators on Granville Avenue between the bike lane and the vehicle lane is an example of testing the effectiveness of quick and cost-effective separation.

5.6 Enhanced Safety

Personal safety is an important factor for people when considering whether, and where, to cycle. Many municipalities have adopted enhanced policies around improving safety for vulnerable street users including those cycling.

Existing Initiatives

- **Reduced Motor Vehicle Speed Limits on Local Streets:** The City continues to look at areas to lower speed limits on neighbourhood bike routes and has successfully implemented 30km/h zones in Steveston Village and Burkeville. Reduced speed limits can improve safety for vulnerable street users while also improving comfort for walking and cycling. Reducing speed limits to 30 km/h on residential streets was an idea put forward and supported during engagement.

Proposed Policies and Initiatives

- **Expand Safe Systems Approaches:** A human-centred safe systems approach seeks to improve safety with a focus on vehicle or roadway design and operational changes rather than behavioural changes of road users. The City could build upon its recent Network Screening Study to identify and develop measures to address the top 20 collision-prone intersections for motorists in Richmond with a comparable study focused on cyclists and pedestrians.

5.7 Equity

It is important to ensure that everyone can have access to, and feel comfortable, cycling. During Phase 2 engagement, stakeholders expressed support for achieving social equity objectives. The City may want to consider developing more policy around promoting equitable cycling access. For programming, this can include having offerings that enable people to access the activity, who may not otherwise be able to. This can range from having e-bikes, to bikes specifically made for people with mobility challenges, to reducing costs for those with low income.

Existing Initiatives

- **Supporting Bike-Share Operators to Offer E-Bikes:** The Province launched its [Electric Kick Scooter Pilot Project](#) in April 2021. As a participating pilot project community, the City of Richmond selected Lime to be the operator of its public e-scooter and e-bike share pilot project in September 2021. The City should continue to encourage bike-share operators to offer e-bikes, which may provide more people with access to bike-share, as the electric assist can provide physical support.
- **Encouraging Discounted Fares for Bike/E-Scooter Share:** Cycling can be an affordable way to move around the city. Unfortunately, the cost of purchasing or renting a bike (or a residence with enough storage room) is still a barrier to some folks. Encouraging local bike-share operators to provide discounted fares can help to reduce these barriers. In Richmond, Lime will offer discounted fares for users enrolled in any federal, provincial, or local subsidy program. In the City of Hamilton, the [‘Everyone Rides’](#) initiative offers subsidized bike-share memberships, as well as learn-to-ride lessons, training, and free monthly group rides.
- **Encouraging Cash/Non-Credit Card Options for Bike/E-Scooter Share:** Offering a cash/non-credit card method of payment is one way to make payment systems, service options and price structures more inclusive to low-income users. In Richmond, Lime will allow users to pay with PayPal or via a prepaid card. Consideration should be given to how potentially higher costs of cash handling can be spread across all users.

The City of Vancouver’s bike-share system, [Mobi](#), offers a [community pass](#) option with discounted access for some groups and cash options available.

Proposed Policies and Initiatives

- **Ensure Bike Facilities are Created for All Ages and Abilities:** While the City’s [Building Our Social Future](#) Strategy does emphasize the importance of ensuring facilities are accessible to those of all ages and abilities, the City should consider developing specific policy language regarding accessible design of cycling infrastructure and facilities.
- **Apply a GBA+ Lens to New Policy and Facility Designs:** Gender-Based Analysis Plus (GBA+) is an analytical tool used to assess the potential impacts of policies, programs, and infrastructure on people of all genders, and considers many other factors like race, ethnicity, religion, age, and mental or physical disability. The general process is to identify an issue, challenge assumptions, gather facts through research and consultation, develop options, and make recommendations. The [Government of Canada](#) and the [Province of BC](#) have committed to implementing this lens. In their [bike plan](#), the City of Edmonton also committed to using this lens when designing new cycling facilities.
- **Explore Offering Adaptive Bikes, Trikes and other Shared-Use Equipment:** Encouraging bike rental businesses or bike/e-scooter-share companies to offer devices that are designed for people with disabilities can help make cycling more inclusive. Offering this equipment, as well as training lessons, can allow new community members to access bike recreation. [Adaptive Biketown](#) in Portland, Oregon is an example of a civic led program, while [MoGo](#) in Detroit, Michigan is run by a bike-share operator.

5.8 Data Collection

The availability of data is an important tool to evaluate the performance of infrastructure and programs. It can be used to monitor trends, produce analysis and determine changes that may be required. Data collection practices have also evolved over recent years with widespread use of smart phones and new technology being applied to bikes, e-scooters and other micromobility devices. The need for data collection and more bike counters was heard during Phase 2 engagement, particularly from external stakeholders.

Existing Initiatives

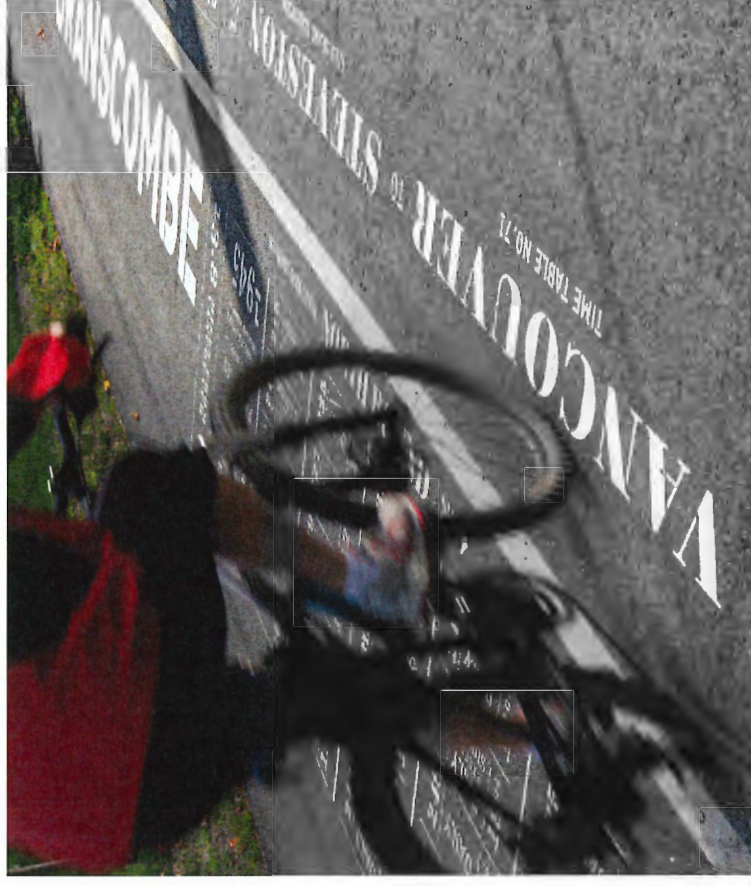
- **Bike Counters:** The City already has several bike counters and is planning to install more.
- **Requiring Bike/E-Scooter-Share Operators to Provide Data:** Provision of real-time and historical data is required from Lime as a condition of operation to ensure that data can be analysed for both short-term and long-term planning needs. Data requirements are aligned with the Provincial e-scooter pilot to achieve comparability across municipalities. Permit applications should stipulate penalties for non-compliance and a mechanism for enforcement.

Proposed Policies and Initiatives

- **Annual Cycling Surveys:** Consider whether more regular or comprehensive counts of walking and cycling are needed to inform policy, program and infrastructure development. One method is a regular survey of people that asks why they do or do not cycle. This initiative can be taken on by the City or delivered in partnership with a community-based organization.
- **Explore Collecting Data that has Disaggregated Demographics:** Information with more detailed demographics can be used to better develop and monitor equity-supporting policies.

- **Consider New Technologies to Better Track Cycling Activity:** Cycling data is increasingly captured via GPS tracking devices such as smart phones. Some companies that capture and provide this data include Strava, Metro and See.Sense. This data can be used to supplement technology can aid program and infrastructure design in Richmond. However, these apps may be biased towards more recreational cycling, and there may be privacy considerations.

Figure 5.4: Cyclist on the Railway Greenway



Appendices

A Phase 1 Engagement Summary

CNCL - 296

A1 Introduction

As part of Phase 1 engagement, several activities were conducted to gather public and stakeholder input on existing conditions and recommendations for future improvements including:

- Internal stakeholder consultation with:
 - City of Richmond staff
 - Advisory Committee on the Environment
 - Richmond Active Transportation Committee
- External stakeholder workshop
- Public consultation for both the public and students via the *Let's Talk Richmond* Ideas Board, Mapping Tool, and Survey Tool

This note summarizes the key findings and highlights from the consultation period, which fed into the next phase of technical analysis and later informed the prioritization of cycling network improvements.

A2 Internal Consultation

A2.1 Internal Review by City Staff [2021-03-24]

A cross-departmental internal review by City of Richmond staff (including Transportation, Park Services, Development, Policy Planning, Sustainability and District Energy, Sports Services and Events, and Public Works) was completed prior to seeking approval from Council to begin public consultation. Several key ideas regarding future evaluation criteria emerged at this stage:

- Access to community centres as future mobility hubs offering supportive infrastructure (secure bike parking, fountains, tool stands)
- Desire to maximize cycling ridership and meet emissions reductions targets
- Prioritize upgrades of existing facilities that are deemed unsafe by the public or 'comfortable for few'

A2.2 Advisory Committee on the Environment [2021-06-09]

Major themes from our discussion included shared mobility services, safe cycling for students, and access to transit by bike. The interests of participants aligned in several key areas:

- Enhanced separation for students cycling on Williams Road and students cycling to Cambie Secondary School from Hamilton via Westminster Highway
- Providing an additional major north-south cycling route
- Improved cycling connectivity to Bridgeport Canada Line Station, as well as to the wider transit network via cycling for the last mile

5.8.1 Richmond Active Transportation Committee [2021-06-16]

Our discussion with members of the committee focused on ranking high-level priorities and soliciting solutions and ideas. **Connectivity** was presented as the top priority by most members, followed by **safety** and **wayfinding**. Beyond overall connectivity to the wider cycling network, connections to the Canada Line, business districts, and other major destinations were also emphasized. From a project prioritization perspective, key themes included:

- Extend east-west routes further east (especially to service the northeast quadrant of the city)
- Upgrade of existing routes to be composed of a continuous facility type
- Complete missed connections where existing facilities are interrupted

A3 External Consultation

A3.1 External Stakeholder Workshop [2021-06-28]

Attendees
HUB Cycling, Metro Vancouver, MoTi, Richmond Active Transportation Committee, Richmond RCMP, Richmond School District, TransLink, Vancouver Airport Authority, Vancouver Coastal Health, ICBC

External stakeholders were engaged on three topics: high-level priorities for cycling; stakeholder plans, initiatives, and funding; and framing the Phase 2 evaluation. **Safety, connectivity and education** were key priorities shared by stakeholders. Several desired safety initiatives were discussed including:

- Lower speed limits on cycling corridors
- Separated cycling facilities (including from pedestrians) within urban centres
- Improved intersection designs

Many opportunities for enhanced regional connectivity were put forward, including expanding regional greenways, the Great Blue Heron Way initiative, planned updates to TransLink's Regional Cycling Map, and parallel efforts by MoTI to conduct a Regional Gap Analysis. Regarding Phase 2 evaluation components, stakeholders highlighted:

- Access to multi-model transportation **hubs and activity centres**
- **Social equity** considerations
- Ties to the **existing HUB Cycling framework**

Public Consultation

A4.1 Ideas Board

The Ideas Board generated **160 ideas**, receiving **84 additional comments**. In total **203 people viewed or participated** in the discussion with **814 upvotes** and **11 downvotes**. To analyse this discussion, all ideas were coded into 1 of 5 categories shown in Table A1. Comments were not coded as the overwhelming majority of comments reinforced or challenged the central focus of the original idea. While the average number of votes per idea was 3.34, the median and mode for upvotes were 1 and 0 respectively. Hence, upvotes skewed towards several key ideas. These ideas are summarized under the Key Topics column in Table A1.

Table A1: Key topics discussed using the Let's Talk Richmond Ideas Board

Category	Ideas	Key Topics
Safety Improvement	63	<ul style="list-style-type: none">• Upgrade existing shared road segments• Improve Dyke Road segments• Continuous cycling facilities at Garden City Road and Sea Island Way• More AAA dedicated and segregated facilities• Improve safety on River Road between western terminus and No. 3 Road• Continuous cycling facilities on No. 3 Road, extend to Steveston Hwy• Separate walking and rolling on shared pathways
New Route	33	<ul style="list-style-type: none">• River Road and River Drive improvements to link West Dyke to eastern terminus of River Road• New east-west neighbourhood bikeway• Extend route on Shell Road to River Drive
Policies & Programs	28	<ul style="list-style-type: none">• Formalize an official 'Tour de Richmond'• Construct routes on disused rail lines• Install secure bike lockers• Beginner mountain biking trail in Richmond• More signs directing cyclists to existing routes• More cycling education
Infrastructure	20	<ul style="list-style-type: none">• Pave the West Dyke Trail• More dedicated bikeways like Europe• Bike sensors at intersections fail to trigger• Install cyclist-controlled crossings• Ensure bike rack designs are secure/enhance bicycle parking
Connectivity	16	<ul style="list-style-type: none">• East Richmond is poorly connected to the cycling network• Create east-west and north-south corridors• Better access to Canada Line• Continuous paved trail loop around Richmond• More neighbourhood bikeways

Safety Improvements

In general, safety improvements were the most common ideas generated and represented several of the most popular ideas. Fixing shared road segments was the most upvoted idea on the platform with “fix bicycle lanes that suddenly turn into regular roads” receiving 30 votes. The remaining safety improvements in Table A1 received no fewer than 15 votes, and often were mentioned across multiple unique ideas. The Railway Greenway was a key example cited by participants who expressed a need for separate walking and rolling on shared pathways.

New Routes

While new routes were a core focus of engagement on the Mapping Tool (summarized in the next section), several routes were also discussed on the Ideas Board. Two new routes were consistently requested by multiple entries on the Ideas Board: River Road and Shell Road. “Make all of River Road along the North Arm a safer bike route” received 21 upvotes, while three additional entries requesting similar extensions on River Road received 10 or more votes. An extended north-south route on Shell Road between River Drive and the existing cycling network was requested five times, with the most popular entry receiving 16 votes. The idea to have more east-west neighbourhood routes also received 16 upvotes.

Policies & Programs

“Please establish and dedicate a Tour de Richmond cycle route around the island” received the most upvotes of all ideas coded under this category with 13 votes. In a similar vein, directive to work towards a continuous trail system around Lulu Island was also requested. Regarding bike lockers, City Centre locations and Canada Line stations were put forward as key priority areas. A beginner mountain biking trail was specifically requested to prevent the need to travel to neighbouring municipalities for this activity. From a wayfinding perspective, 8 participants agreed that more signs directing cyclists to existing bike routes were needed.

Infrastructure

Paving the West Dyke Trail was the top infrastructure idea, receiving 16 votes. The rationale for this idea is to create a tourist destination; expand access for strollers, small children’s bicycles and rollerbladers; and address the difficulty of riding on gravel for long periods. Several infrastructure improvements for crossings along the existing network were requested including push buttons, designated traffic lights for cyclists, and upgrades to unresponsive bike sensors. Finally, it was noted that existing City facilities use some bike parking designs that are less secure, with a shape that is difficult to properly secure a bike to using a U-lock.

Connectivity

Ideas were coded under connectivity if their focus was on wider connectedness across the city. Several respondents emphasized a need for east-west and north-south corridors. Connections between East Richmond and the difficulties crossing Highway 99 emerged as key issues. Connections to Canada Line stations and the Canada Line Bridge were directly referenced by several participants. As previously mentioned under Policies & Programs, 10 participants further supported the idea of a “continuous paved loop around Richmond.”

Intersections

Across these five categories, improvements at intersections were an important subtopic and central to 16 of the 160 ideas generated. In general, these ideas focused mainly on enhanced detection and protection of cyclists when crossing. The need for “appropriate bicycle lane paths at the intersection of Garden City Road and Sea Island Way” received 21 upvotes. Meanwhile, 6 participants expressed the need for enhanced traffic calming measures at Shell Road Trail crossings in response to fast-moving vehicles.

A5 Mapping Tool

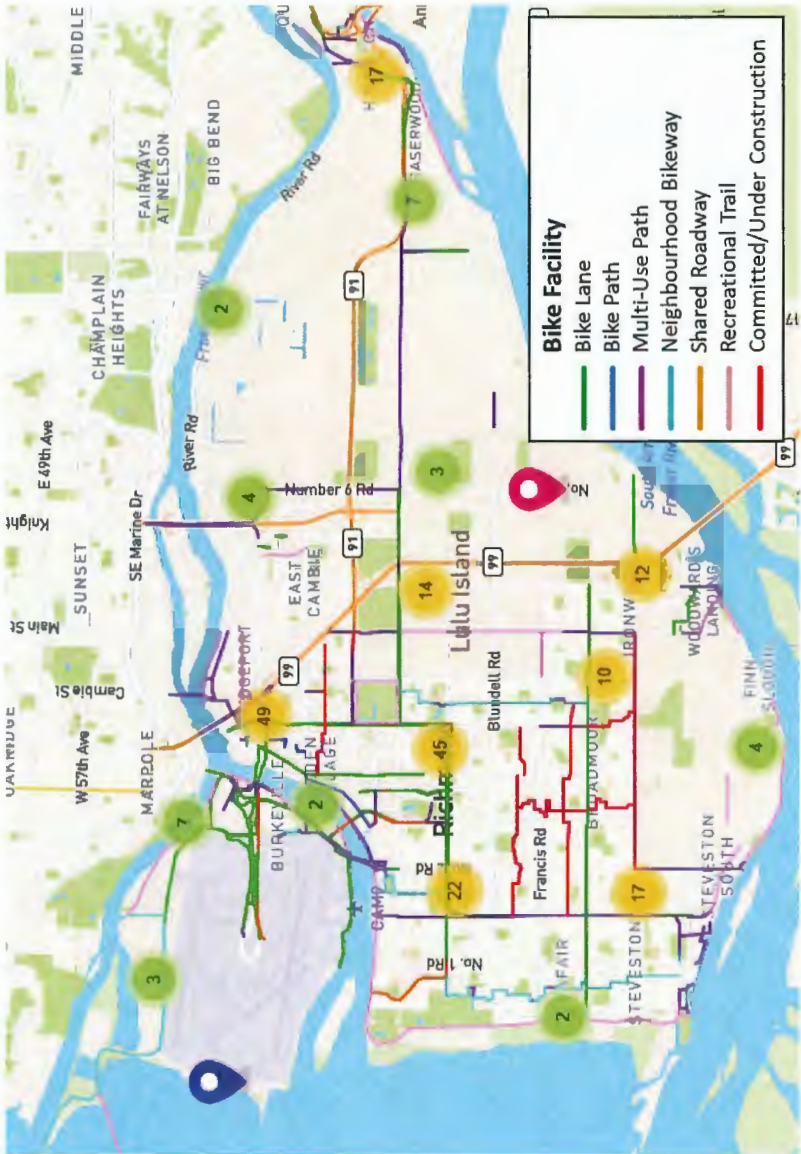
To assess opportunities for improvements to the existing cycling network and to prioritize future investments, a mapping tool was created to allow residents to provide location specific feedback and recommendations. A screenshot of the mapping tool is provided in Figure A1. As shown, the base map included the existing street network, several key destinations, and the existing and planned cycling network for reference.

This tool enabled participants to create pins and view the pins that others had created. When creating a pin, participants could choose from one of four descriptive categories: network gap, upgrade needed, suggestion for new route, or favourite place to ride. To better represent levels of geography and account for instances where a different category was chosen for instances where a different category was chosen, the written feedback, data was recorded during our analysis into six categories. In total, **49 contributors** plotted **222 pins**. Table A2 depicts the breakdown of these pins by category.

Table A2: Number of pins on Let's Talk Richmond by category

Category	Mentions
Favourite Place to Ride	11
Improve Intersection	37
Missed Connection	8
Network Gap	39
New Route	70
Upgrade Needed	57
Total No. of Mentions	222

Figure A1: Let's Talk Richmond Mapping Tool



A5.1 Favourite Place to Ride

Figure A2 shows favourite places to ride were dispersed throughout the city. In two instances, respondents voted for the same destination. First, two pins were placed identifying the Railway Greenway as their favourite cycling facility. Second, two pins were placed calling for an official mountain bike trail to be established in Richmond Nature Park East between Jacobs Road, Westminster Hwy, Highway 99, and Highway 91. The rest of the seven responses were spread-out throughout the city and were evenly distributed between official cycling routes and unmarked routes. Based on the pins and commentary provided, we can conclude that stakeholders generally selected locations along bike corridors that are continuous with lower potential of conflict with motorists.

Figure A2: Pins on Let's Talk Richmond indicating favourite places to ride



A5.2 Improve Intersection

Figure A3 depicts intersections where respondents indicated a need for improvement. The size and transparency of data points has been adjusted to show frequency of pins, and highlight areas repeatedly mentioned by respondents. Larger, opaque clusters of pins indicate key locations. These clusters of pins reveal several key intersections identified as needing improvements:

1. **Sea Island Way and Garden City Rd**
Travel lanes for cyclists on Garden City Rd end prior to the intersection, creating safety concerns for cyclists.
2. **Westminster Hwy and River Road**
The bike lane terminates into a shared street at this intersection heading southbound on Westminster Hwy until Fraserside Gate. Enhanced separation from motorists and a signalized intersection are requested in response to close calls. The City has a committed project to provide a protected bike lane in this section.
3. **Parkside Neighbourhood Bikeway**
Bike detection at controlled intersections is not responsive enough. A cyclist-controlled crossing is also requested for the intersection of Ash Street and Granville Ave.

CNCL 302

Figure A3: Pins on Let's Talk Richmond mentioning intersection improvements



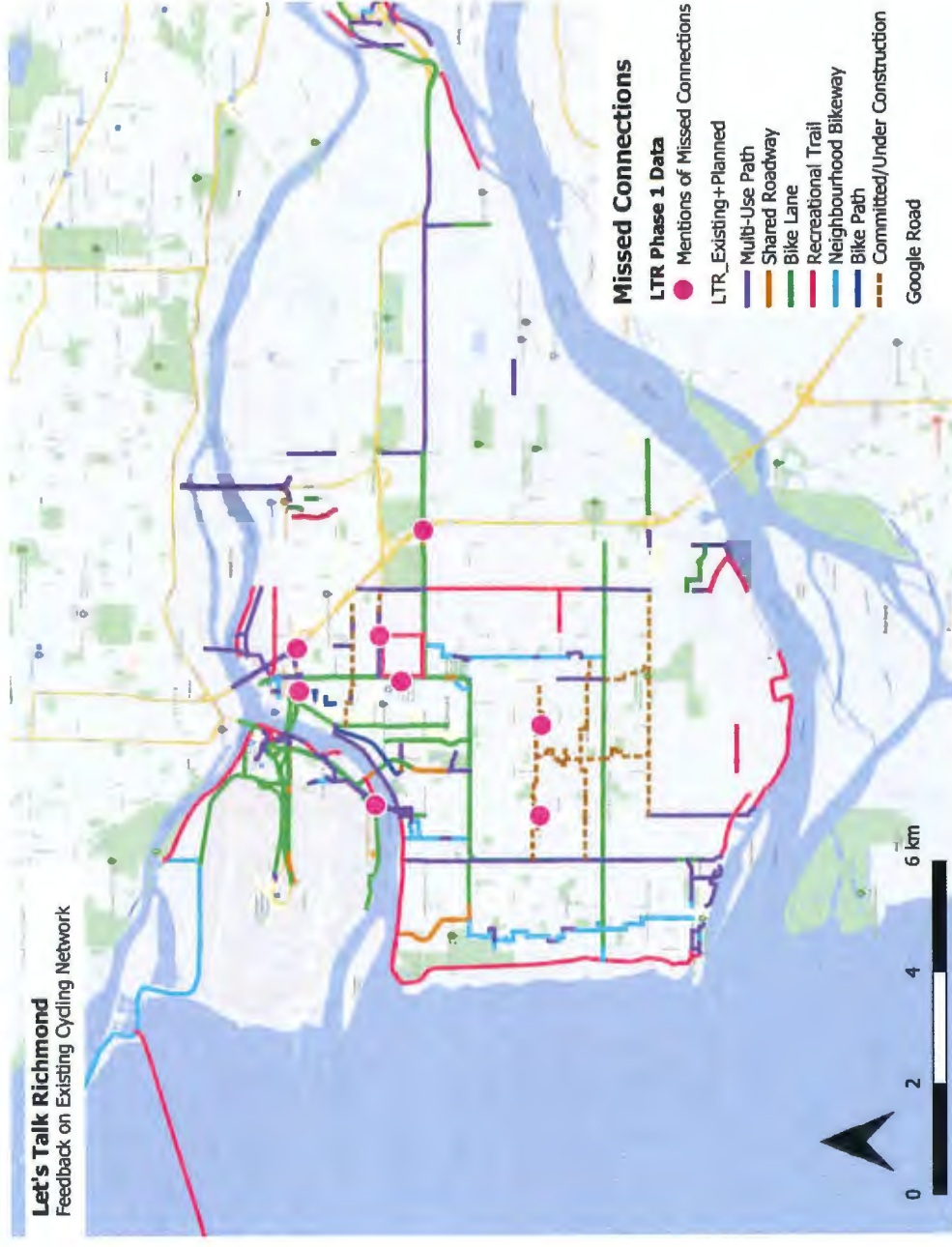
A5.3 Missed Connections

Eight missed connections are shown in Figure A4. This category for missed connections was created to differentiate between network gaps and gaps of a very small geography (i.e., one block). Hence, these improvements likely have lower costs to implement.

The southernmost pins have been placed on the committed east-west Crosstown Neighbourhood Bikeway at intersections with No 2. Road and No. 3 Road. In these locations the offset street grid creates a potential gap if connections are not provided on these major roads.

Completion of the committed project will address the comments. The remaining missed connections are located on existing facilities.

Figure A4: Pins on Let's Talk Richmond mentioning missed connections



A5.4 Network Gaps

In Figure A5 we observe that most respondents mentioned network gaps along three major routes:

1. **Sexsmith Road to Canada Line Bridge** – Sexsmith Road was identified as a network gap between Beckwith Road and Patterson Road. Respondents recommended a southern extension of the existing MUP on Sexsmith Road as a potential alternate route to Garden City Road for accessing the Canada Line Bridge.

CNCL - 304

No. 3 Road from Sea Island Way to Alderbridge Way – While there is a continuous northbound bike lane, the southbound bike lane along No. 3 Road ends at Capstan Way before starting again at Alderbridge Way. In both directions there is a gap between Cook Road and the existing route on Granville Ave.

3. **No. 2 Road from Westminster Hwy to Granville Avenue** – A continuous route is requested between the No. 2 Road Bridge and the existing Granville Ave route.

Figure A5: Pins on Let's Talk Richmond mentioning network gaps



A5.5 New Routes

Figure A6 shows the distribution and frequency of the 70 pins recommending new routes (i.e., larger network gaps of several kilometres or routes on entirely new roads). Five key corridors emerged from our analysis:

1. **Gilbert Road** – North-south route selected for being approximately equidistant between the Parkside (Ash Street) Neighbourhood Bikeway and Railway Greenway.

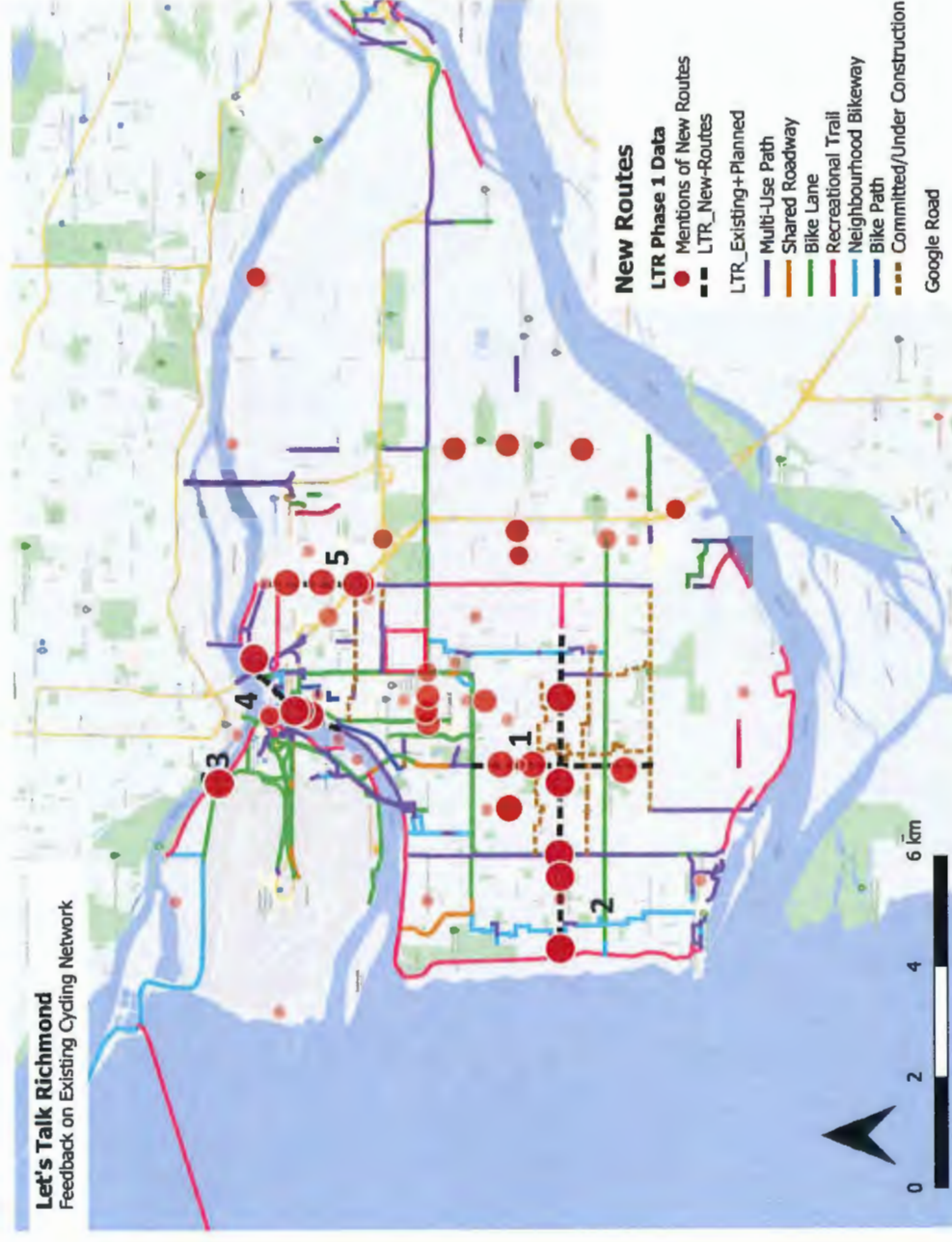
Francis Road – Potential east-west route between West-Dyke Trail and Shell Road.

Fraser River Park Bridge – Five respondents recommended constructing a pedestrian-cyclist bridge to connect directly to the Fraser River Park and Arbutus Greenway in Vancouver.

4. **River Road West from Canada Line Bridge to Middle Arm Greenway** – Creation of a continuous route from the North Dyke to the Middle Arm Greenway.

5. **Shell Road Trail to Bridgeport Road and River Drive** – An extension of the Shell Road route from Hwy 99 to Bridgeport Road and River Drive.

Figure A6: Pins on Let's Talk Richmond mentioning new routes



A5.6 Upgrades Needed

Figure A7 shows areas where upgrades are needed. This category mainly describes areas in the existing network where the public has proposed further safety upgrades that vary greatly in scale. From the data, two key areas stand out as locations respondents prioritize for upgrades:

1. **Westminster Hwy in East Richmond**
 - In general, the entire Westminster Hwy corridor in East Richmond received requests for upgrades to areas where bicycles are not physically separated from traffic. More specifically, the 300m shared road segment between McMillan Way and Graybar Road was a key focus of these safety concerns.

2. **Railway Ave between Garry Street and Moncton Street** – The Railway Greenway MUP currently ends at Garry Street. While a bike lane is provided on Railway Ave, this discontinuity of the protected two-way facility poses a challenge for less confident riders, especially those travelling northbound given the MUP is exclusively on the west side of the roadway.

Figure A7: Pins on Let's Talk Richmond mentioning upgrades needed



A6 Public Survey

In total, we received **571 submissions** to the public survey. For our analysis, we have split these respondents into two groups: **more frequent cyclists** who cycle “daily, weekly, or monthly” (455); and **infrequent cyclists** who cycle “never, rarely, or sometimes” (116). This was done to better understand differences in behaviours and attitudes between the two groups.

Age Demographics

As a demographic measure, respondents were asked “The age group I, or the cyclists in my household, belong to is.” The distribution of responses is shown in Table A3, and was generally similar between groups. The more frequent cyclist group had a larger proportion of respondents between 19-35, while the infrequent cyclist group was made up of more persons aged 65 and older.

Table A3: Age distribution of respondents by cycling frequency

Age	More Frequent Cyclists	Infrequent Cyclists
2-5	4%	6%
6-12	10%	10%
13-18	10%	7%
19-35	18%	12%
36-50	26%	24%
51-64	19%	22%
65+	13%	19%

A6.1 Shared Mobility

As shown in Table A4, few respondents reported being very interested or extremely interested in having a shared mobility program be it a bike, electric bike, or electric scooter. Approximately half of respondents were not interested at all in a shared mobility program. Interest in an electric bike share program was the highest, with similar levels of interest in a shared bike or electric scooter program. These trends may be partially explained by the fact that most respondents reported already owning a bicycle.

Table A4: Interest in shared mobility programs

	Bike	E-Bike	E-Scooter
Not interested at all	58%	46%	58%
Slightly interested	22%	23%	17%
Not sure	8%	9%	10%
Very interested	7%	13%	9%
Extremely interested	6%	9%	6%

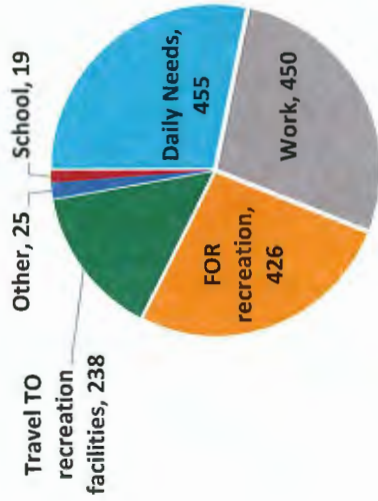
A6.2 Trip Purpose

More Frequent Cyclists

Survey participants were asked to select all responses that apply for cycling trip purposes. Nearly all **more frequent cyclists** reported cycling for the purposes of daily needs (455, 100%), work (450, 99%), and recreation (426, 94%). Approximately half of respondents reported travelling to recreation facilities by bike (see Figure A8 on the next page).

For **daily needs**, common destinations include groceries (multiple locations), Ironwood and Steveston. Similarly, common destinations **for work** include Ironwood and Steveston. **For recreation**, common destinations include Dyke trail (multiple locations), Gary Point Park, Steveston, Terra Nova, and Iona Beach.

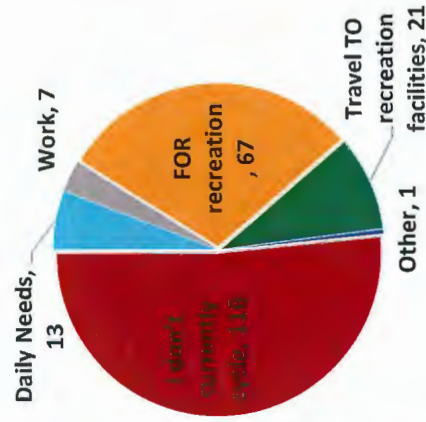
Figure A8: Trip purpose (more frequent cyclists)



Infrequent Cyclists

Most **infrequent cyclists** travel by bike for **recreation** (see Figure A9), with the most popular destinations being a dyke trail, Minoru, Steveston, and Garra Nova.

Figure A9: Trip purpose (infrequent cyclists)



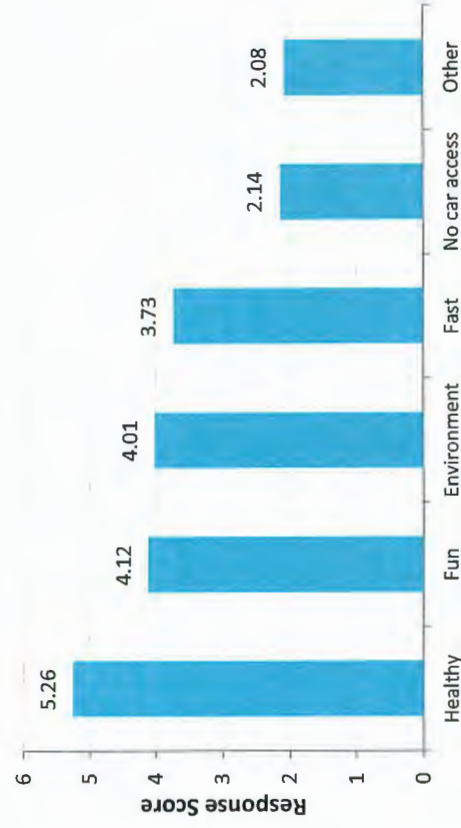
A6.3 Reasons for Cycling

Respondents were asked to rank responses to the prompt “I choose to cycle because” from 1 to 6. Options included: 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; and other.

These results were calculated using a weighted average, where the respondent’s highest ranked choice has the highest weight (in this case 6, as there were 6 options) and their lowest ranked choice has a weight of 1. Hence, their second choice would receive a weight of 5, their third choice 4, and so forth. Weights were multiplied by the total response count for each ranking and divided by the total response count.

Figure A10 shows the relative influence of these factors on cycling, with personal health, environment and fun being the top reasons selected. **Healthy** scored the highest, as many respondents selected this as their first or second choice. The reasons people choose to cycle were comparable between the more frequent cyclist and infrequent cyclist groups.

Figure A10: Reasons for cycling



A6.4 Comfortable Cycling Environments

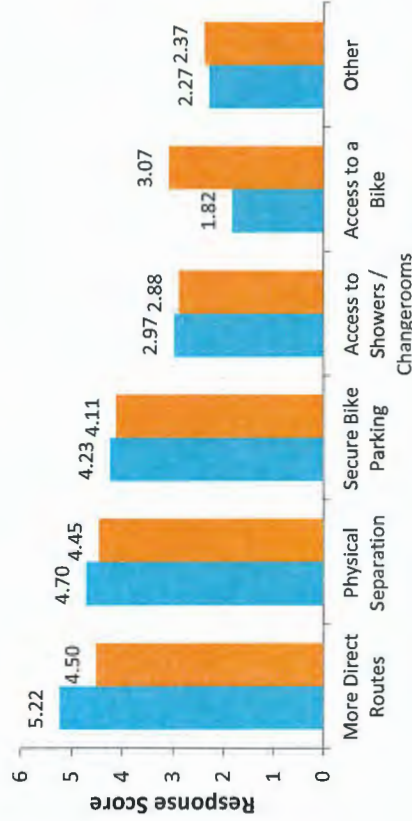
All 455 **more frequent cyclists** reported that they felt comfortable cycling on trails and off-street paths, in bike lanes with barriers, and in bike lanes without barriers. Approximately **70%** of more frequent cyclists agreed that they were comfortable cycling in **mixed traffic on neighbourhood streets**. Meanwhile only 20% of respondents were comfortable in mixed traffic on major streets.

Roughly two thirds of **infrequent cyclists** reported feeling comfortable cycling on **trails and off-street paths**, while 58% of respondents were comfortable in bike lanes with barriers. Less than one third of infrequent cyclists were comfortable in any other facility types, while 33% indicated that they did not feel comfortable cycling in Richmond.

Encouraging Cycling

The top three answers for what would get people to cycle more include **having more direct routes, access to secure bike parking and physically separated infrastructure** (see Figure A11). These results were also calculated using a weighted average (described in section A6.3).

Figure A11: Factors that encourage people to cycle more (more frequent cyclists)

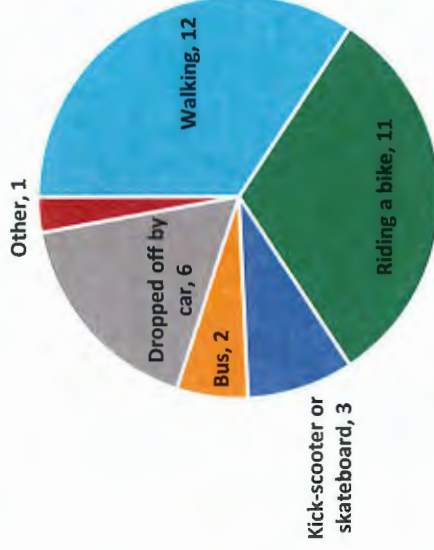


In general, factors encouraging cycling followed a similar trend between more frequent cyclists and infrequent cyclists. Access to a bike was a more important factor for less frequent cyclists, 116 of whom reported that they do not currently cycle (see Figure A9), and who may be more likely not to own a bicycle.

A7 Student Survey

We received **33** responses to the student survey, with most respondents identifying as being in grades 9 through 12. **Typical ways of getting to school most commonly include walking or riding a bike** (see Figure A12), with the majority of students who walk or bike being in grades 7 or higher.

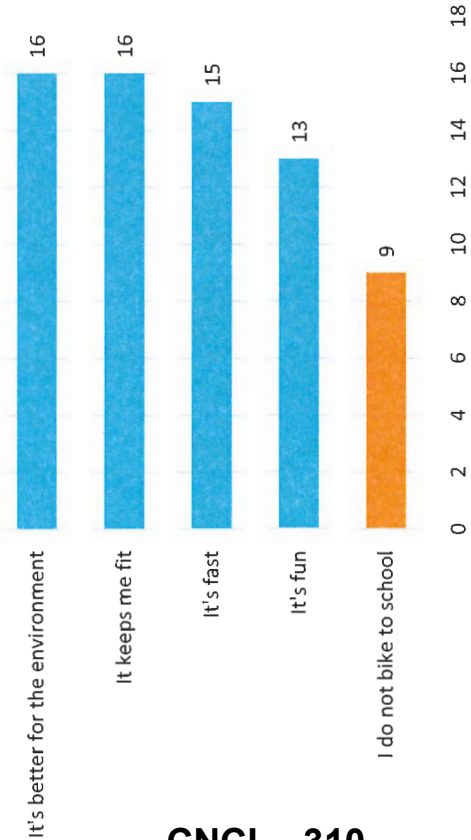
Figure A12: Typical ways students travel to school



Reasons for Cycling

Figure A13 shows reasons for biking to school are fairly evenly distributed amongst possible responses, with the highest response rates being it's better for the environment, keeps me fit, and it's fast. Of the 9 respondents who reported they did not bike to school, 7 were students who reporting walking as their most common way of travelling to school.

Figure A13: Reasons respondents bike to school



CNCL - 310

Reasons Against Cycling

Unfortunately, there was a low response rate (n=14) to the reasons respondents don't ride a bike to school. Similarly, none of the students who reported cycling or being dropped off by a car as their most common method of travel to school responded to this question. Within this small sample, using other active modes, concerns about safety, and worrying about having their bike stolen were the top responses (see Table A5).

Table A5: Reasons respondents do not bike to school

Responses	Number of Respondents
too far / too long	1
I don't have a bike	0
I don't know how to ride	0
I don't feel safe	3
bad weather	0
worry about stolen bike	2
I walk / skateboard / kick scooter	3
I take the bus	0
my parents won't let me	2
other	3

Favourite Cycling Locations

The most common favourite places to ride in Richmond amongst students (n=25) were the Railway Greenway, Dyke Trails, Garry Point Park, and Steveston.

B Phase 2 Engagement Summary

CNCL - 311

B1 Introduction

Phase 2 engagement for the Richmond Cycling Network Plan Update focused on three major objectives:

- Validating the findings from our route-level evaluation
- Refining feedback heard during Phase 1 engagement
- Understanding how stakeholders and the public prioritize between different improvements and connections at the implementation stage

As part of this second phase of engagement, several activities were conducted to gather public and stakeholder input including:

- Internal stakeholder consultation with:
 - City of Richmond staff
 - Advisory Committee on the Environment
 - Richmond Active Transportation Committee

External stakeholder workshop
Public consultation for both the public and students via the *Let's Talk Richmond* Ideas Board, Mapping Tool, and Survey Tool

This note summarizes the key findings and highlights from this phase of engagement, which have refined the final phase of technical analysis, policy recommendations and the implementation strategy for the future cycling network and prioritized investments.

B2 Internal Consultation

B2.1 Internal Review by City Staff [2021-03-24]

An internal review by City of Richmond staff (including Transportation, Park Services, Recreation Services, Development Applications, Policy Planning, Sustainability and District Energy, Sports Services and Events, and Public Works) was completed prior to seeking approval from Council to begin public consultation. Several ideas were presented that influenced the framing and delivery of Phase 2 engagement materials:

- Importance of speed differential when managing shared pathways
- Showing connections to routes on Sea Island and Vancouver
- Direct feedback to refine questions for the Survey and Ideas Board
- Supporting the needs of all cyclists (e.g., recreational, touring, commuting, confident, families, etc.)

B2.2 Advisory Committee on the Environment [2021-11-10]

Our discussion with members of the committee focused on three key topics:

- **Support for achieving social equity objectives** in determining where the core cycling network should focus
- Desires for improved cycling **connections to the No. 2 Road bridge**, with consideration for separation given recent traffic collisions
- **Separating cyclists and pedestrians** in busy areas (e.g., Steveston Boardwalk)

B2.3 Richmond Active Transportation Committee [2021-11-17]

Three discussion topics framed much of our dialogue with the committee:

- Perspectives on e-mobility devices on roads and multi-use paths
- Comments on safely sharing trails and pathways with pedestrians
- Priorities for expanding the network

In response, we heard about the challenges of sharing facilities with e-scooters, e-bikes, and cyclists capable of reaching higher speeds. Support was given for **separation between pedestrians and cyclists on multi-use pathways**, as well as education on courtesy for shared spaces. In identifying priorities for the future network, the importance of having **multiple connections to East Richmond to allow options in the event of road closures** (e.g., climate impacts, road construction, etc.) was highlighted.

Overall, **No. 3 Road** received considerable attention as a high priority route, with remarks on the narrowness of the existing bike lanes, observations of cyclists using sidewalks and key destinations within the No. 3 Road area.

B3 External Consultation

B3.1 External Stakeholder Workshop [2021-11-30]

Attendees
HUB Cycling, ICBC, Metro Vancouver, MoTi, Richmond Active Transportation Committee, Richmond School District, TransLink, Vancouver Airport Authority, Vancouver Coastal Health

Phase 2 engagement was a good opportunity to hear from stakeholders about current and upcoming policy directions and learn from their experiences. For example, Metro Vancouver shared their vision of planning regional greenway routes along **scenic resources** for recreation and the benefits and trade-offs of paving gravel trails in Tynehead Regional Park.

Stakeholders also shared several recommendations for the final report including:

- Consideration for **end of trip facilities** and expanding needs (e.g., charging and repair stations)
- Highlighting rapid implementation facilities** as quick, cost effective, piloting tools
- Supporting regional coordination in managing electric and micromobility devices
- Addressing the need for **data collection** and counters to inform successes and future planning
- Maps of phased cycling network build out to align with prioritization and implementation plan
- Understanding access from communities to key destinations (e.g., nature, jobs, and essential services)
- Prioritizing multi-function routes** that service commuting as well as recreation in off peak hours

B4 Public Consultation

B4.1 Ideas Board

The Ideas Board generated **31 ideas**, receiving **43 additional comments**. In total **67 people viewed or participated** in the ideas board. To analyze this discussion, all ideas and comments were coded into 1 of 5 categories shown in Table B1. Here, the key topics column summarizes the main discussion points receiving further comments and upvotes.

Table B1: Key Topics discussed using the Let's Talk Richmond Ideas Board

Category	Key Topics
Speed and Separation on Pathways	<ul style="list-style-type: none">• Emphasis on separation of modes over speed limits• Some support for speed limits (if clearly posted), especially in busy scenic areas• Using road lanes for faster rolling modes<ul style="list-style-type: none">– Railway Greenway/bike lanes as positive example
Priority Routes	<ul style="list-style-type: none">• Support for Garden City Road improvements• Improved connections to Canada Line Bridge• Support for expanding neighbourhood routes and including safe crossings at major intersections• Support for routes on Blundell Road• No. 2 Road from Westminster Hwy to Granville Ave• North Westminster Hwy as preferred cycling route
Active School Travel	<ul style="list-style-type: none">• Conduct research into local barriers• Identify school champions• Roundtables for parent concerns
Bike Parking	<ul style="list-style-type: none">• Continued need for secure, dry, parking facilities• Considerations for repair stands and other mobility devices such as wider/cargo bikes and electric scooters
Other Ideas	<ul style="list-style-type: none">• 30 km/h speed limits on residential roads• Shift focus from cyclists to active transportation and mode shift for the wider population• Improve pathway lighting for cycling at night

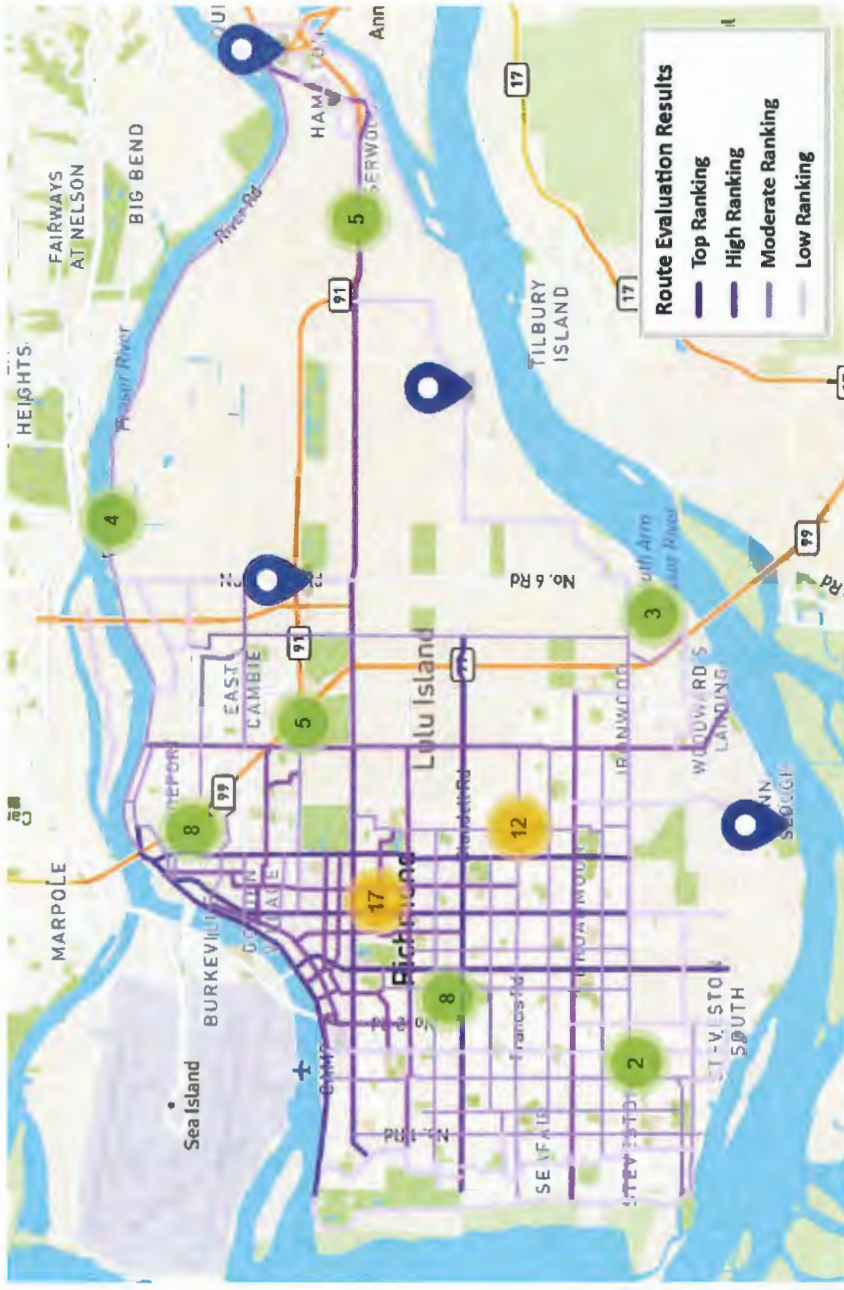
In general, the most discussed categories were priority routes and speed and separation on pathways, with 21 and 19 ideas and comments respectively. The prioritization of connecting to the No. 2 Road Bridge was also presented as an opportunity to address concerns with Lynas Lane, which participants preferred for local connections only. The top idea (7 votes) was to shift focus from cyclists to active transport (i.e., a wider population of users). This aligned with feedback on the Tour de Richmond idea. Attitudes were that this was a positive idea, though the priority should be made shift for the wider population.

GNCL B5 Mapping Tool

validate the findings from our route-level evaluation, and further assess opportunities for improvements to the existing cycling network and how to prioritize future investments, the *Let's Talk Richmond* Mapping Tool was once again used for this phase of engagement, to allow residents to provide location specific feedback and recommendations. A screenshot of the mapping tool is provided in Figure B1.

As shown in Figure B1, the base map included the results of the route level evaluation carried out during the Phase 2 analysis. To better understand how the Richmond community prioritizes different improvements and connections, participants were asked to reflect on the routes considered top or high ranking and to identify additional routes that they would consider top or high ranking.

Figure B1: Pins on the Let's Talk Richmond Mapping Tool



This tool enabled participants to create pins and view the pins that others had created. When creating a pin, participants were asked for comments. To better represent levels of geography and account for different types of written feedback, data was recoded during our analysis into four categories.

Table B2 depicts the breakdown of these pins by category. In total, **17 contributors** plotted **66 pins**.

Table B2: Number of pins on Let's Talk Richmond by Category

Category	Mentions
High Ranking	45
Crossing	11
Connection	7
Other	3
Total No. of Mentions	66

B5.1 Network

Figure B2 shows the distribution and frequency of the 45 comments that recommended new or improved cycling routes. The comments are displayed as lines, with darker colours indicating more mentions and requests for that route.

Figure B2: Coded Map of the Let's Talk Richmond Mapping Tool Results



While the recommendations are dispersed throughout the city, several key corridors emerged from our analysis:

1. **No. 3 Road and Gilbert Road** – Both routes from Granville Ave to River Road were consistently identified as high priority. Both options would provide a north-south route for travelling through the City Centre.
2. **Gilbert Road** – Further improvements along Gilbert Road between the City Centre and Dyke Road.
3. **North Dyke/River Road** – Either improvements along River Road or an alternative route along the North Dyke connecting Bridgeport Station/Canada Line Bridge to Queensborough in the east.
4. **Shell Road** – An extension of cycling/pedestrian infrastructure along Shell Road between the Highway 99 overpass and River Road would enable a safer crossing of Highway 99 and connection to the North Dyke from the Shell Road Trail.
5. **Bartlett Lane/No. 9 Road** – Several users suggested alignments to complete a route connecting Westminster Hwy and Blundell Road to the dyke trails east to Dyke Road.

CNCL 316

B5.2 Connections

The seven recommended connections are marked by yellow circles in Figure B2. Associated comments were concerned with safety, missed connections, improvements to existing connections, and signage/wayfinding.

B5.3 Crossings

The blue square markers in Figure B2 represent the 11 crossings mentioned for improvements. The comments concerned modifications to alignment, unsafe crossings, upgrading pedestrian overpasses to accommodate cyclists, more responsible bicycle sensors, and improving crossings across Moray Channel. High ranking comments on Westminster Hwy also emphasized the importance of crossing Highway 99.

steer

6897532

B5.4 Other Opportunities

Miscellaneous opportunities (represented by green diamonds in Figure B2) focused on the removal of an incomplete bike lane on Cooney Road, turning safety concerns, and reducing vehicle volumes along River Road.

B6 Public Survey

In total, there were **528 submissions** to the public survey; 90% of respondents identified as being a resident of Richmond, while 20% indicated that they were employed in Richmond. Only 3% of survey respondents identified as being a student in Richmond and 8% identified as a visitor.

Over 50% of respondents selected that they heard about this engagement through an email from LetsTalkRichmond.ca. Other popular ways respondents heard of the engagement included word of mouth (11%), via a news story (10%), and City of Richmond social media channels (10%).

B6.1 Improvements to Increase Comfort Level

Respondents were asked to indicate their level of comfort with several types of cycling facilities, and the extent to which they would deviate from their perceived more direct route to use more indirect routes that provided a higher level of comfort.

According to results, 42% of survey respondents selected that, if it takes 20 minutes to cycle to their destination on roads with no bike facilities, they are willing to **alter their route by more than 5 minutes or at least 1500 metres** to ride on a fully protected bike lane or off-street path. An additional 23% of respondents indicated that they would deviate by up to 5 minutes or 1500 metres.

Local Streets

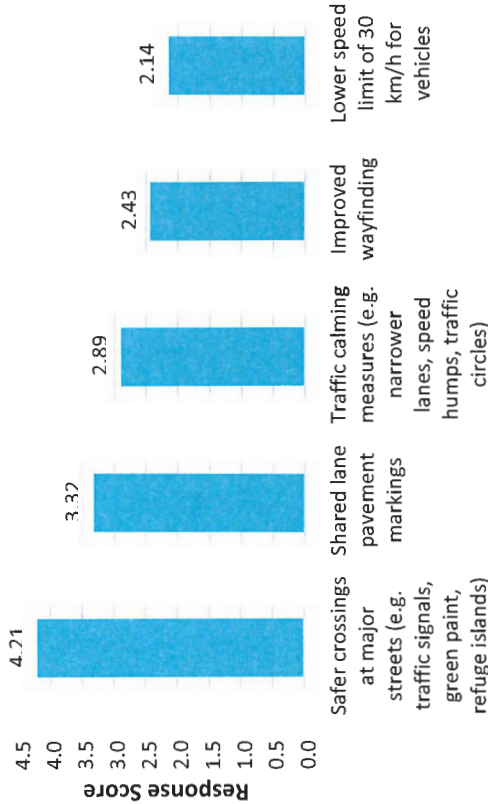
For local streets (non-busy roads), respondents were asked to rank responses to the prompt *“I prefer the following improvements to increase my comfort level of using neighbourhood bikeways on local streets.”*

Options included: *safer crossings at major streets (e.g., traffic signals, green paint, refuge islands); shared lane pavement markings; traffic calming measures (e.g., narrow lanes, speed humps, traffic circles); improved wayfinding; and lower speed limit of 30 km/h for vehicles.*

Approximately **56% of respondents selected safer crossings at major streets** (e.g., traffic signals, green paint, refuge islands) as their **most preferred choice**, while 46% of respondents selected *lower speed limit of 30 km/h for vehicle* as their least preferred choice.

Figure B3 displays the overall results for each facility. These results were calculated using a weighted average, where the respondent's highest ranked choice has the highest weight (in this case 5, as there were 5 options) and their lowest ranked choice has a weight of 1. Hence, their second choice would receive a weight of 4, their third choice 3, and so forth. Weights were multiplied by the total response count for each ranking and divided by the total response count.

Figure B3: Ranked Preference of Cycling Improvements for Neighbourhood Bikeways



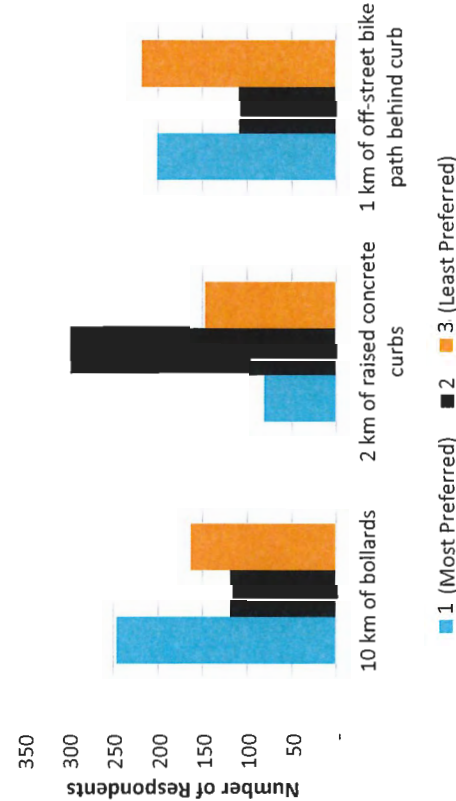
Major Street Bike Routes

As for major streets (busy roads), respondents were asked, *“Given the relative cost of different forms of physical protection measures, I prefer the following designs to increase my comfort level using major street bike routes”*.

For the results, 47% of respondents ranked 10 km of bollards as their most preferred choice, while 57% of respondents ranked 2 km of concrete curbs as their 2nd choice, and 41% ranked 1 km of off-street bike path behind curb as their least preferred choice.

However, the average ranking has 1 km of off-street bike path behind curb favoured over 2 km of raised concrete curbs. Respondent views were relatively polarized around the off-street bike path, with over 200 respondents each putting it as their most preferred and least preferred option. Figure B4 shows the results for each facility type. In general, preferences between facilities appear to be relatively similar when controlling for differences in costs per kilometre.

Figure B4: Ranked Preference of Cycling Facilities for Local Streets

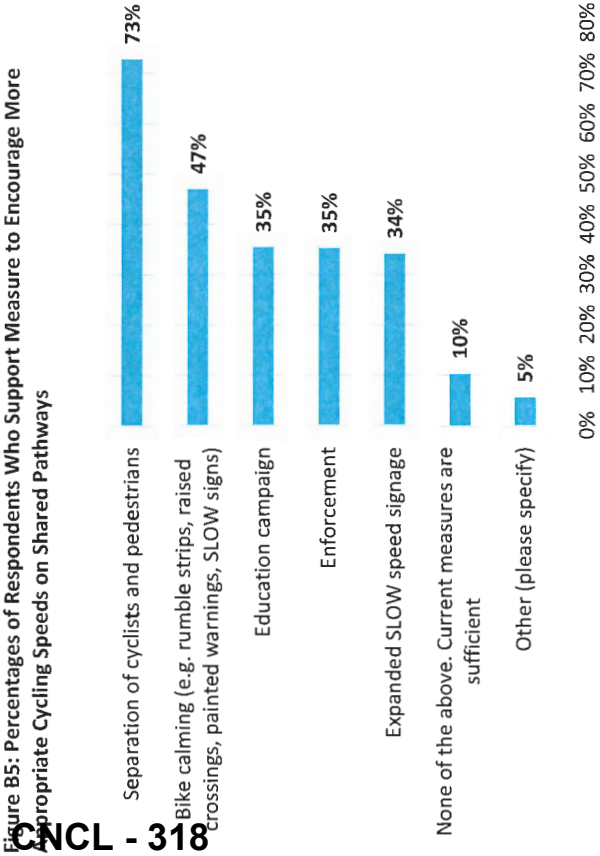


Survey participants were also asked whether they think “...physically separated cycling facilities should be prioritized in high traffic and high density areas (e.g., City Centre, major streets).” To this, 70% of respondents stated that they **Strongly Agreed**, and **89% of respondents either Strongly Agreed or Agreed**.

Cycling/Pedestrian Mix

The survey also posed questions about how to integrate/separate people walking and cycling. Survey respondents were asked whether “the City should upgrade existing busy multi-use pathways (e.g., Railway Greenway) to separate cyclists and pedestrians.” In response, 30% or respondents selected that they **Strongly Agreed**, and **60% either Strongly Agreed or Agreed that cyclists and pedestrians should be separated**.

Figure B5: Percentages of Respondents Who Support Measure to Encourage More Appropriate Cycling Speeds on Shared Pathways



As for “...measures to encourage more appropriate cycling speeds on pathways shared with pedestrians,” 73% of respondents selected that they

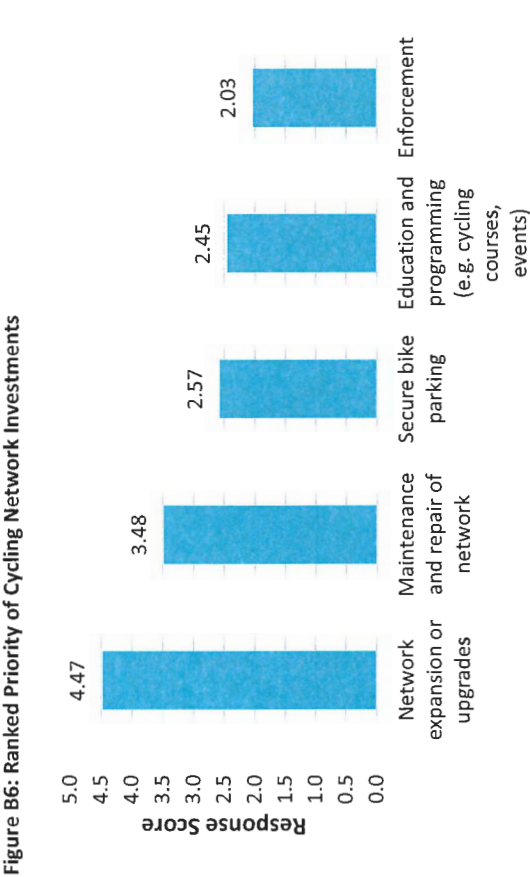
support the *Separation of cyclists and pedestrians*, which was followed by 47% of respondents indicating that they support *Bike calming* (e.g., rumble strips, raised crossings, painted warnings, SLOW signs). Only 10% of respondents stated that the *current measures are sufficient*. Complete results are shown in Figure B5.

B6.2 Investment Prioritization

In the latter half of the survey, respondents were asked questions on how they would prioritize investments in the cycling network and bike parking. *Cycling Network Facilities*

For the Cycling Network, respondents were provided with the prompt: *Over the next several years, I would prioritize the following cycling network investments, and were then asked to rank the options of Network expansion or upgrades, Maintenance and repair of network, Secure bike parking, Education and programming (e.g., cycling courses, safe routes to school, events) and Enforcement.*

Figure B6: Ranked Priority of Cycling Network Investments

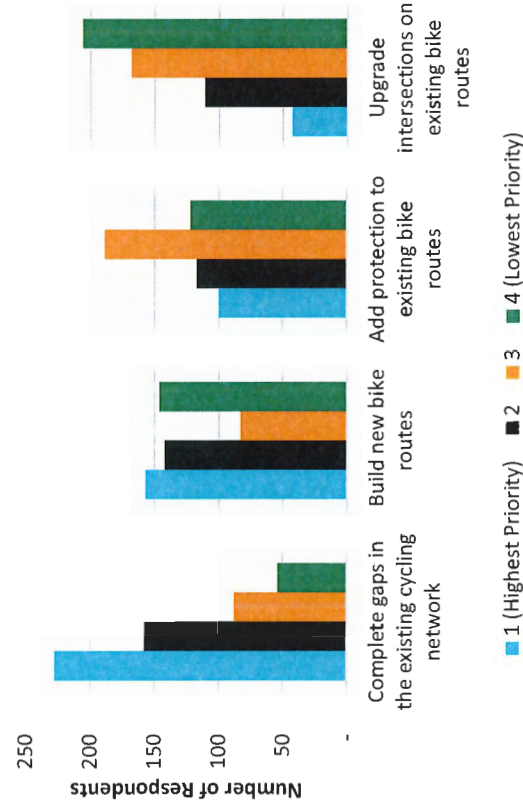


Overall, **76% of respondents ranked Network expansion or upgrades as their highest priority**, and 55% of respondents ranked *Maintenance and repair of network* as their second priority. Meanwhile, 51% of respondents selected *Enforcement* as their lowest priority. Figure B6 displays the weighted average ranking for each investment.

As a follow up, respondents were asked how they “...would prioritize funding for the following types of cycling network expansion or upgrade projects over the next several years,” with the options being *Complete gaps in the cycling network*, *Build new bike routes*, *Add protection to existing bike routes*, and *Upgrade intersections on existing bike routes*.

Of the results, 43% of survey respondents ranked *Complete gaps in the existing cycling network* as their top priority, while 39% of respondents ranked *Upgrade intersections on existing bike routes* as their lowest priority. Figure B7 displays the results, showing the number of rank placements each investment received, as well as the average ranking for each investment.

Figure B7: Ranked Priority of Cycling Network Expansion or Upgrade Projects

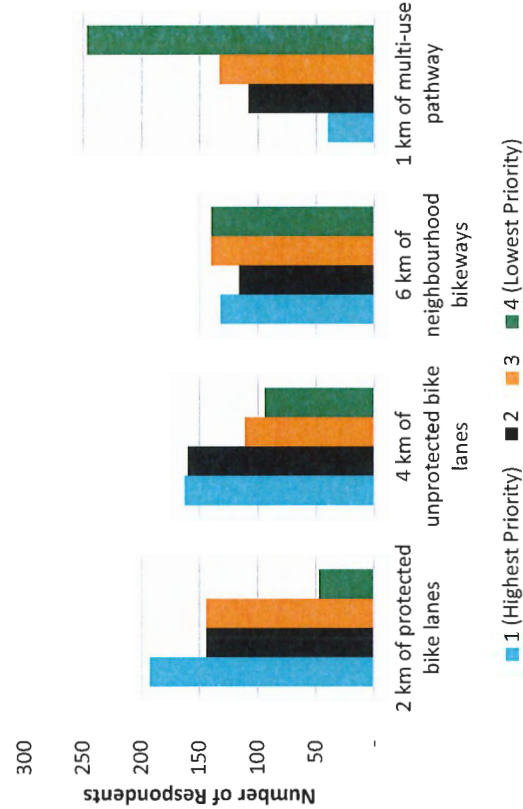


Similarly, survey respondents were asked, what they “...would prioritize the next \$1 million of investment on,” if \$1 million was able to provide either 6 km of neighbourhood bikeways, 4 km of unprotected bike lanes, 2 km of protected bike lanes and 1 km of multi-use pathway.

Survey results showed that while 2 km of protected bike lanes garnered the most first place rankings, only 36% of respondents had it as their first priority. This option tended to have a slight preference over 4 km of unprotected bike lanes and 6 km of neighbourhood bikeways. The clearest result was that 47% of respondents ranked 1 km of multi-use pathway as their last priority (Figure B8).

It is unclear if the low prioritization of multi-use pathways is from a preference of length of facilities over separation, versus the possible perceived mixing of cyclists and pedestrians on multi-use pathways, which previous questions revealed an aversion towards.

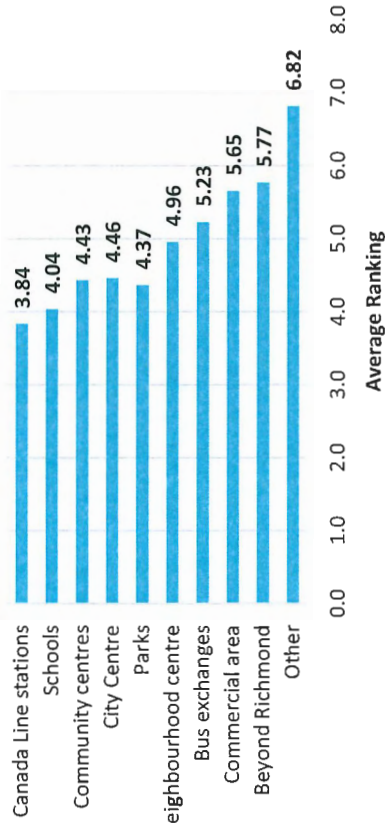
Figure B8: Ranked Priority of Investment in Cycling Facilities (when given \$1 million)



To build on these questions, survey respondents were asked “If longer bike routes need to be completed in segments, I would prioritize the following destinations” in order from most to least importance.

Of the ten choices, 24% of respondents ranked *Schools* as their top choice, while 20% of respondents ranked *Canada Line stations*. *Community Centres*, *City Centre*, and *Parks* also scored in the top half. The average rank of each destination is displayed in Figure B9.

Figure B9: Average Ranking of Destinations for Prioritizing Cycling Connections

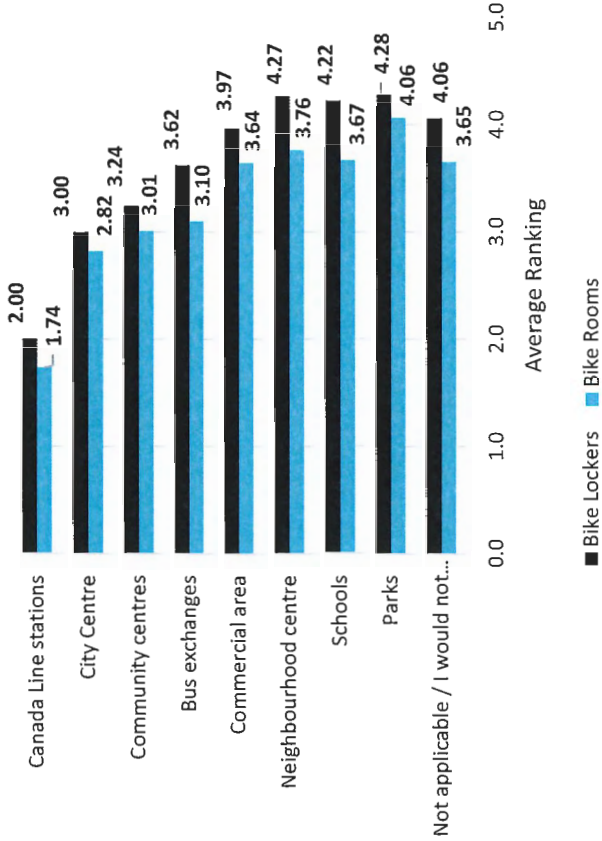


Other destinations that people listed included shopping centres (e.g., childcare facilities, movie theatres, grocery stores, banks, etc.), the dyke, the Railway Greenway and the George Massey Tunnel.

Investment Prioritization – Public Bike Lockers/Rooms

Finally, survey respondents indicated that they would prioritize public bike lockers and bike rooms at Canada Line stations (top choice by 44% and 47% of respondents respectively). The City Centre, Community Centres, and Bus Exchanges also ranked well. The difference between the results for bike lockers and bike rooms was minimal. The average rank of each destination is provided in Figure B10.

Figure B10: Average Ranking of Destinations for Prioritizing Bike Lockers and Rooms



B6.3 Other Comments or Suggestions

Comments called for protection to be prioritized on arterials and in the urban core and more neighbourhood bikeways in residential areas. Respondents also emphasized separating cyclists and pedestrians on shared pathways, and that more cyclist-controlled crossings are needed.

Route suggestions included east-west connections between No.3 Road and East Cambie, a desire to extend Shell Road northward to River Road, and improved connections between the Canada Line and Middle Arm Greenway.

Key policy feedback included the need for more charging infrastructure for electric mobility devices and concern over bike rooms being a target for bike theft.

C Existing Network Analysis Summary

CNCL - 321

Cycling Network Plan Update: Existing Network Analysis Summary

CNCL - 322



Cycling Network Plan Update: Existing Network Analysis Summary



Prepared by:

Steer
Suite 1030 – 999 W Hasting Street
Vancouver, BC V6C 2W2
Canada
Tel: (604) 629 2610
www.steergroup.com

Prepared for:

City of Richmond
6911 No. 3 Road
Richmond, BC
V6Y 2C1
Canada
Client ref: 6584412
Our ref: 23743801

Steer has prepared this material for City of Richmond. This material may only be used within the context and scope for which Steer has prepared it and may not be relied upon in part or whole by any third party or be used for any other purpose. Any person choosing to use any part of this material without the express and written permission of Steer shall be deemed to confirm their agreement to indemnify Steer for all loss or damage resulting therefrom. Steer has prepared this material using professional practices and procedures using information available to it at the time and as such any new information could alter the validity of the results and conclusions made.



Contents

1	Introduction	6
2	Existing Cycling Network.....	7
	2.1 Introduction.....	7
	2.2 Cycling Facility Types	9
3	Cycling Comfort Level	17
	3.1 Factors Affecting Cyclist Comfort Level.....	17
	3.2 Analysis	20
	Cycling Ridership	24
	4.1 Introduction.....	24
	4.2 Analysis	26
	Cycling-Related Incident Analysis	34
	5.1 Introduction	34
	5.2 Analysis	34
6	Network Connectivity and Accessibility Analysis.....	45
	6.1 Connectivity Analysis.....	45
	6.2 Cycling Accessibility to Key Destinations.....	48
7	Key Findings and Next Steps	52

Figures

Figure 1.1: A cyclist on the No. 3 Road bike lane	6
Figure 2.1: Proportion of Cycling Facility Types	7
Figure 2.2: City of Richmond Existing Cycling Network by Facility Type.....	8
Figure 2.3: Protected Bike Lane – River Parkway	9
Figure 2.4: Protected Bike Lane - Dunsmuir Street in Vancouver, BC.....	9
Figure 2.5: Bike Path – Garden City Road (Source: Google Street View)	10
Figure 2.6: Multi-Use Path – Railway Greenway.....	11
Figure 2.7: Multi-Use Path – Railway Greenway.....	11
Figure 2.8: Recreational Trail - The West Dyke Trail	12
Figure 2.9: Bike-accessible shoulder – Railway Avenue.....	13
Figure 2.10: Bike lane - Williams Road (Source: Google Street View).....	13
Figure 2.11: Neighbourhood street bikeway - Crabapple Ridge	14
Figure 2.12: Shared roadway – Barnard Drive (Source: Google Street View). 14	
Figure 2.13: Existing Cycling Network by Facility Type + Informal Routes.....	16
Figure 3.1: Primary Factors and relationship with Cycling Comfort	17
Figure 3.2: High-Level Summary of Cycling Comfort Level Attributes	18
Figure 3.3: City of Richmond Cycling Comfort Level	19
Figure 3.4: Potential Cycling Comfort Level by Facility Type	20
Figure 3.5: Cyclist Comfort Level Breakdown (All Facilities)	21
Figure 3.6: Cyclist Comfort Level Breakdown (Excluding Trails)	22

Figure 3.7: Cyclist Comfort Level Breakdown (Excluding Trails and MUPs).....	23
Figure 4.1: Strava Fitness Tracking (Source: Strava.com)	24
Figure 4.2: Location of the City of Richmond's Bike Counters.....	25
Figure 4.3: Average Daily Cyclist Volumes by Month (City of Richmond, 2020 - 2021) and Average Monthly Temperatures (en.climate-data.org; downloaded October 2020)	26
Figure 4.4: Seasonal Trip Data (Strava, 2018-2021).....	27
Figure 4.5: Breakdown of Activity by Locals and Visitors (Strava, 2018-2021).....	27
Figure 4.6: Strava Trips at Bike Counter locations (Strava, 2019 / 2020)	28
Figure 4.7: Example of Strava Trip Assignment	29
Figure 4.8: A cyclist on the West Dyke Trail.....	29
Figure 4.9: Average Daily Strava Trips in Richmond (Strava, July 2020)	30
Figure 4.10: Cyclists on the Railway Greenway MUP	31
Figure 4.11: Change in Average Daily Strava Trips influenced by the COVID-19 Pandemic (Strava, July 2019 + July 2020)	32
Figure 4.12: Average Daily Cyclist Volumes by Day of Week (City of Richmond, 2020 - 2021)	33
Figure 4.13: Average Hourly Cyclist Volumes (City of Richmond, 2020 - 2021)	33
Figure 5.1: Reported Incidents Involving Cyclists by Year (ICBC, 2014-2019) ..	34
Figure 5.2: Total Incidents Involving Cyclists by Year (ICBC, 2014-2019)	35
Figure 5.3: Cycling Incidents by Facility Type.....	37
Figure 5.4: Cycling Facility Type and Average Annual Traffic Incidents Involving Cyclists (ICBC, 2014-2019).....	38

Figure 5.5: Cycling Incidents by Comfort Level	39
Figure 5.6: Cycling Comfort Level (TransLink/Hub Cycling) and Average Annual Traffic Incidents Involving Cyclists (ICBC, 2014-2019).....	40
Figure 5.7: Top 20 Collision Locations, Average Annual Cyclist Incidents (ICBC, 2014-2019), and Average Daily Traffic (UrbanLogiq, Sept 2019).....	42
Figure 5.8: A cyclist stopped at Railway Greenway and Williams Road.....	43
Figure 5.9: Trends in Cyclist Incident Rates (ICBC, 2014-2019) and Recent Cycling Infrastructure Investments (City of Richmond)	44
Figure 6.1: Cycling Connectivity Analysis – Existing Cycling Network	46
Figure 6.2: Connectivity Analysis – Existing Cycling Network and Informal Routes.....	47
Figure 6.3: Bridgeport Canada Line Station and Bus Exchange.....	48
Figure 6.4: Key Destinations, Points of Interest and Major Transit Nodes	49
Figure 6.5: Cyclists riding on Bayview Street East of No. 1 Road.....	50
Figure 6.6: Cycling Accessibility to Educational Institutions	51
Figure 7.1: Cyclist on Lansdowne Road (Source: City of Richmond)	53

Tables

Table 2.1: Length of Existing Cycling Network by Facility Type	7
Table 2.2: Summary of Cycling Facilities by Key Characteristics.....	15
Table 5.1: Corridors with the most reported cycling related incidents	36
Table 5.2: Intersections with the most reported cycling related incidents	36

1 Introduction

1.1.1 Document Structure

This document provides a recap of the analysis and findings of the existing conditions assessment with the following sections:

1. Introduction
2. Existing Cycling Network
3. Cycling Comfort Level
4. Cycling Ridership
5. Incident Analysis
6. Cycling Connectivity and Accessibility Analysis
7. Key Findings and Next Steps

1.1.2 Data Sources

This phase of the study makes use of the following primary data sources:

The City of Richmond

- Transportation network base data
- Average Daily Traffic data (via *UrbanLogiq*)
- Cyclist count data
- TransLink/HUB Cycling
- Benchmarking the State of Cycling in Metro Vancouver
- ICBC
- Reported traffic incident involving cyclists (2014–2019)
- Strava Metro
- Aggregated and de-identified cycling trip data for Metro Vancouver

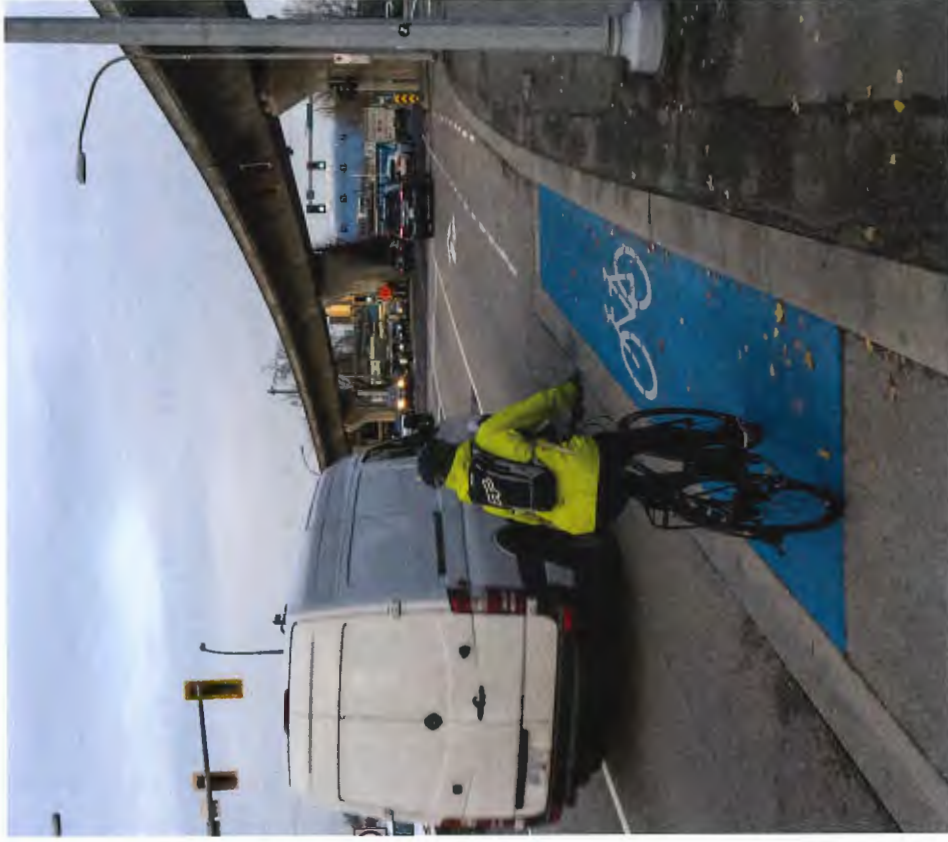


Figure 1.1: A cyclist on the No. 3 Road bike lane

2 Existing Cycling Network

2.1 Introduction

The City of Richmond’s cycling network currently includes more than 330 lane-km of cycling facilities, including a mix of the following facility types:

- Off-street Bike Path
- Protected Bike Lane
- Multi-Use Path (MUP) / Greenway
- Recreational Trail
- Bike Lane / Bike Accessible Shoulder
- Neighbourhood Street Bikeway
- Shared Roadway

While a wide variety of different facility types are used in Richmond, some cycling facility types are more common than others. The total lane-km and proportion of each facility type (by end of year 2021) are shown in Table 2.1 and Figure 2.2. Note that due to low instance of both protected bike lanes and bike paths, these facility types have been grouped together.

Table 2.1: Length of Existing Cycling Network by Facility Type

Facility Type	Lane-km	Proportion
Protected Bike Lane / Bike Path	8.5	3%
Multi-Use Path / Greenway	92.6	27%
Recreational Trail	76.7	23%
Bike Lane / Bike Accessible Shoulder	97.2	29%
Neighbourhood Street Bikeway	54.1	16%
Shared Roadway	9.3	3%

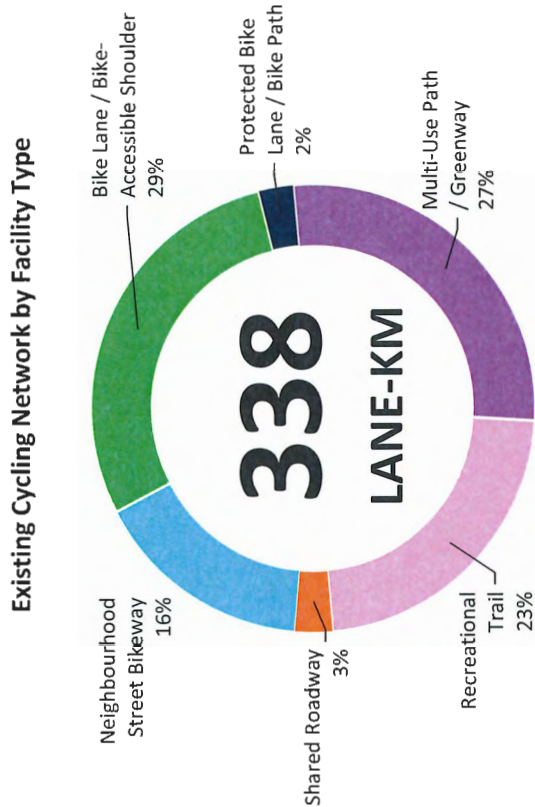
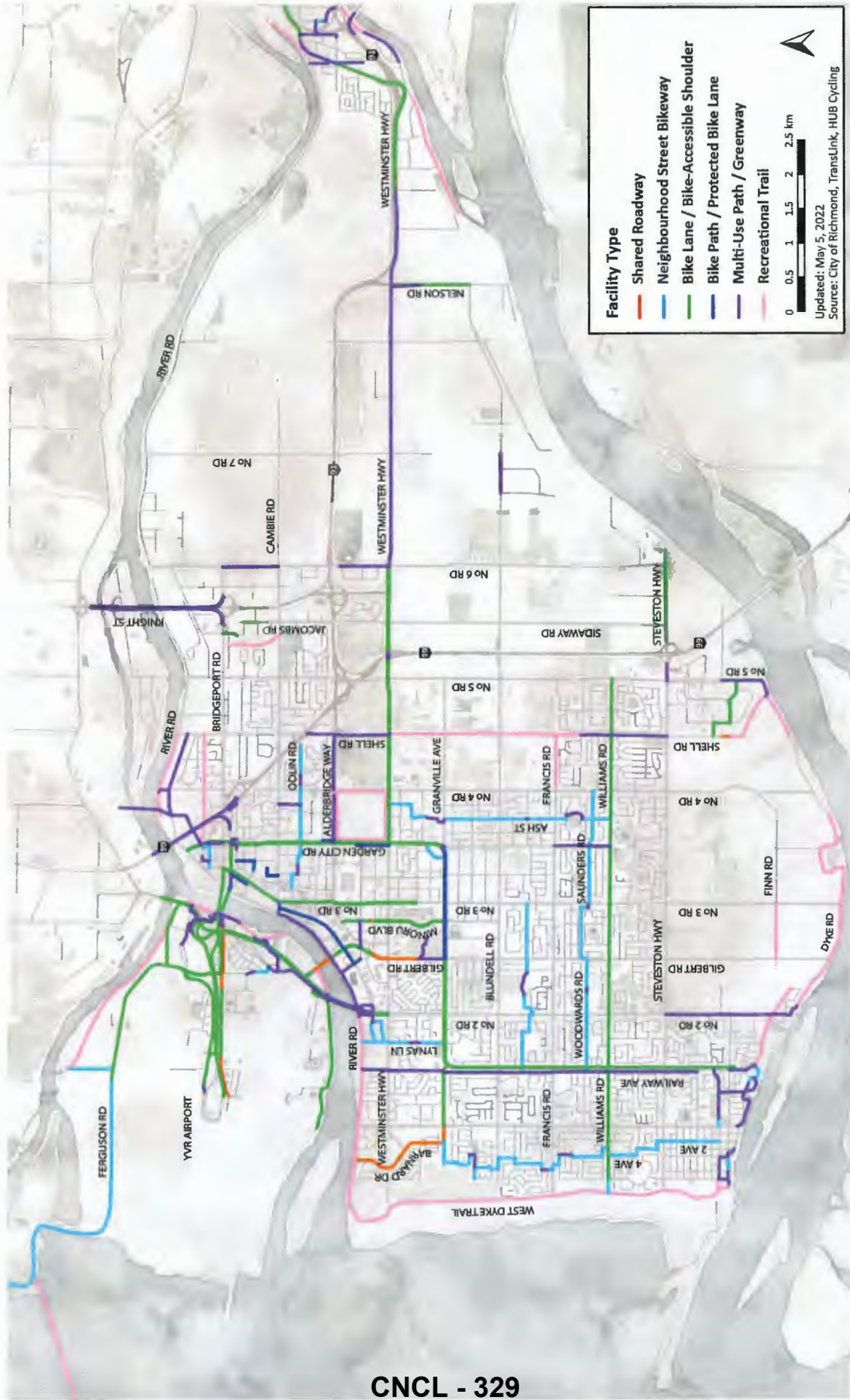


Figure 2.1: Proportion of Cycling Facility Types

The Existing Conditions Cycling Network, Figure 2.2 on the following page, shows the distribution of cycling facilities throughout the city by infrastructure type.



CNCL - 329

Figure 2.2: City of Richmond Existing Cycling Network by Facility Type

2.2 Cycling Facility Types

This section provides descriptions of each facility type along with a representative photo from within the City of Richmond's existing cycling network. Additional photos from other municipalities are also provided for reference as appropriate.

The definitions used within this study are based on the categorizations presented by HUB Cycling and TransLink's *Benchmarking the State of Cycling in Metro Vancouver* 2019 report and consultation with City of Richmond staff.



Figure 2.3: Protected Bike Lane – River Parkway

2.2.1 Protected Bike Lane

Protected bike lanes are similar to (unprotected) bike lanes in that they are on-street cycling facilities adjacent to traffic but differ in that they also include the addition of a physical barrier separating cyclists from motor vehicle traffic. Raised medians, vegetated buffers and bollards are all examples of common protection elements.

As with unprotected bike lanes, additional surface treatments including high-visibility paint are typically applied to highlight the presence of cyclists to vehicle drivers through intersections and other locations where protection elements cannot be implemented.

At present, protected bike lanes are not common within Richmond's cycling network, representing approximately 1% of all cycling facilities.



Figure 2.4: Protected Bike Lane - Dunsmuir Street in Vancouver, BC

2.2.2 Bike Path

Bike paths are similar in function to protected bike lanes as cyclists are physically separated from motor vehicle traffic, however this type of facility is located outside of the traffic right-of-way as an off-street facility.

By physically separating cyclists from traffic, the risk of conflict with motor vehicles is dramatically reduced relative to on-street bike lanes.

The potential for conflict remains where bike paths cross intersections, however this risk can be minimized by modifying the intersection layout.

The number of bike paths in Richmond has increased in recent years, but this facility type remains less common, currently accounting for approximately 1% of the cycling network.



Figure 2.5: Bike Path – Garden City Road (Source: Google Street View)

2.2.3 Multi-Use Paths / Greenways

Multi-use paths (MUPs), which are sometimes called 'greenways,' are paved, off-street facilities that accommodate a variety of different active transportation modes in addition to cycling, including walking/running, rolling with mobility aids, skateboarding, roller blading, and kick scooters. At present, MUPs make up a significant proportion of the existing active transportation network and account for 27% of the cycling network.

As a shared space, right-of-way priority is given to those moving at slower speeds, while faster moving users are encouraged to yield to those on foot.

MUPs are typically bi-directional facilities, with flows permitted in both directions, often with a painted line to delineate opposing flows. However, uni-directional MUPs can also be installed on either side of a street.



Figure 2.6: Multi-Use Path – Railway Greenway



Figure 2.7: Multi-Use Path – Railway Greenway

2.2.4 Recreational Trails

Recreational trails are unpaved routes that accommodate pedestrians and cyclists and are typically located within parks or along more scenic routes, such as the West Dyke Trail (Figure 2.8).

Recreational trails play a significant role within Richmond's existing active transportation network, accounting for approximately 23% of all cycling facilities.

Trails are not typically used for commuting or general-purpose trips, particularly where more direct and paved routes can instead be used. Instead, these facilities tend to serve recreational users (e.g., people walking, running, and cycling), in part due to their scenic nature, but also because opportunities for conflicts with motor vehicles are relatively low or non-existent, meaning an uninterrupted workout.

Notably, unpaved trails present challenges for individuals who rely on mobility devices, in some instances requiring the use of specialized wheelchairs and scooters, for example, to navigate uneven terrain.



CNCL - 333

Figure 2.8: Recreational Trail - The West Dyke Trail

2.2.5 Bike Lane / Bike-Accessible Shoulder

For the purposes of this study, bike lanes and bike-accessible shoulders have been grouped together. Bike lanes and bike-accessible shoulders are designated on-street, paved cycling facilities located to the right of a general-purpose travel lane and separated by a painted line or painted buffer. For bike lanes, either a curb or parking lane is located to the right, while no curbs are present in the case of bike-accessible shoulders.

Where the potential for conflict with motor vehicles is greatest, the presence of a bike lane can be highlighted using bright green paint to draw attention to motorists. This includes through intersections and their approaches, as well as across laneways and private property access points with relatively high vehicle volumes.

Bike lanes and bike accessible shoulders play a key role in the City's active transportation network, accounting for 29% of the existing cycling network.



Figure 2.9: Bike-accessible shoulder – Railway Avenue



Figure 2.10: Bike lane - Williams Road (Source: Google Street View)

2.2.6 Neighbourhood Street Bikeway

Neighbourhood street bikeways are designated local cycling routes. They are similar to shared streets in that cyclists share the roadway with motor vehicles with no physical separation from traffic. However, unlike shared streets, neighbourhood street bikeways are located on local, typically residential streets where traffic volumes and vehicle speeds are lower.

These routes are typically marked with bicycle 'sharrow' symbols (bicycle stencil with chevrons) and may include some form of traffic calming measures to decrease vehicle volumes and/or speeds. Currently, neighbourhood street bikeways account for approximately 16% of Richmond's cycling network.



Figure 2.11: Neighbourhood street bikeway - Crabapple Ridge

2.2.7 Shared Roadway

Shared roadways are designated on-street cycling routes where cyclists and motor vehicles share the travel lane. Sharrows are used to indicate the presence of a shared street and act as a reminder to motor vehicle operators to expect cyclists on the road and share the road safely. By distinction from neighbourhood street bikeways, shared roadways are located on collector and arterial streets. In Richmond, they often occur in short segments and make up only 3% of the existing cycling network

Since shared streets do not provide separation from motor vehicle traffic, this facility type presents the greatest level of risk for conflict. As a result, shared streets are less frequently used by individuals who are less confident cyclists, including children and those with less cycling experience. This is increasingly true where traffic volumes are elevated.



Figure 2.12: Shared roadway - Barnard Drive (Source: Google Street View)

2.2.8 Facility Type Summary

Table 2.2 provides a summary of the key characteristics by cycling facility type.

Table 2.2: Summary of Cycling Facilities by Key Characteristics

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

A note on Informal Routes

The City of Richmond's current Cycling Network Map indicates several 'informal routes', where no formal cycling infrastructure, signage, or surface treatments have been applied. These routes are provided for information only, indicating potential travel routes where there are no existing facilities and where there are limited alternative routes in place.

These routes have been excluded from this study's definition of the existing cycling network but are shown in Figure 2.13 on the following page for reference. Notably, the informal routes are referenced in some aspects of the analysis. They will also be used to inform the development of the future network plan in subsequent phases to supplement feedback and input gathered through public and stakeholder consultations.

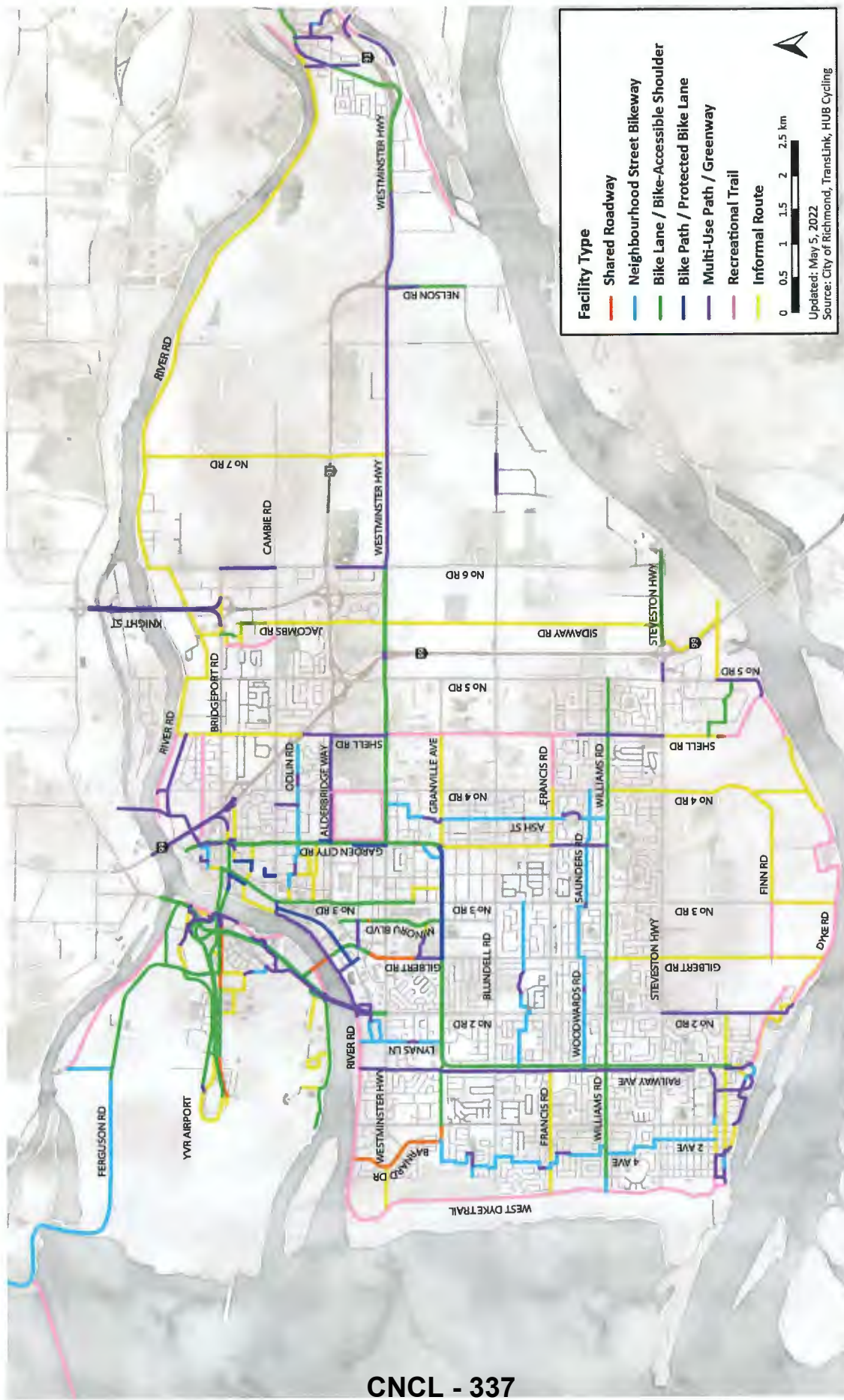


Figure 2.13: Existing Cycling Network by Facility Type + Informal Routes

3 Cycling Comfort Level

3.1 Factors Affecting Cyclist Comfort Level

A number of factors contribute to the level of comfort – or conversely, the level of stress – that a cyclist might experience while cycling in a given location.

Figure 3.1 illustrates the primary factors and their associated relationship trends with cycling comfort level.

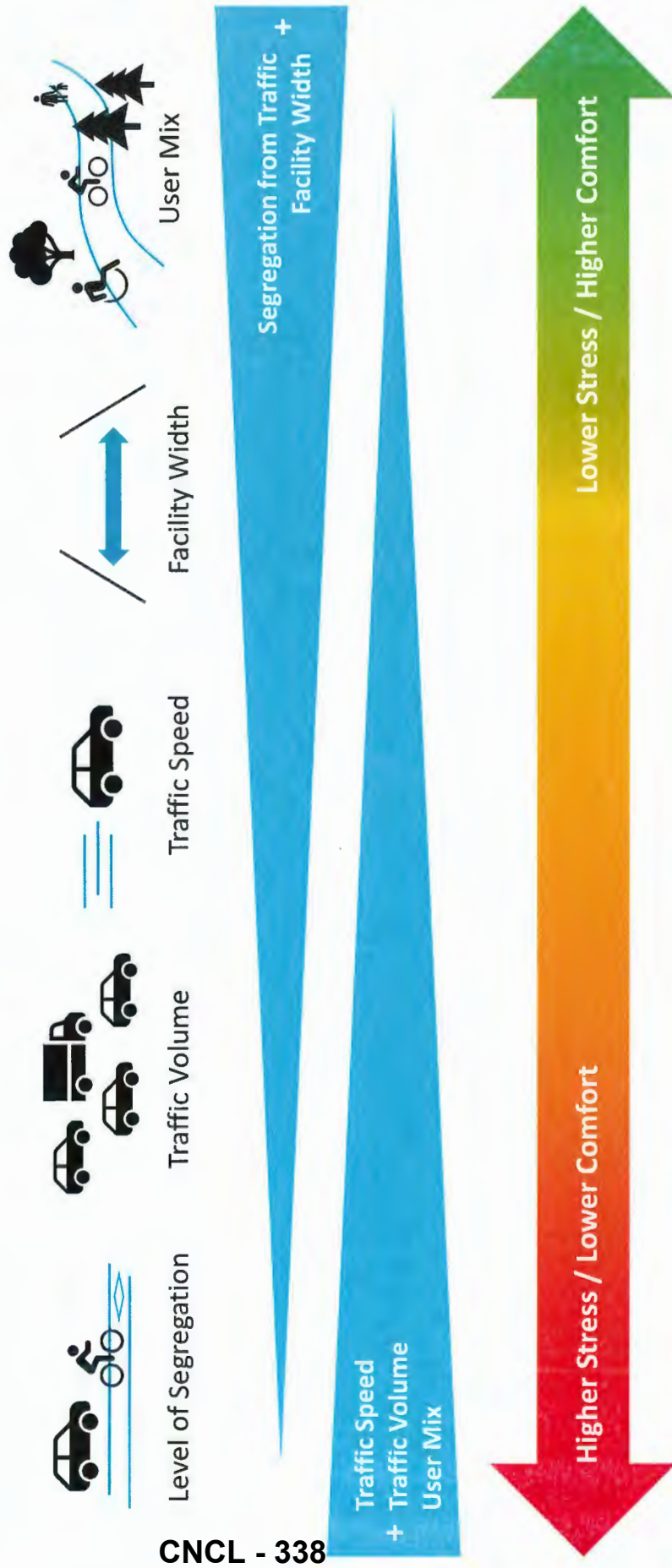


Figure 3.1: Primary Factors and relationship with Cycling Comfort

Acknowledging that cycling comfort cannot be tied to a single variable, and while recognizing that personal experience will affect the perceived comfort/stress level at an individual level, in general cyclist comfort is most significantly impacted by the level of exposure to motor vehicle traffic. Typically, cyclists are most comfortable when physically segregated from vehicle traffic. Additionally, cycling comfort level tends to decrease as both traffic speeds and volumes increase.

The facility width also plays a role in cyclist comfort, with wider facilities providing additional buffer with adjacent traffic, as well as helping to facilitate safer passing. The mix of users on multi-use paths specifically can also impact cyclist comfort where user volumes are significant.

To allow for consistency with the reported data for Metro Vancouver municipalities, this study has adopted the cycling comfort level criteria used within HUB Cycling/TransLink's 2019 *Benchmarking the State of Cycling in Metro Vancouver* report.

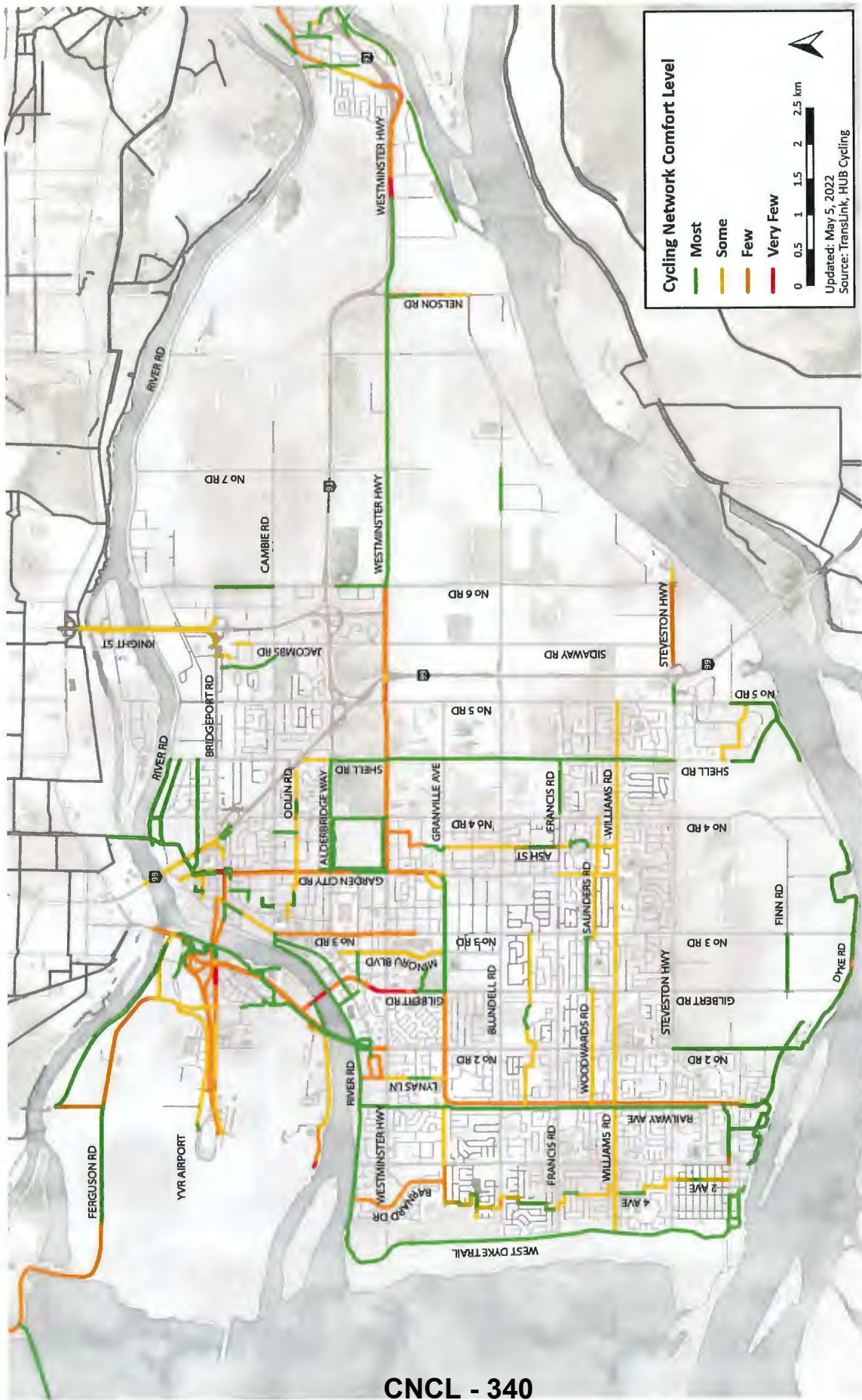
The generalized criteria associated with each of the four cycling comfort levels are summarized at a high level in Figure 3.2 for all facility types.

Importantly, these attributes vary slightly from facility type to facility type, and design exceptions (e.g., presence of on-street parking) also result in variances from the metrics listed above. A detailed list of the criteria for cycling comfort by facility type is provided in *Appendix D*.

Figure 3.3 on the following page shows the relative comfort level of the existing cycling network.



Figure 3.2: High-Level Summary of Cycling Comfort Level Attributes



CNCL - 340

Figure 3.3: City of Richmond Cycling Comfort Level

3.2 Analysis

The comfort level assigned to a given facility depends on the specific design configuration, characteristics of the adjacent traffic, and user mix. However, inherent design features of some facility types lend themselves towards lower or higher levels of comfort. Figure 3.4 shows the potential cycling comfort level that can generally be attained for each facility type.

A bike lane might be considered 'comfortable for some,' for example, if adjacent traffic volumes are low (less than 4,000 average daily trips) and the posted speed limit is 50 km/hr or less. Increased traffic speeds and higher volumes would decrease the cyclist comfort level to 'comfortable for few' or 'comfortable for very few.' A reduction in traffic volumes, however, would not result in a 'comfortable for most' classification due to the inherent level of exposure and characteristics of a standard, unprotected bike lane.

Conversely, the design requirements of protected bike lanes are such that users are sufficiently removed from traffic, eliminating the influence of adjacent traffic from the level of cyclist comfort. As a result, the comfort level of bike path facilities is primarily dependent on facility width and are generally classified as 'comfortable for most.' In instances where the bike path width is constrained (i.e., <2.1m bi-directional; <1.2m uni-directional), the resulting classification is 'comfortable for some.'

Additionally, while multi-use paths typically provide a high level of comfort, they are not intended to replace sidewalks. This is particularly true in instances where there are high pedestrian and cyclist volumes that increase the potential for conflicts; as such, a reduced comfort level may result (e.g., HUB Cycling/TransLink do not recommend MUPs where peak-hour pedestrian and cyclist volumes exceed 200 users).

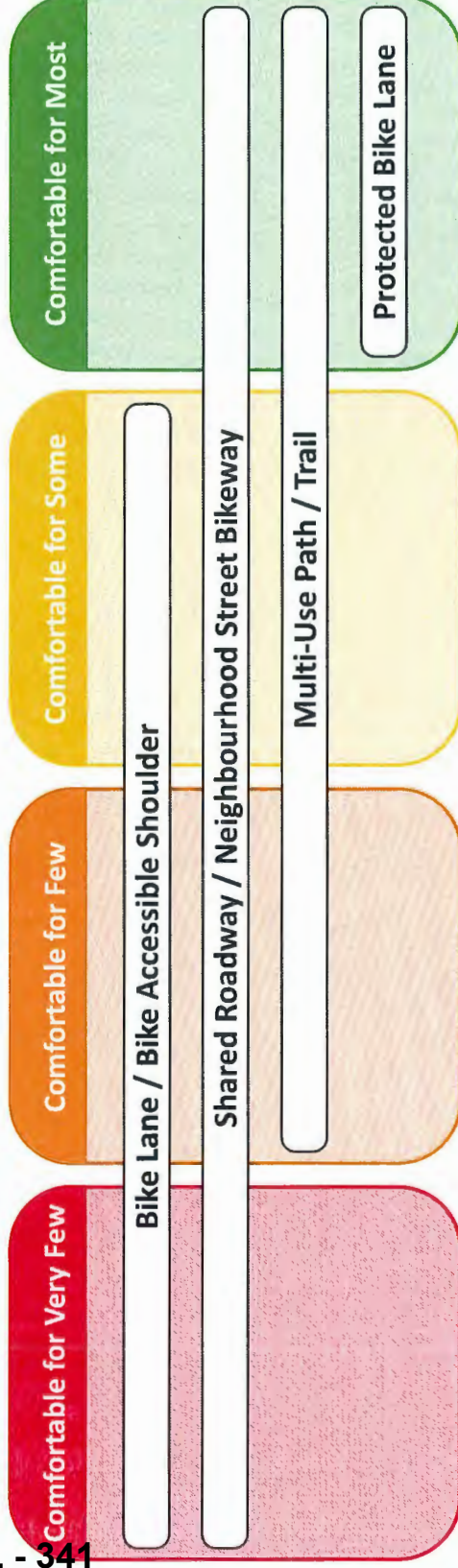


Figure 3.4: Potential Cycling Comfort Level by Facility Type

3.2.1 Cycling Comfort in Richmond

Figure 3.5 presents the breakdown of comfort level for the existing network. This breakdown indicates that over 50% of the existing cycling network in Richmond can be classified as ‘comfortable for most.’

However, it is also important to consider how cyclist comfort is distributed across the network and by facility type, and how these different facility types serve different user groups.

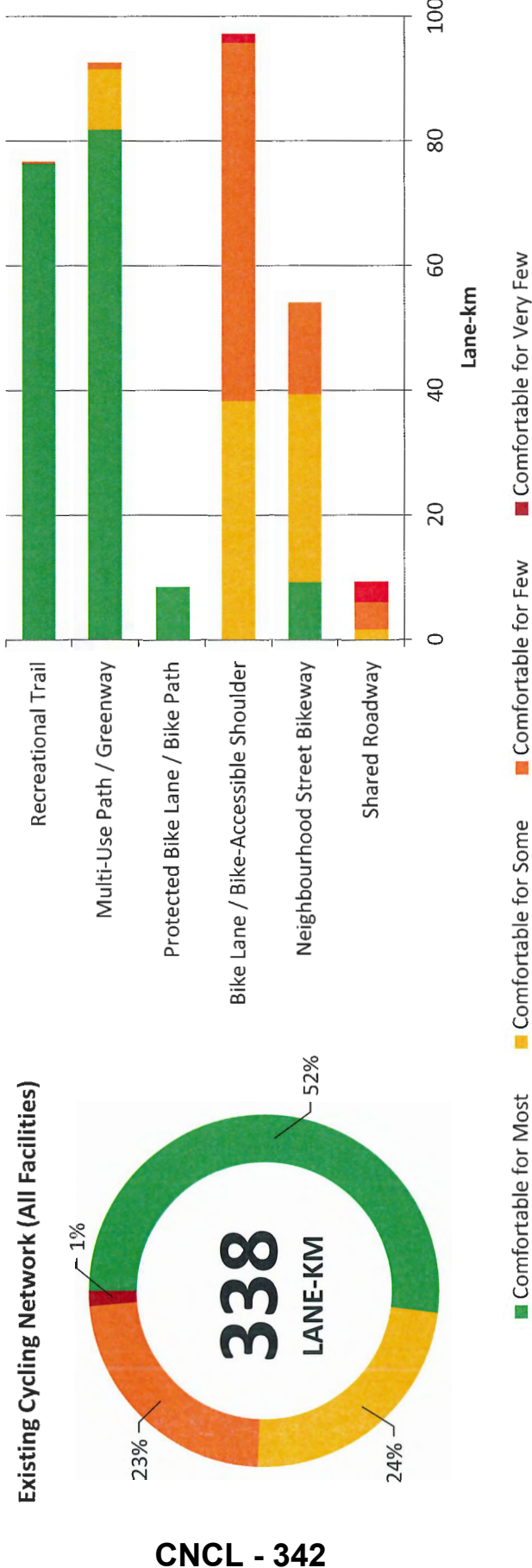


Figure 3.5: Cyclist Comfort Level Breakdown (All Facilities)

3.2.2 Facility Type Considerations

Together, recreational trails and multi-use paths/greenways account for more than half of all cycling facilities within the city and are almost exclusively categorized as ‘comfortable for most.’ This distinction is important when recognizing that trails tend to serve more recreational cycling purposes, both due to their character and location on the perimeter of the cycling network.

To illustrate this point, Figure 3.6 presents the breakdown of cycling comfort level when recreational trails are excluded. Figure 3.7 on the next page shows the cycling comfort level breakdown when both recreational trails and MUPs are excluded.

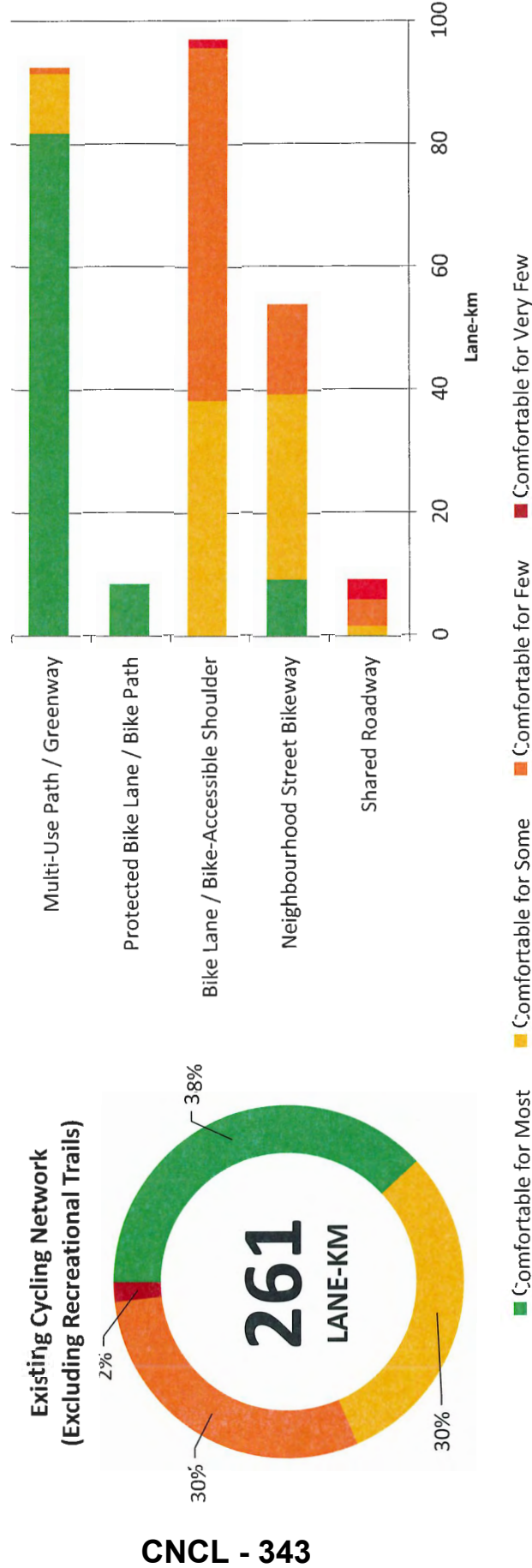


Figure 3.6: Cyclist Comfort Level Breakdown (Excluding Trails)

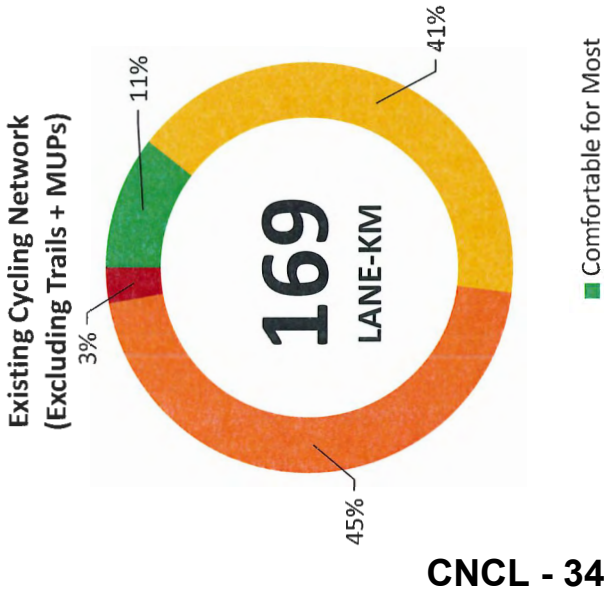
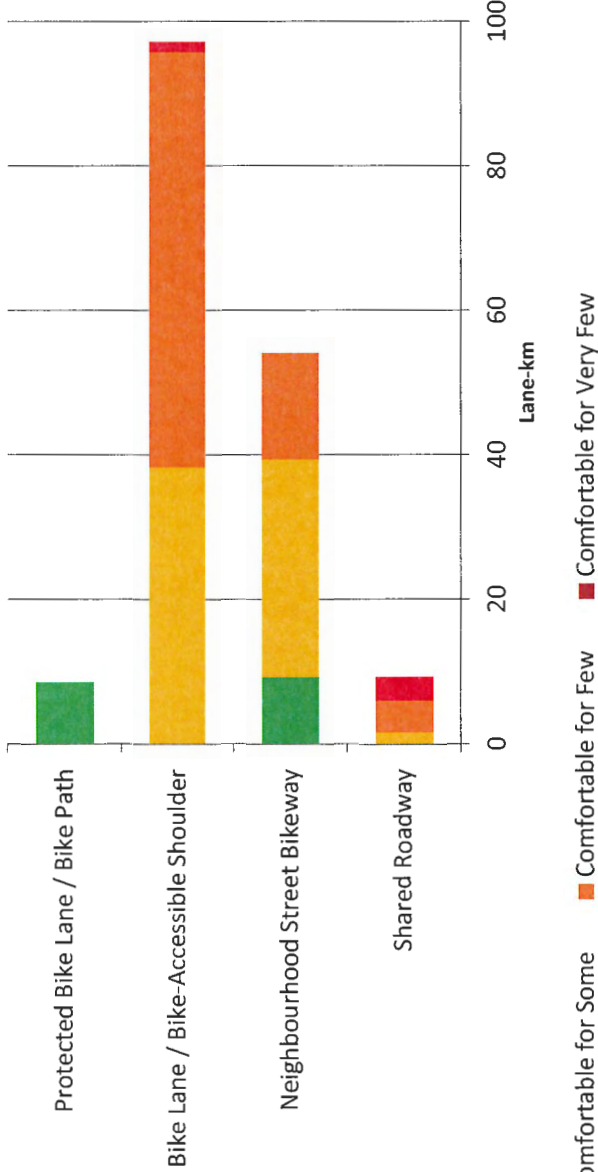


Figure 3.7: Cyclist Comfort Level Breakdown (Excluding Trails and MUPs)

This analysis highlights that while the City has developed an excellent foundation of recreational trails and a strong backbone of comfortable cycling facilities with its multi-use paths along key corridors, the vast majority of remaining facilities are considered 'comfortable for few.'

Recognizing that there are significant variances in both and capital and maintenance costs for different cycling facility types (and associated comfort levels), there are also significant differences in terms of space requirements and the associated trade-offs between land use and competing transportation modes.



Noting these caveats, the above analysis highlights some of the shortcomings of conventional bike lanes/bike-accessible shoulders, in that they may not be viewed as a viable transportation alternative to many potential users due to increased exposure to traffic and a lower level of comfort. Importantly this also illustrates opportunities to improve the comfort of existing facilities – by reducing posted speed limits to 30 km/hr along all neighbourhood street bikeways or adding protection to existing bike lanes, for example.

4 Cycling Ridership

4.1 Introduction

This section quantifies cycling ridership within Richmond using data obtained from the City of Richmond's in-ground bike counters, the City of Vancouver's cyclist count data for the Canada Line Bridge, and data obtained in partnership with Strava.

4.1.1 Bike Counters

The City has three in-ground bike counters located on MUPs that were installed in late 2019 and provide an accurate count of cyclists at specific locations. Over time, as more data is collected and the City fulfills plans to install additional counters, this bike counter data will provide a clearer picture of daily and seasonal ridership patterns throughout the cycling network.

Existing bike counter locations are listed below and shown in Figure 4.2.

1. River Drive MUP (west of No. 4 Road)
2. Railway Greenway MUP (at Maple Road)
3. No. 2 Road MUP (south of Steveston Highway)

4.1.2 Strava Data

Strava is a GPS-based activity tracking service available on smartphones and compatible with activity tracking devices (e.g. smartwatches and cycle computers). Strava users can track and share their physical activities (primarily running, cycling, and swimming) on Strava's social-media platform. Aggregated and de-identified data from Strava Metro was made available at the road segment level for this study. As an opt-in service, it provides insight into the trips logged by active Strava users for any given sample period only.

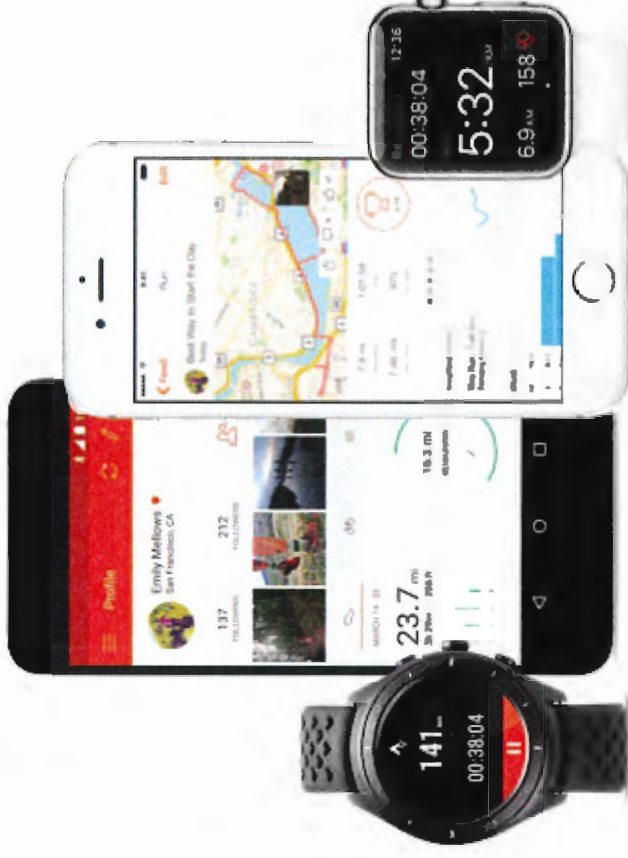


Figure 4.1: Strava Fitness Tracking (Source: Strava.com)

Likewise, while individuals can log cycling trips that they make for any purpose, Strava is typically more popular with recreational users. In 2019, for example, approximately 65-70% of the trips logged within the data analyzed for Richmond were 'tagged' as recreational trips, while approximately 30-35% were tagged as commute trips. Without additional data, there is no way of knowing how well this trend correlates with all other cyclists in Richmond who are not active on Strava.

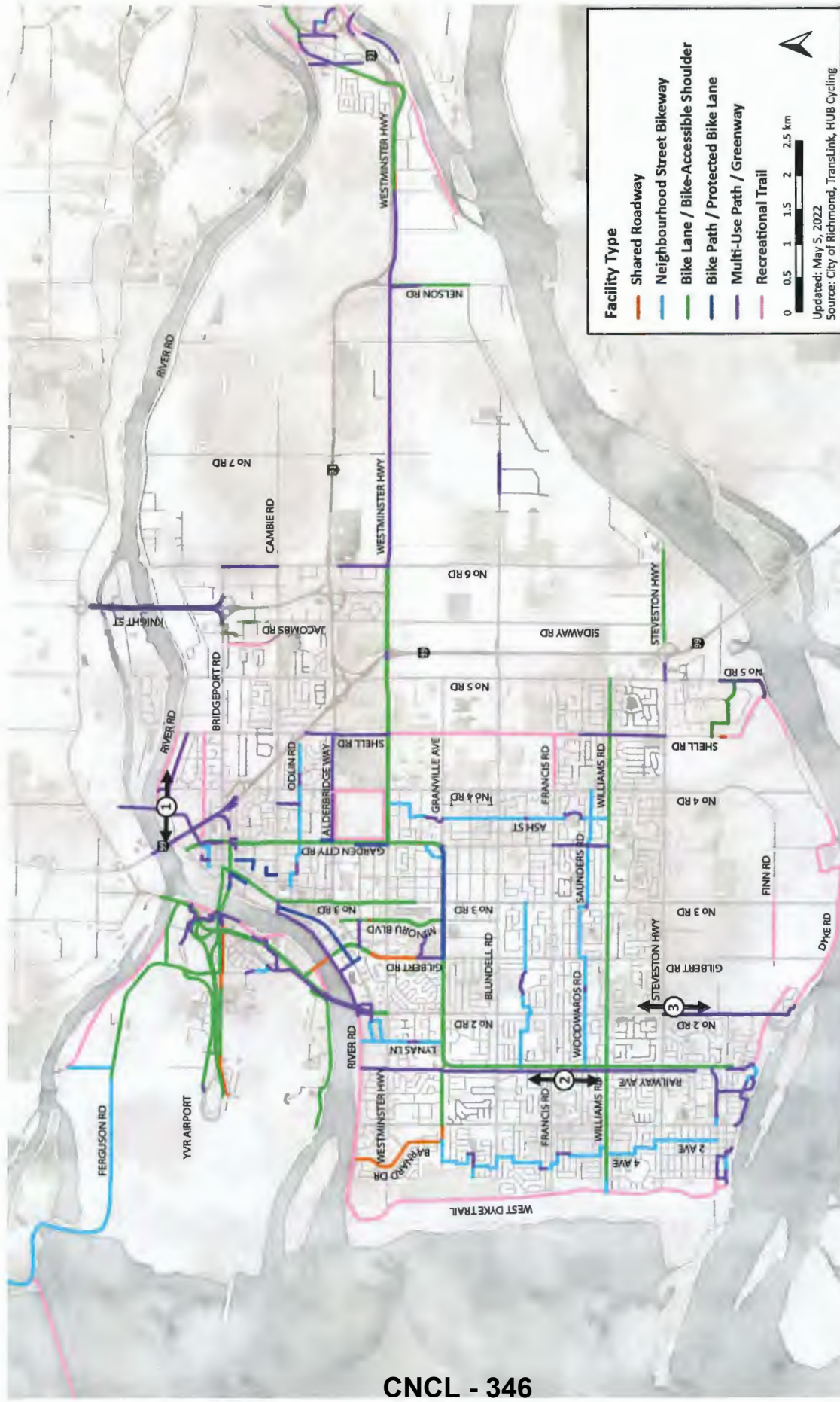


Figure 4.2: Location of the City of Richmond's Bike Counters

4.2 Analysis

4.2.1 Seasonal Trends

Bike Counter Data

Figure 4.3 shows the average daily count of cyclists at the City’s three bike counter locations for 2020 and 2021 superimposed along with average monthly temperature and monthly rainfall depths, for reference.

Note that volumes are not reported for the Railway Greenway and River Drive counters for select months due to a loss of power leading to gaps in available data.

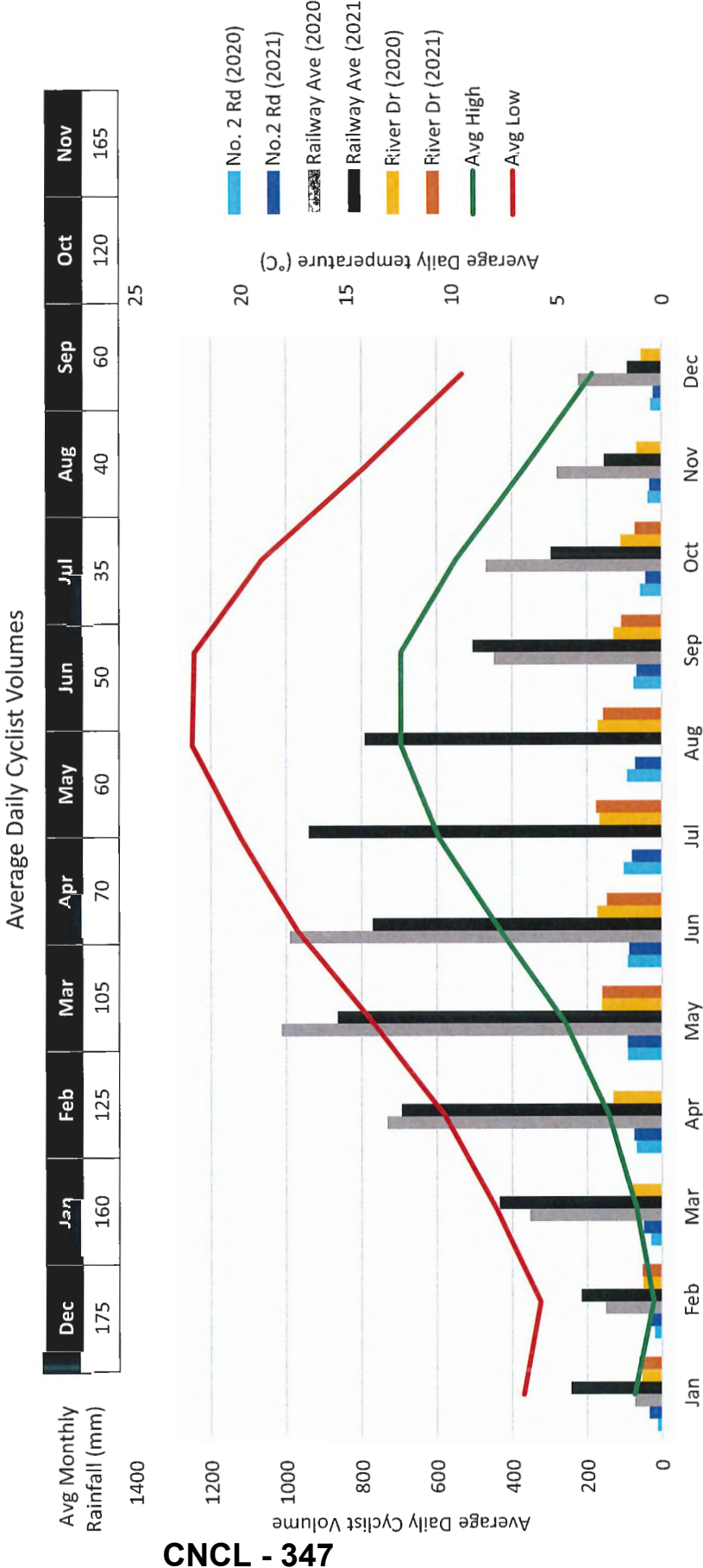


Figure 4.3: Average Daily Cyclist Volumes by Month (City of Richmond, 2020 - 2021) and Average Monthly Temperatures (en.climate-data.org; downloaded October 2020)

Cycling volumes along Railway Greenway appear to be strongly aligned with warmer temperatures and reduced rainfall during the summer months. At No. 2 Road and River Drive, significantly lower daily volumes are observed, though a similar seasonal trend is observed with relative increases in overall cycling volumes during the summer months (April through September).

Strava Metro Data

Figure 4.4 shows the seasonal trends for trips logged by Strava Metro users in Richmond for 2018 to 2021. While there is strong correlation for trips logged in 2018 through 2019, the observed trip counts increase considerably beginning in March 2020, coinciding with the onset of the global COVID-19 pandemic. This seasonal trend of an increased rate of cycling during warmer summer months held for both 2020 and 2021. Some caution should be taken in interpreting this data as it may reflect, at least to some extent, a general increase in the number of Strava users in general.

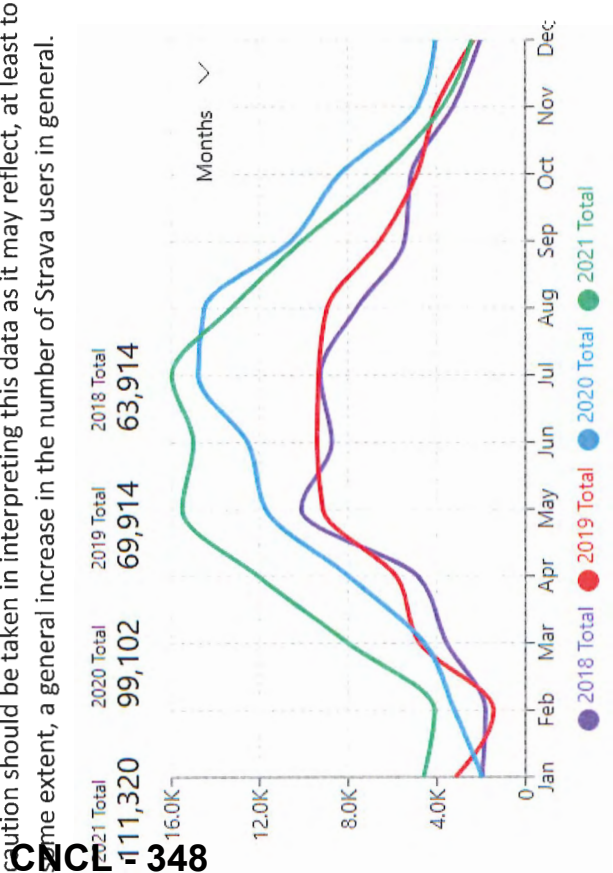


Figure 4.4: Seasonal Trip Data (Strava, 2018-2021)

Figure 4.5 shows the historical share of Strava trips logged by locals and visitors from 2018 to 2021, once again highlighting the impacts of the COVID-19 pandemic. Here we see the local population of cyclists increased considerably beginning in 2020, while seasonal visitor activity has mostly remained stable. Strava assigns users' 'local' areas based on where they have started the majority of their activities in the past year. Hence, here 'visitors' represent individuals who start most of their Strava activities outside of Richmond.

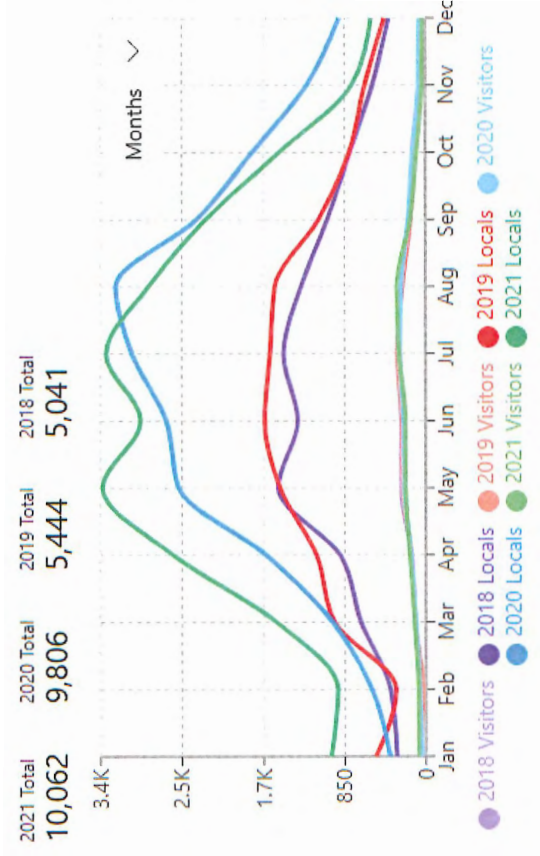


Figure 4.5: Breakdown of Activity by Locals and Visitors (Strava, 2018-2021)

Figure 4.6 shows the average daily number of trips logged by Strava users on the segments located adjacent to the City of Richmond's bike counters, providing an additional layer of data for comparison.

The overall trends for the 2020 Strava data are similar to the findings of the bike counter data analysis, with a significantly higher volume of trips on the Railway Greenway relative to the No. 2 Road and River Drive MUPs. This chart further highlights the significant increase in cycling trips logged by Strava users in 2020 relative to 2019 at all three locations.

Recognizing that logged trips on Strava represent a self-selecting subset of all cyclists, Strava trips appear to account for approximately 3-15% of total observed trips at the bike counter locations, when comparing average daily logged trips to bike counter observations for March, July and September 2020. This variation is dependent on both location and sample period, meaning that it is difficult to associate the Strava data with cyclist volumes throughout the city with accuracy. Instead, the Strava data is used to indicate high-level trends.

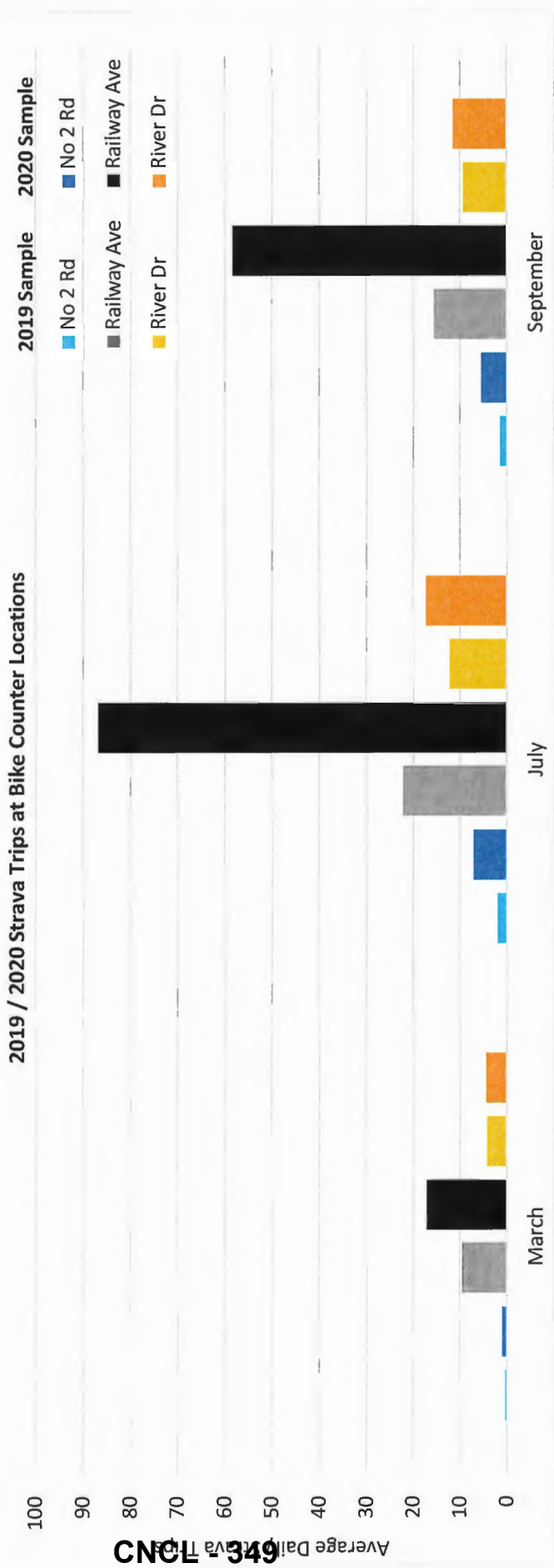


Figure 4.6: Strava Trips at Bike Counter locations (Strava, 2019 / 2020)

Of the Strava sample datasets obtained (March, July and September 2019/2020), July was determined to be the month with the greatest number of logged trips in Richmond for both 2019 and 2020.

Figure 4.9 on the following page shows the distribution and relative volume of cyclist trips logged by Strava users for the July 2020 period, based on the average number of logged trips linked to each roadway/cycling facility segment. Darker segments represent more daily cyclist trips, on average.

Higher cyclist volumes are generally observed along known cycle touring corridors (e.g., River Road and Sidaway Road) and recreational routes (e.g., Railway Greenway and Ferguson Road towards Iona Beach Regional Park).

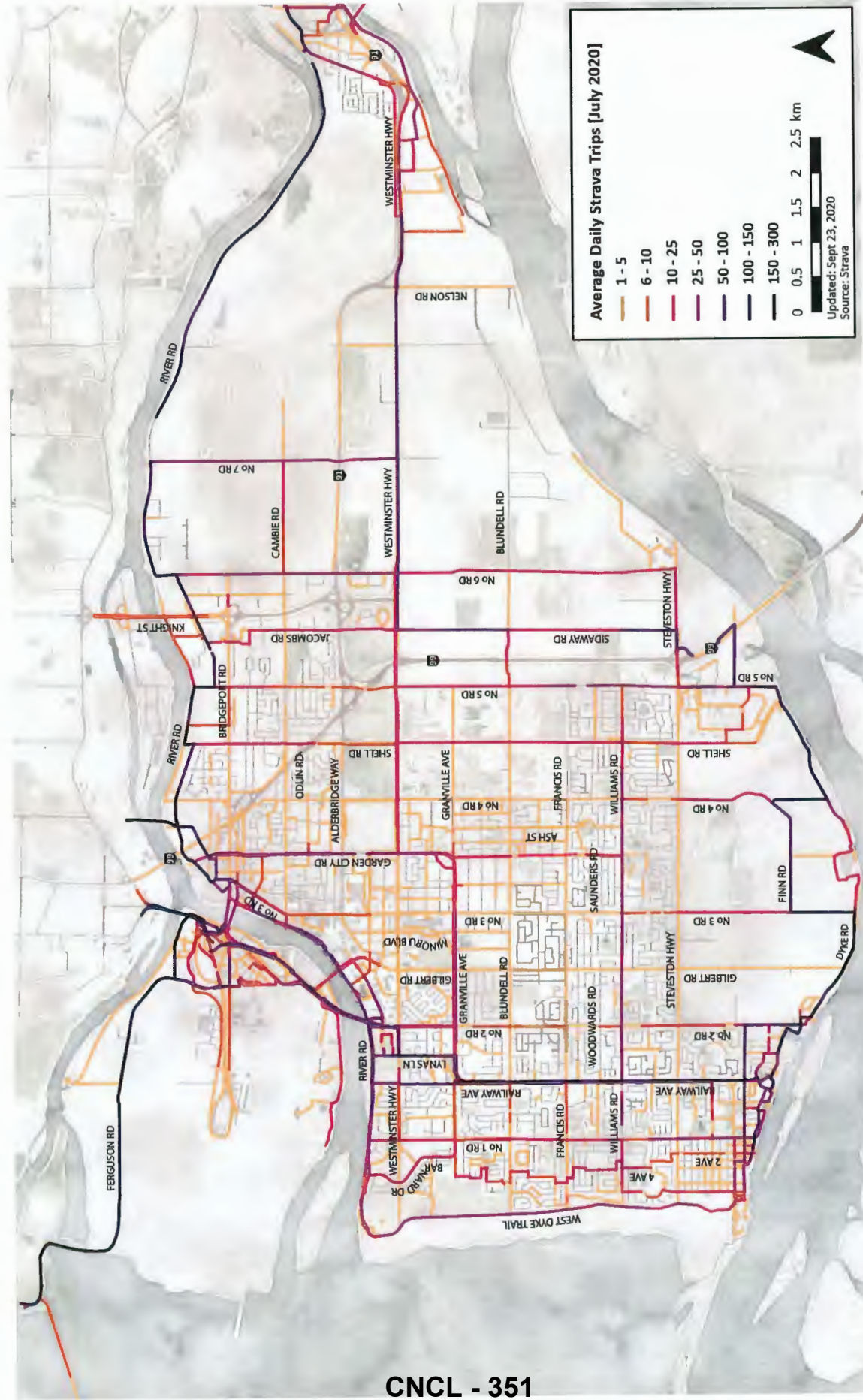
Note that where there are multiple parallel cycling routes, such as along Railway Avenue, Strava trip counts are distinct for all corridors. Figure 4.7 shows an example of such an occurrence at the intersection of Granville Avenue and Railway Avenue. In these instances, the total volume along the corridor must account for all parallel routes.



Figure 4.7: Example of Strava Trip Assignment



Figure 4.8: A cyclist on the West Dyke Trail



CNCL - 351

Figure 4.9: Average Daily Strava Trips in Richmond (Strava, July 2020)

Figure 4.11 on the next page presents the year-over-year change in the average number of daily cyclist trips in Richmond for the month of July using Strava Metro data.

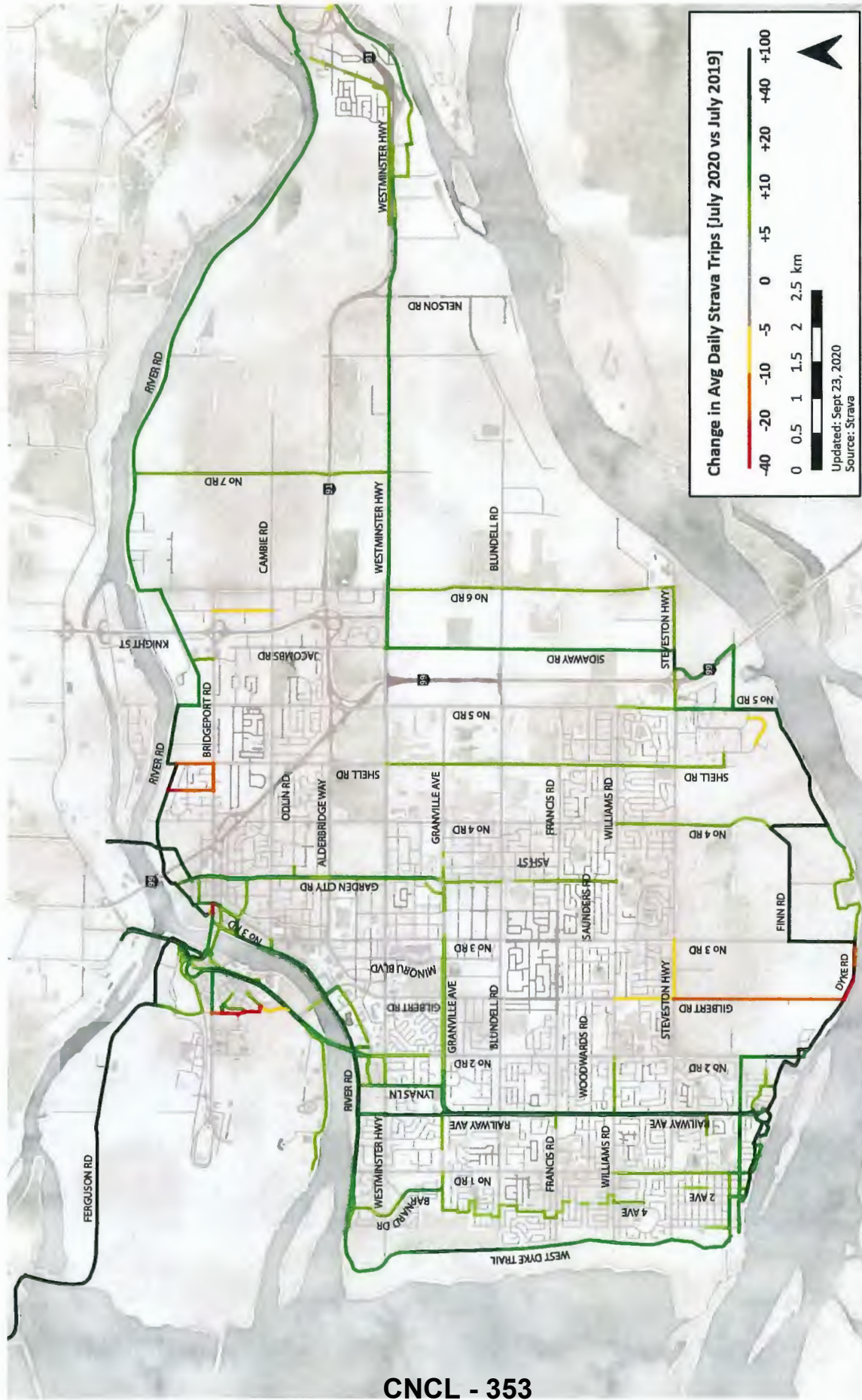
Segments that were determined to have an increased number of cyclist trips in July 2020 relative to July 2019 are shown in shades of green, while relative decreases are shown in shades of yellow and red. Note that segments with a change of less than ± 5 average daily trips have been excluded from this map output for clarity.

Overall, this analysis shows that in general, most areas within the city have seen a moderate increase in the number of average daily Strava trips. The greatest relative increases ($+20$ to $+100$ average daily Strava trips) were primarily observed along recreational corridors, including Ferguson Road towards Iona Beach Regional Park, and along Railway Avenue, Dyke Road, Finn Road, and portions of River Road.

These findings are in line with expectations and anecdotal observations of greater levels of local recreation throughout the region (and more broadly) during the summer months of the COVID-19 pandemic.



Figure 4.10: Cyclists on the Railway Greenway MUP



CNCL - 353

Figure 4.11: Change in Average Daily Strava Trips influenced by the COVID-19 Pandemic (Strava, July 2019 + July 2020)

4.2.2 Weekly Trends

Bike Counter Data

Figure 4.12 shows the variation in average daily cyclists by day of week at the City's three bike counter locations.

Daily variation is most significant on the Railway Greenway, with elevated volumes observed on Sundays in particular, and somewhat lower volumes on Tuesdays. Average daily volumes appear to be relatively stable across all days of the week at the No. 2 Road and River Drive bike counter locations.

4.2.3 Daily Trends

Bike Counter Data

Figure 4.13 shows the daily cyclist profiles for the City's three bike counter locations with average hourly volumes from 6am-11pm for 2020 and 2021.

This shows a similar trend to the seasonal data, highlighting the higher relative volume of cyclists using the Railway Greenway. Over the course of the sample period, there were approximately 4 to 8 times as many average daily cyclists on the Railway Greenway than the No. 2 Road and River Drive multi-use paths, respectively.

A distinct hourly profile is observed at all locations, with approximately 50% of the daily total occurring between 1:00pm and 6:00pm. The hourly profile is more pronounced for the Railway Greenway.

Average Daily Cyclist Volumes by Day of Week

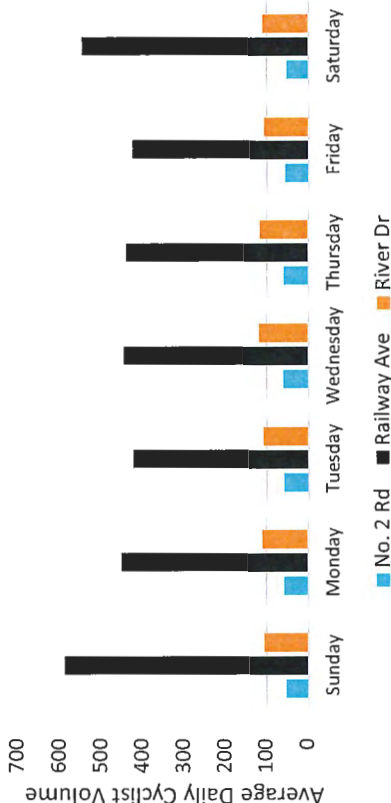


Figure 4.12: Average Daily Cyclist Volumes by Day of Week (City of Richmond, 2020 - 2021)

Average Hourly Cyclist Volumes

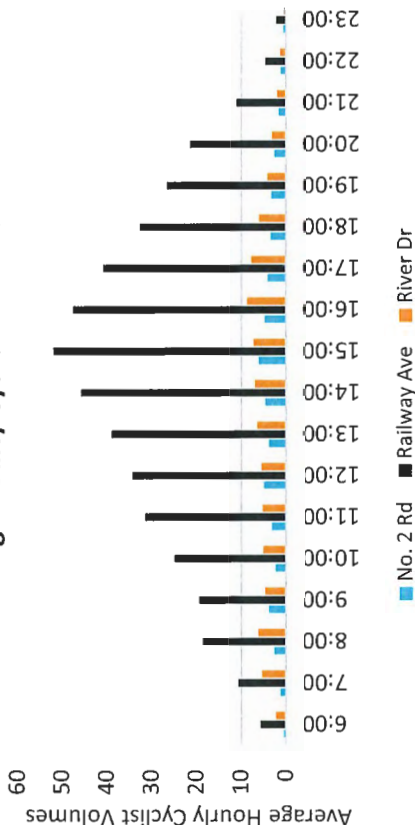


Figure 4.13: Average Hourly Cyclist Volumes (City of Richmond, 2020 - 2021)

5 Cycling-Related Incident Analysis

5.1 Introduction

5.1.1 Data Sources and Analysis Undertaken

Cycling incident analysis provides useful insight into the safety of cycling facilities and helps to identify areas where design interventions may be able to minimize the potential for conflicts between cyclists and motorists.

For this study, incident analysis was carried out using data obtained from the Insurance Corporation of British Columbia (ICBC). The obtained data includes annualized counts of cycling-related incidents that were reported to ICBC for 2014 through 2019, inclusive. Only incidents that occurred within the City of Richmond's municipal boundary were considered.

The analysis undertaken includes incident statistics at the city, corridor, and intersection level; annual incident rate trend and the impacts of recent cycling infrastructure investments; and, cycling incident rates in relation to:

- facility type
- comfort level
- traffic volumes
- traffic incident rates

5.1.2 Limitations

Available data only captures reported incidents involving motorists and cyclists, with midblock incidents being assigned to the nearest intersection. The dataset does not include incidents that occurred within parking lots or incidents involving parked vehicles, nor does it account for near misses. Hence, this data is best applied to identify initial trends and intersection locations where cycling incidents have been observed to occur more frequently.

5.2 Analysis

5.2.1 Cycling-Related Incident Statistics (2014 – 2019)

City-Wide Statistics

At the city-wide scale, the number of reported cycling-related incidents remains similar in 2019 (63) relative to 2014 (70), and a six-year annual average of 60 incidents. The least number of incidents were reported in 2015 (36 incidents), and nearly 80 incidents were reported in 2016.

Reported Cycling-Related Incidents by Year

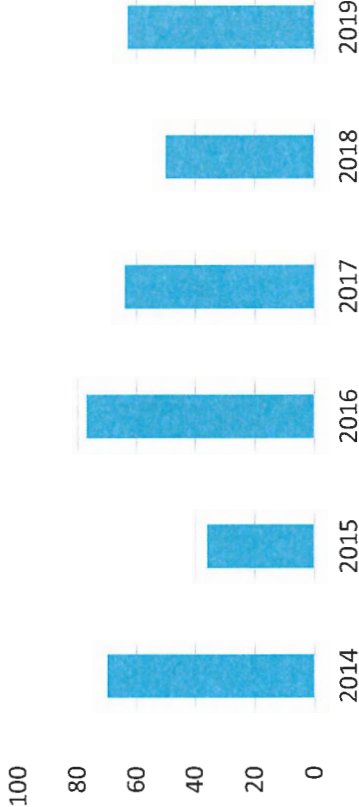
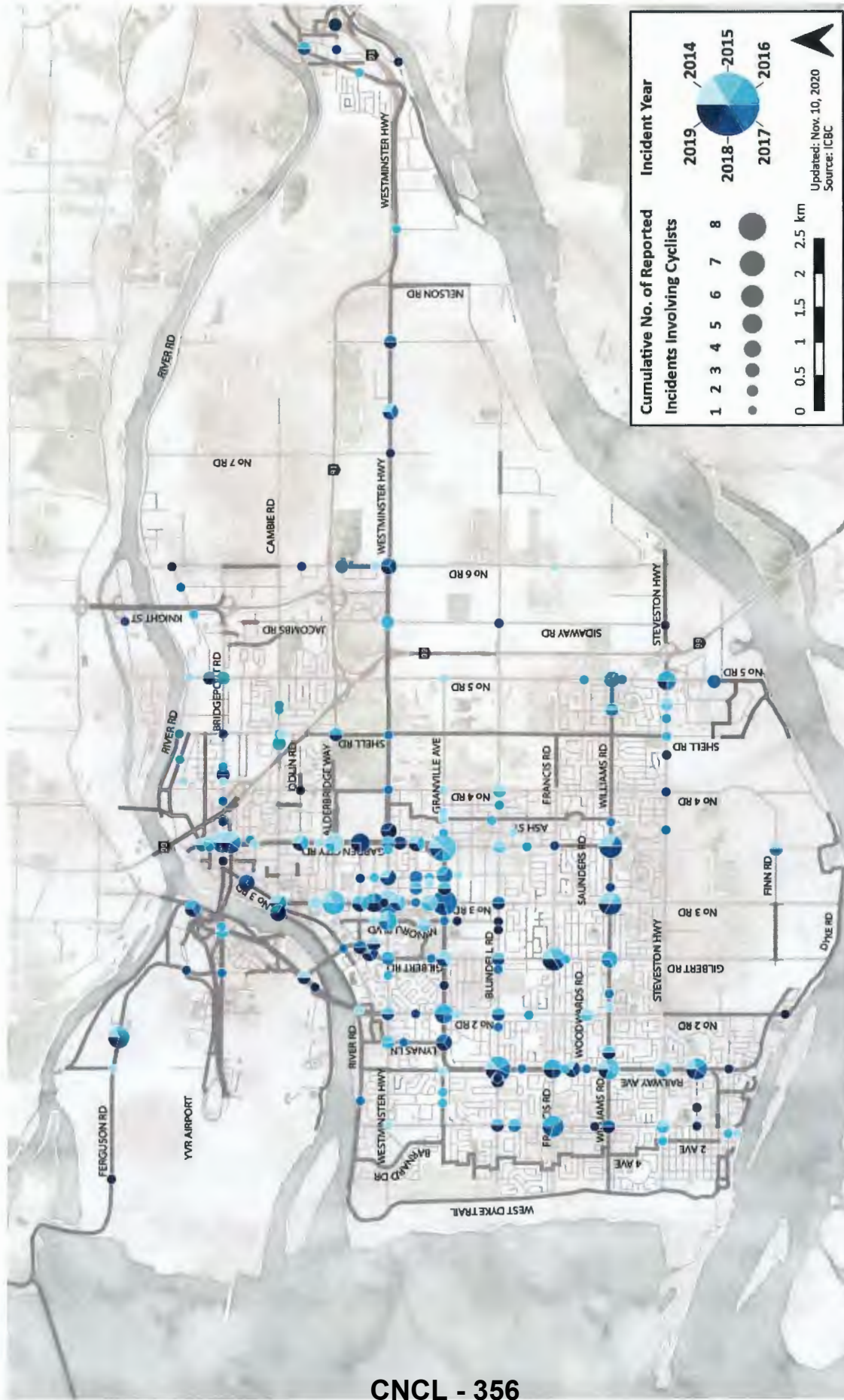


Figure 5.1: Reported Incidents Involving Cyclists by Year (ICBC, 2014-2019)

Figure 5.2 shows the cumulative count of ICBC-reported incidents involving cyclists at each location by year from 2014-2019, inclusive. It reveals that incidents involving cyclists have most frequently occurred at intersections of major roadways. Incidents are primarily concentrated west of Garden City Road and in the City Centre. In East Richmond, most reported incidents occurred along Westminster Hwy.



CNCL - 356

Figure 5.2: Total Incidents Involving Cyclists by Year (ICBC, 2014-2019)

Corridor-Level Statistics

Table 5.1 presents the total and average annual count of cycling-related incidents for the top 10 corridors with the highest number of reported incidents between 2014 and 2019. Taken together, these corridors account for approximately 67% of all reported incidents.

Table 5.1: Corridors with the most reported cycling related incidents

Rank	Corridor	Total Reported	Average Annual	Proportion of Reported Incidents
1	No. 3 Road	51	8.5	14%
2	Westminster Highway	45	7.5	13%
3	Granville Avenue	40	6.7	11%
4	Williams Road	33	5.5	9%
5	Railway Avenue	31	5.2	9%
6	Blundell Road	28	4.7	8%
7	Gilbert Road	26	4.3	7%
8	Steveston Highway	18	3.0	5%
9	No. 5 Road	17	2.8	5%
10	Francis Road	16	2.7	4%
10	No. 2 Road	16	2.7	4%

CNCL - 357

Intersection Level

Table 5.2 presents the total and average annual count of cycling-related incidents for the intersections with the highest number of reported incidents between 2014 and 2019. Together these intersections account for approximately 23% of all cycling incidents. These intersections are identified with a red icon in subsequent incident maps.

Table 5.2: Intersections with the most reported cycling related incidents

Rank	Intersection	Total Reported	Average Annual
1	Garden City Road & Granville Avenue	8	1.3
2	Granville Avenue & No. 3 Road	7	1.2
2	Blundell Road & Railway Avenue	7	1.2
2	No 3 Road & Westminster Highway	7	1.2
3	Garden City Road & Williams Road	6	1.0
3	Francis Road & Gilbert Road	6	1.0
3	No 3 Road & Williams Road	6	1.0
3	No. 3 Road & Alderbridge Way	6	1.0
4	Garden City Road & Sea Island Way	5	0.8
4	Bridgeport Road & Great Canadian Way	5	0.8
4	Railway Avenue & Williams Road	5	0.8
4	Railway Avenue & Garry Street	5	0.8
4	Francis Road & No. 1 Road	5	0.8
4	Driveway access on Ferguson Road	5	0.8

5.2.2 Average Annual Cycling Incidents Relative to Facility Type

Figure 5.3 presents the total number of incidents by facility type compared to the average number of incidents per lane-km by facility type. Note that no incidents were reported along bike paths/ protected bike lanes or recreational trails and have thus been excluded.

Figure 5.4 on the next page shows average cycling incident rates along with facility types for the existing cycling network. This map shows that most of highest cycling incident rates occurred on bike lane corridors, except for the intersections of Francis Road at No. 1 Road and Francis Road at Gilbert Road which do not have cycling facilities.

This analysis shows that while there are relatively few incidents on shared roadways (3 per year on average), the reported incidence rate per lane km appears more significant. Bike lanes/bike-accessible shoulders, which are the most prevalent within the network, account for the highest number of incidents of any facility type and have a similar incidence rate per lane kilometer as shared roadways (approximately 0.33 incidents per year per lane km on average).

Note that along the Railway Ave corridor incidents have been attributed to both the bike lane and MUP as there is insufficient data to determine which facility was used for a given incident. This results in an overestimate for incident rates on one or both facility types.

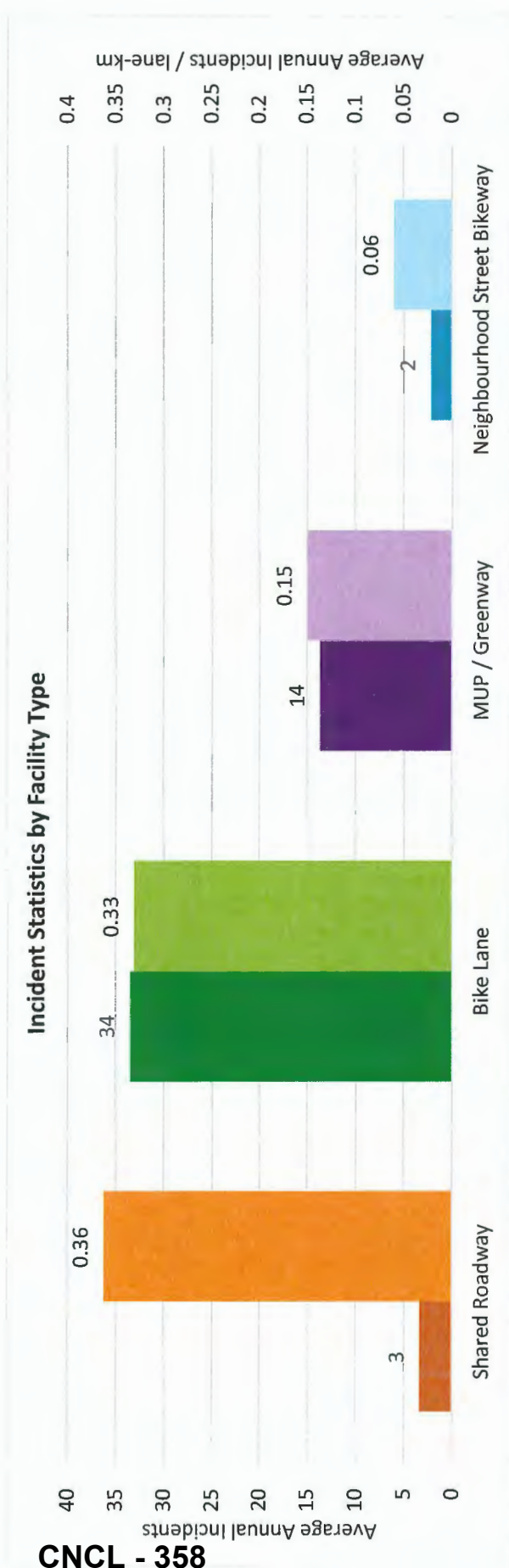


Figure 5.3: Cycling Incidents by Facility Type

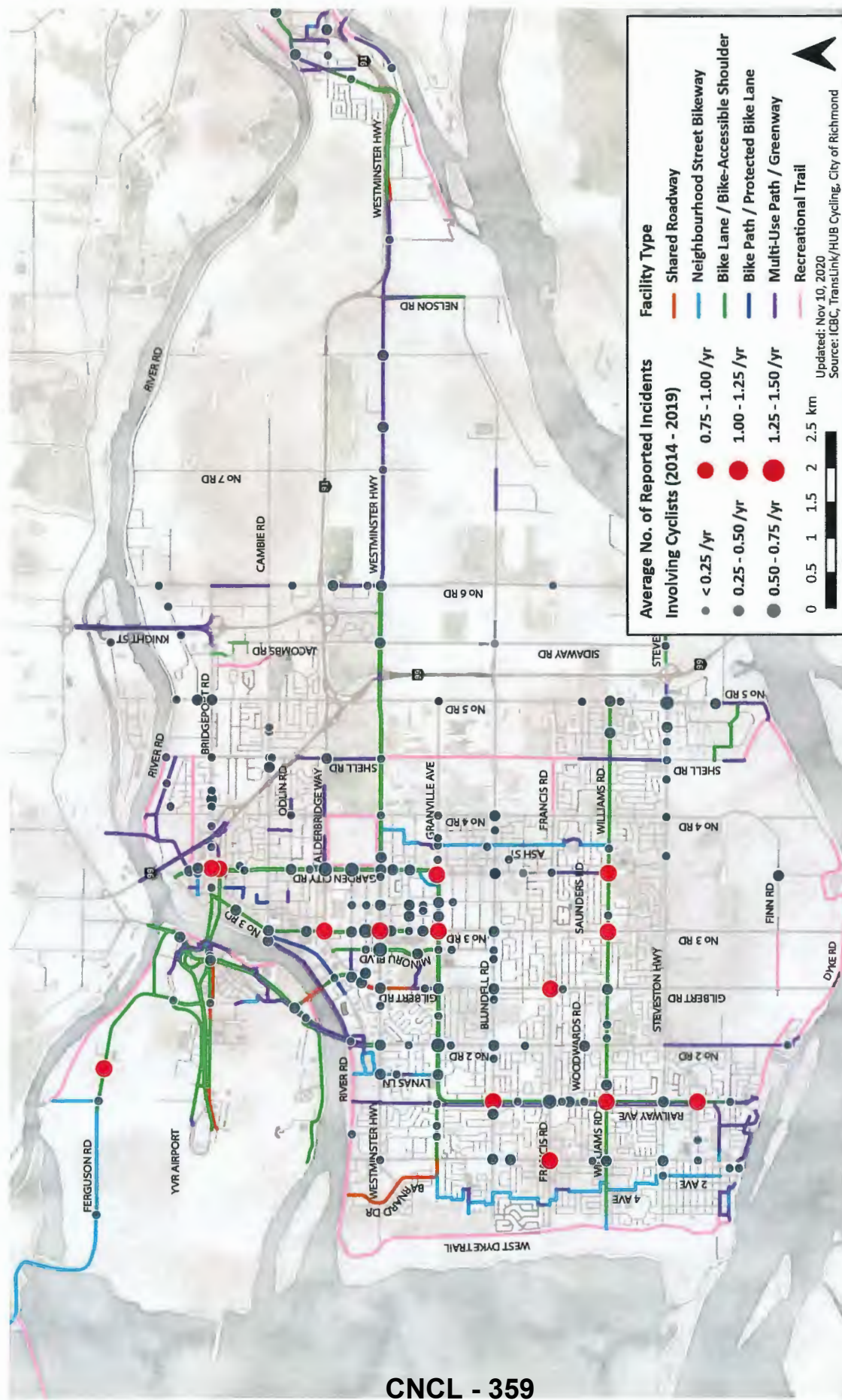


Figure 5.4: Cycling Facility Type and Average Annual Traffic Incidents Involving Cyclists (ICBC, 2014-2019)

Average Annual Cycling Incidents Relative to Cycling Comfort Level

When using comfort level as in indicator of safety, it is also important to consider that some areas do not have equally comfortable facilities on both sides of the roadway. This is true of Railway Avenue, where it is not known the relative frequencies of incidents involving cyclists using the off-street greenway versus the conventional on-street bike lanes.

Figure 5.5 and Figure 5.6 show that within the existing network, cycling incidents tend to occur more frequently on facilities with lower comfort levels.

Figure 5.5 represents analysis for incidents that occurred at locations where existing cycling facilities are present. This analysis highlights that relative to

the distance-weighted incident rate for facilities that are classified as 'comfortable for most,' incident rates are roughly three, four or six times greater where the comfort level is classified as comfortable for some, few, or very few, respectively.

Additionally, it is noted that cycling comfort level is assigned for the mid-block condition along each segment and specific design treatments at intersections are not considered, which may contribute to overall safety and the incident rate in some locations. As with the analysis completed for incidents by facility type, reported incidents that occurred where facilities with different comfort levels intersect or run parallel to each other have been included for both comfort levels. This results in an overestimate in the average incident rates for some facility types.

CNCL - 360

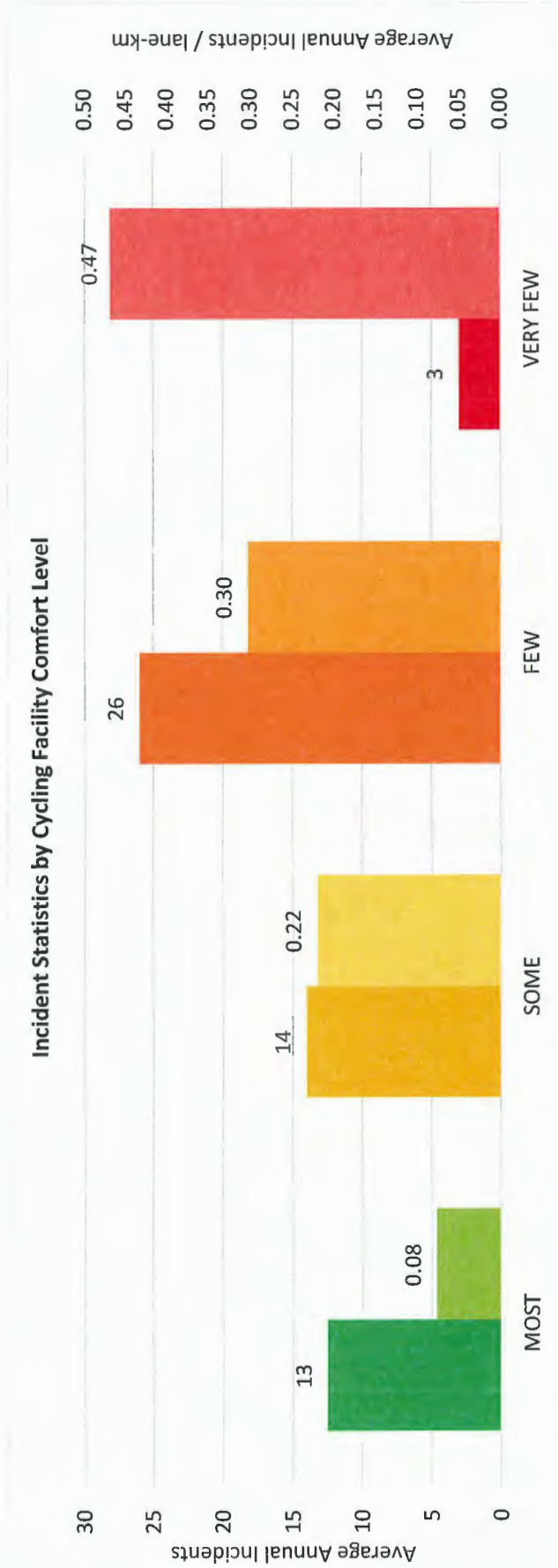


Figure 5.5: Cycling Incidents by Comfort Level

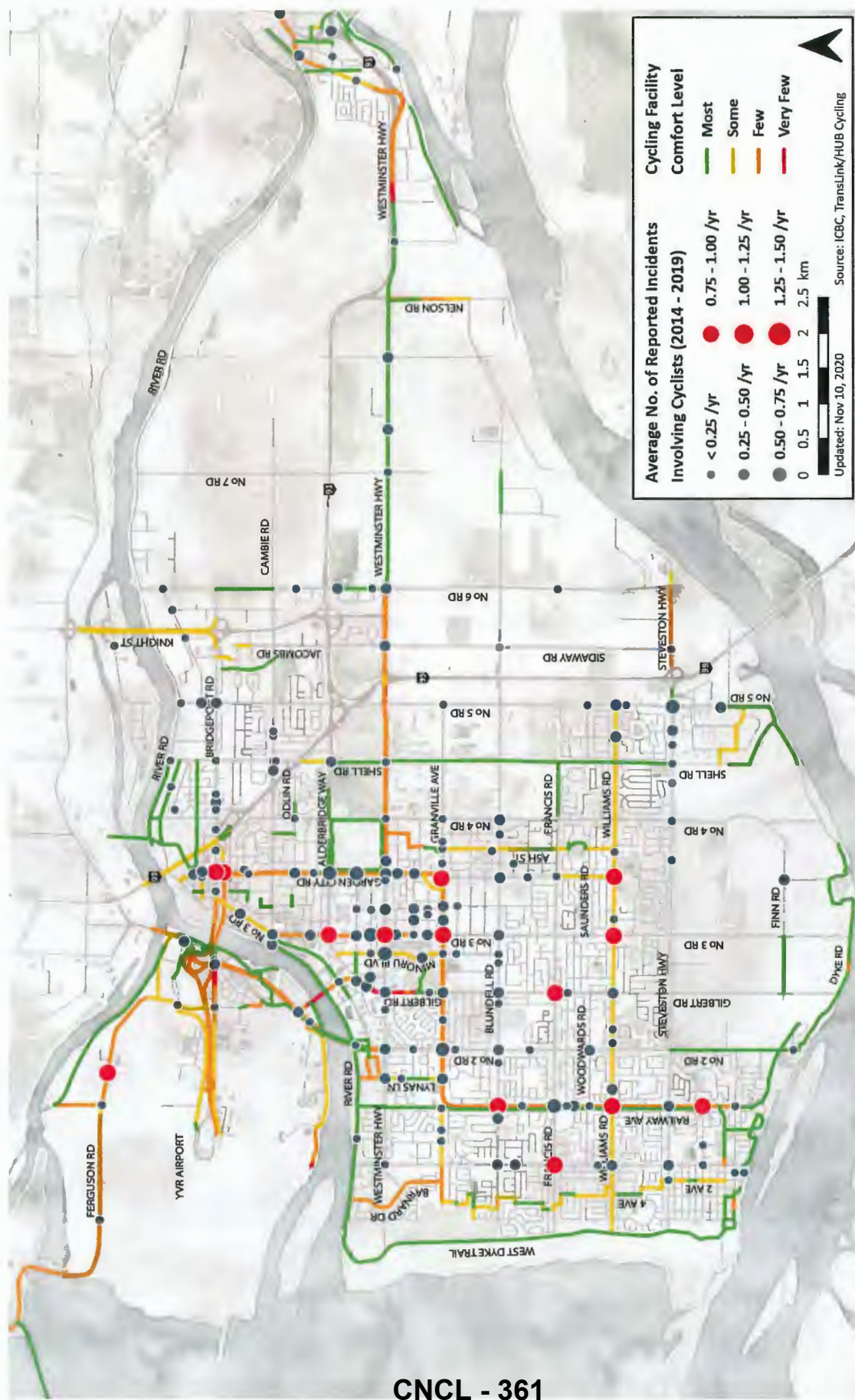


Figure 5.6: Cycling Comfort Level (TransLink/HUB Cycling) and Average Annual Traffic Incidents Involving Cyclists (ICBC, 2014-2019)

5.2.3 Average Annual Cycling Incidents Relative to Traffic Volumes

Figure 5.7 displays the average two-way daily traffic volumes in Richmond (September 2019), as obtained from UrbanLogiq.

This shows an overlap between locations with the most reported cycling related incidents and those segments experiencing the highest traffic volumes, particularly in the City Centre and continuing north from Granville Avenue. In this area, Garden City Road and No. 3 Road have several segments where average daily traffic volumes exceed 30,000 vehicles.

Volumes also consistently exceed this threshold on Westminster Highway between Cooney Road and No. 6 Road, as well as No. 2 Road/Russ Baker Way between Granville Avenue and Miller Road. Despite this, few accidents involving cyclists were reported across these two segments. Conversely, four or more incidents were recorded at several intersections along Railway Avenue and Williams Road despite lower traffic volumes, potentially highlighting the influence of cyclist volumes.

On Williams Road west of No. 4 Road and on Railway Ave south of Francis Road, daily average volumes are shown to be less than 15,000 vehicles. Aside from Williams Road, all intersections with six or more cyclist incidents since 2014 experience average daily traffic volumes exceeding 15,000 vehicles in both directions.

5.2.4 Average Annual Cycling Incidents Relative to Top 20 Intersections for Traffic Incidents

Continuing the investigation of the relationship between cycling collisions and areas of higher traffic collisions, the 20 intersections with the highest average annual collisions (data provided by the City of Richmond includes ICBC collision data for 2013-2017) are shown with gold circles in Figure 5.7.

Similar to the distribution of cyclist incidents, all 'top 20' intersections were observed to experience traffic volumes exceeding 15,000 vehicles per direction for the September 2018 data sample period.

Notably, the top 20 intersections for traffic incidents appear to be concentrated on No. 4 Road, No. 5 Road and Blundell Road corridors, as well as on Garden City Road and Shell Road. The average number of reported cyclist collisions are relatively low east of No. 4 Road. However, several intersections along Blundell Road experience an average of 0.5 to 0.75 incidents per year, and there is a high incidence of both cyclist and all traffic collisions at several intersections along Garden City Road.

While there is correlation with traffic incident rates at some locations, in general, other factors such as higher cyclist volumes and/or intersection design, may offer a better explanation for the increased incidence of collisions involving cyclists. This signals that safety improvements along existing designated cycling routes, with a particular emphasis on intersection design, may offer the greatest potential for minimizing the potential for cycling related traffic incidents.

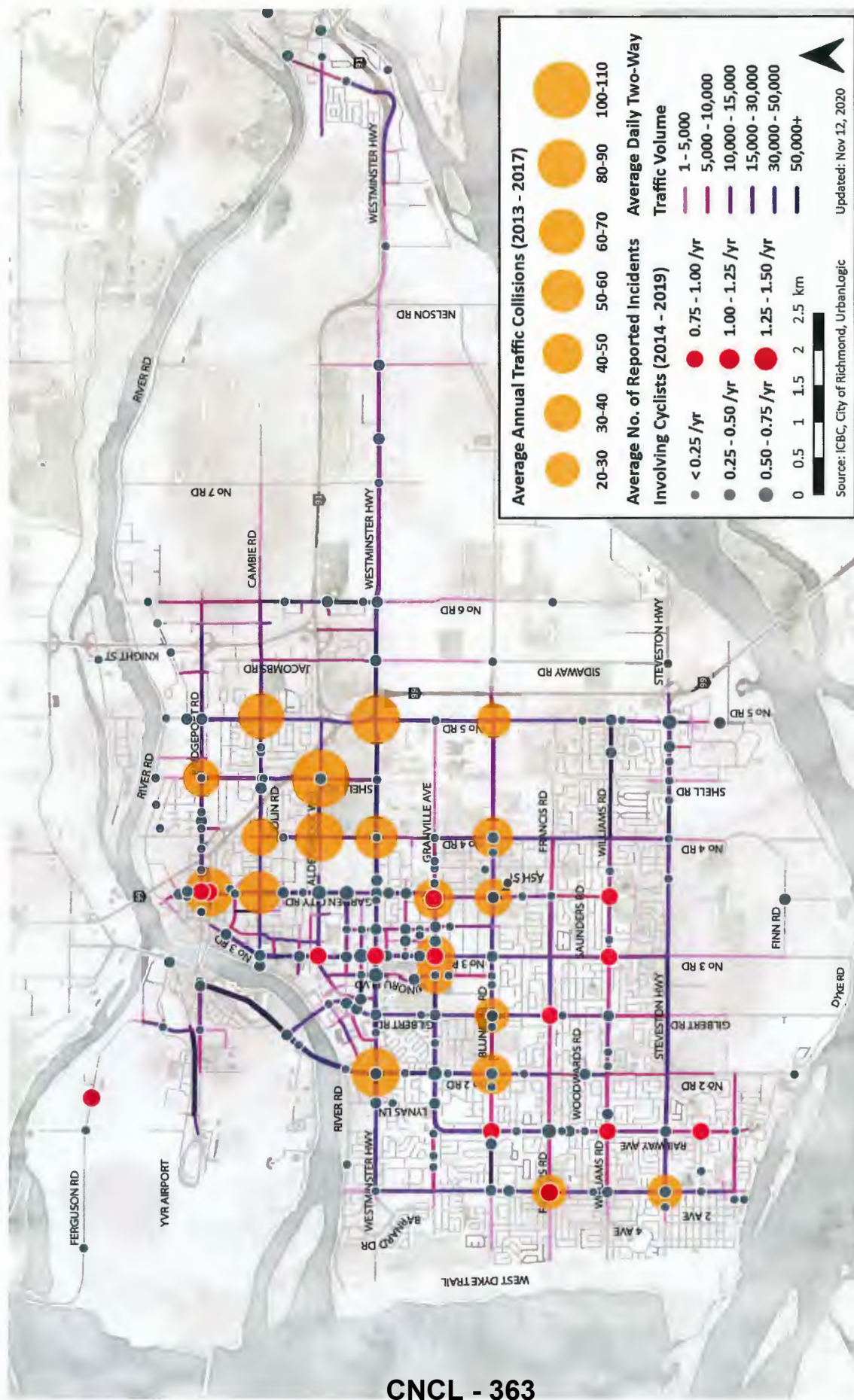


Figure 5.7: Top 20 Collision Locations, Average Annual Cyclist Incidents (ICBC, 2014-2019), and Average Daily Traffic (UrbanLogia, Sept 2019)

5.2.5 Trends in Cycling Incident Rates Relative to Recent Investments in Cycling Infrastructure

Figure 5.9 shows the general trend in cycling-related incidents reported to ICBC between 2014 and 2019 as well as where cycling infrastructure investments have been made over the same six-year period.

Green circles indicate where the number of cycling incidents has decreased (improvement), whereas red circles highlight areas where the number of cycling incidents has increased. Larger circles indicate a higher number of cycling incidents on average per year, and recent cycling infrastructure investments are shown in shades of orange.

The analysis indicates that, at most, the incident rate has not increased or decreased by more than 45% at any given location over the six-year period for which data was available.

The analysis also shows that the number of incidents per year has tended to decrease along Garden City Road where incident rates have been among the highest on average. The primary exception along this corridor is at the intersection of Garden City Road and Lansdowne Road.

While no cycling infrastructure investments on Garden City Road were made between Williams Road and Granville Avenue, reported incidents did decrease. This could be the influence of the Parkside neighbourhood street bikeway that was established along Ash Street during this period, which may have diverted some cyclists off this busy arterial to a route with significantly lower traffic volumes and potential for conflicts. Notably, the incidence rate also decreased along Ash Street where the investment was made and where cyclist volumes presumably increased because of the route formalization.

On No. 3 Road, the incidence rate has decreased most notably at the intersections with Alderbridge Way and Westminster Highway. Conversely, the incidence rate increased at the intersection of No. 3 Road and Granville Avenue where the average incidence rate was already relatively high.

It is also noted that incident rates have increased along Railway Avenue, where cyclist volumes were observed to be high. Though higher cyclist volumes increase the number of opportunities for conflict, this upward trend indicates that additional measures or design changes may be warranted at intersections along this corridor specifically, and along higher cyclist volume routes in general, to minimize the potential for conflict along these highly used routes.



Figure 5.8: A cyclist stopped at Railway Greenway and Williams Road

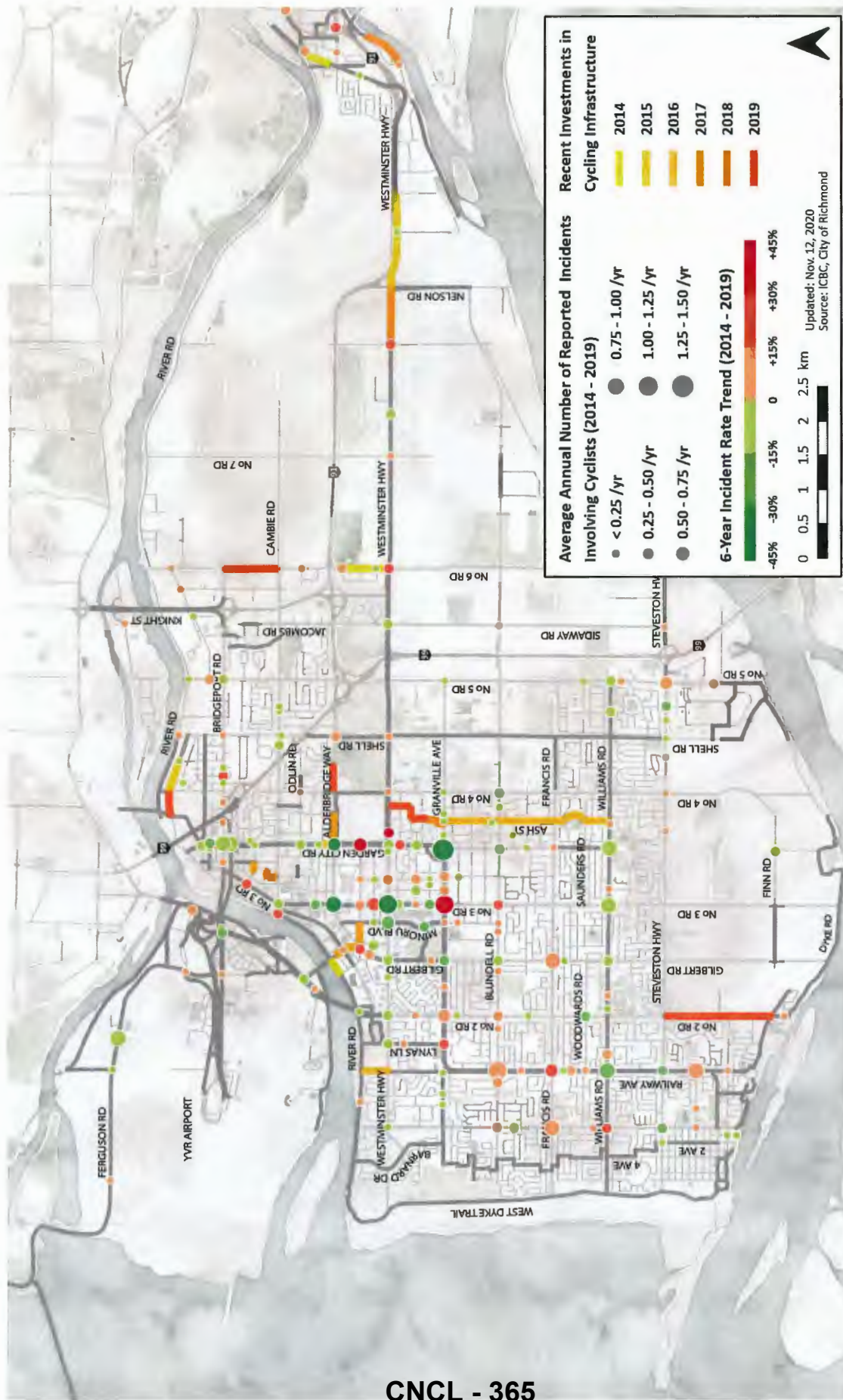


Figure 5.9: Trends in Cyclist Incident Rates (ICBC, 2014-2019) and Recent Cycling Infrastructure Investments (City of Richmond)

6 Network Connectivity and Accessibility Analysis

6.1 Connectivity Analysis

The distinction between ‘connectivity’ and ‘accessibility’ is subtle. Accessibility is defined as the ease of reaching desired destinations (e.g., schools) by a specific mode (e.g., bicycle) from a given location within the network. Connectivity represents the most basic form of accessibility and measures the level of a given node’s ‘connectedness’ with adjacent nodes. More simply put, connectivity provides a sense of route choice from a given location.

For this study, connectivity represents a measure of the relative ease of reaching other locations within the cycling network from a given location. The more options and potential routes, the more ‘connected’ a given segment is to the broader network.

Importantly, this analysis is constrained to the cycling network, and does not provide an indication of connectivity to locations that are not part of the existing network.

6.1.1 Methodology

Cycling network connectivity analysis was carried out using axial link analysis in *DepthMapX*, which attributes a connectivity value for a given segment based on the number of immediate connections and the relative ease of reaching other nodes within the network. Acknowledging regional connections, the analysis area included cycling networks in neighbouring municipalities within a three-km buffer of Richmond’s municipal boundary to ensure network-edge effects are mitigated within the study area.

6.1.2 Existing Cycling Network Connectivity

Figure 6.1 on the following page shows the connectivity analysis results for the existing cycling network. The results show higher relative levels of cycling network connectivity for the primary north-south and east-west spines of the network where there are a greater number of route options to reach other areas of the network.

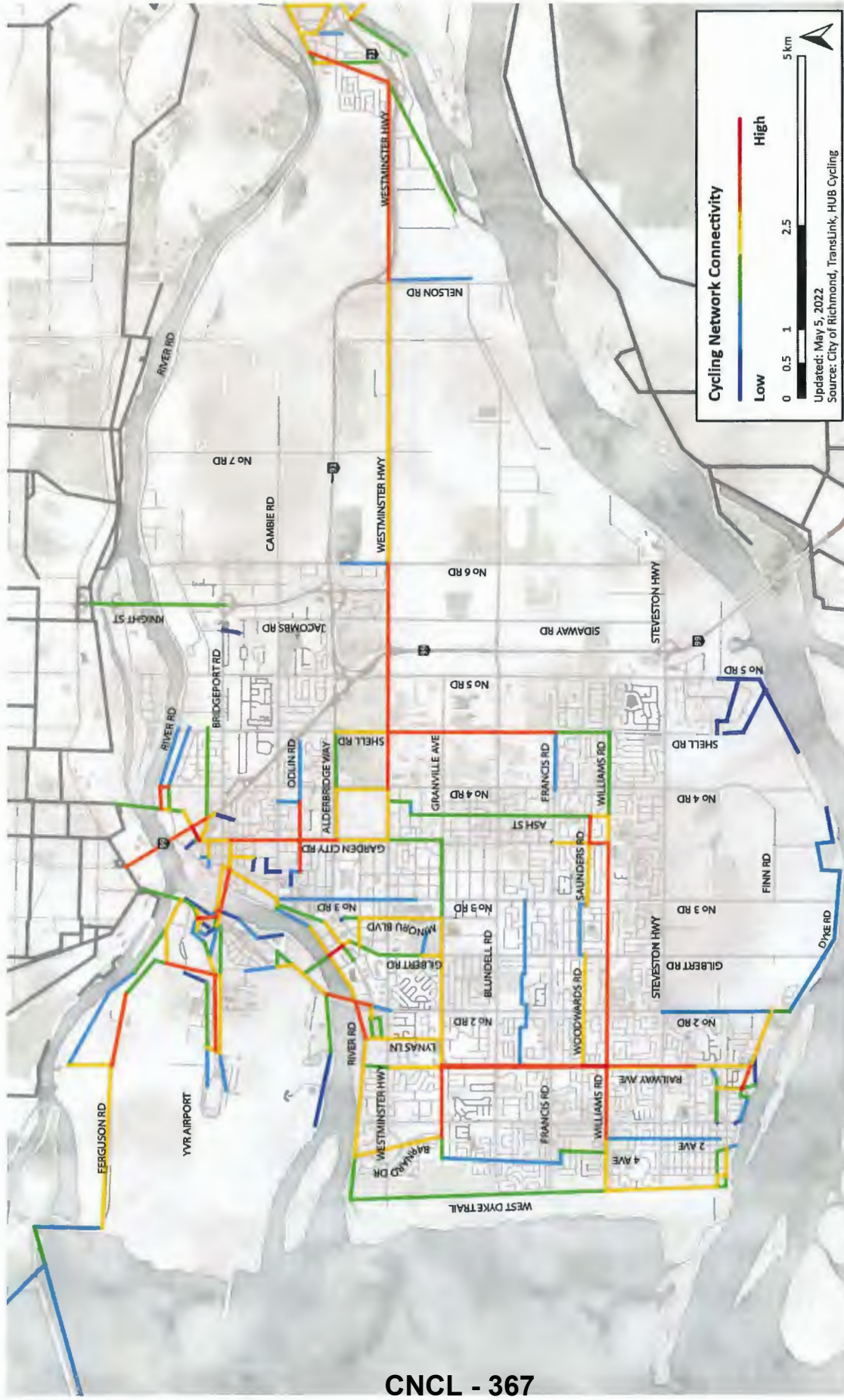
Conversely, the offshoots and network stubs exhibit lower levels of network connectivity as few, if any, alternative route options exist within the formalized cycling network. This is the case along the south-east branch of Dyke Road, for example.

6.1.3 Existing Cycling Network Connectivity with Informal Routes

Figure 6.2 (page C-47) illustrates the potential increase in connectivity that could be achieved by formalizing some of the informal cycling routes that currently do not have any special treatments.

While many of the informal routes are well used by more confident riders, as discussed previously not all users are comfortable cycling with traffic, and thus are not considered viable options for all users.

Comparing the two outputs, it becomes apparent how small changes to the network can dramatically increase overall network connectivity, and importantly, improve route choice between two given locations.



CNCL - 367

Figure 6.1: Cycling Connectivity Analysis – Existing Cycling Network

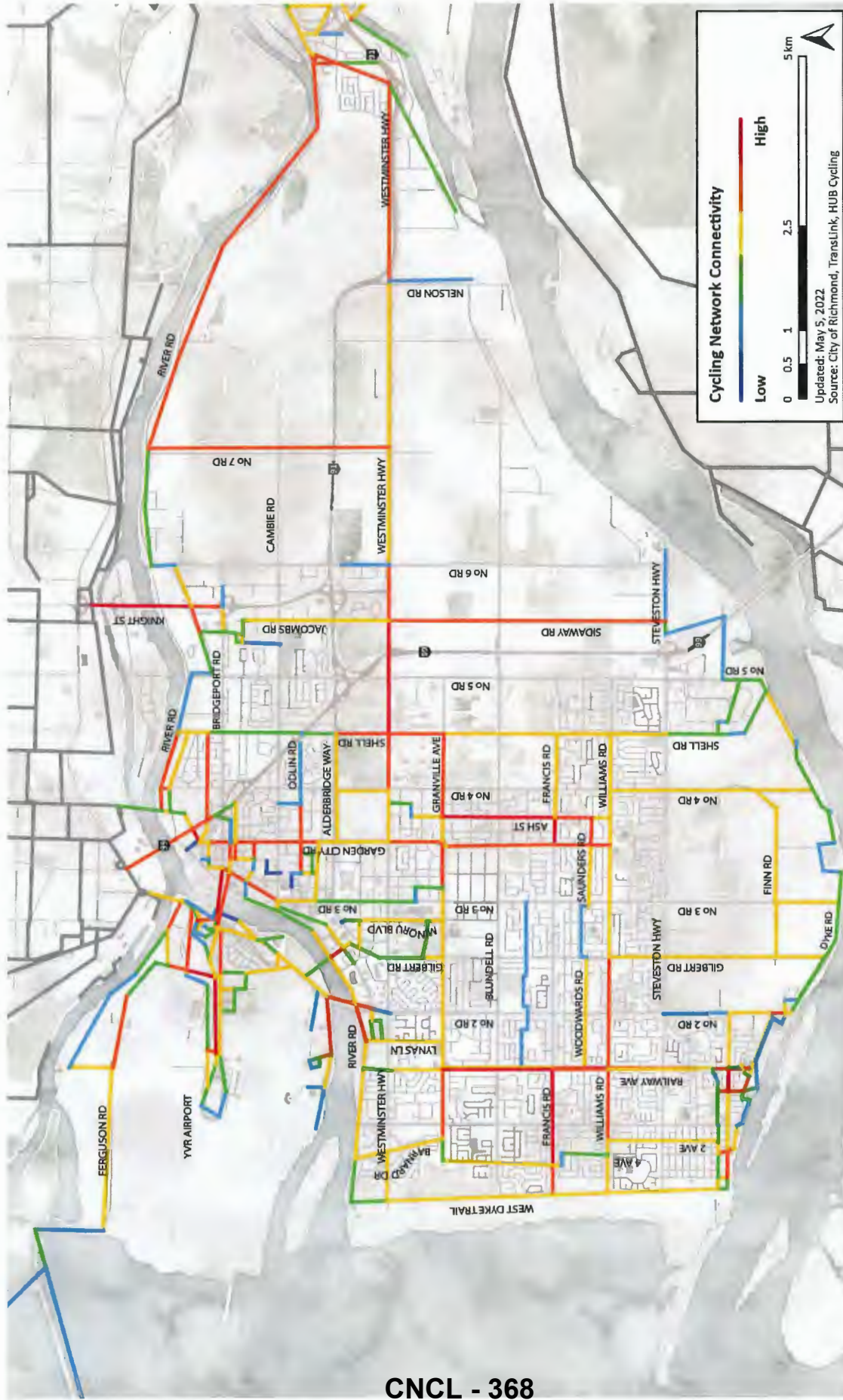


Figure 6.2: Connectivity Analysis – Existing Cycling Network and Informal Routes

6.2 Cycling Accessibility to Key Destinations

In addition to network connectivity, cycling accessibility to points of interest was also examined. This includes an assessment of cycling accessibility to:

- Commercial and mixed-use areas
- Community centres
- Rapid transit stations and major bus exchanges
- General points of interest / tourist destinations
- Schools/educational institutions

The identified key destinations and points of interest are shown in Figure 6.4 on the next page, overlaid with the existing cycling network.

6.2.1 Commercial and Mixed-Use Areas

The commercial core and City Centre mixed-use area are currently accessible by several north-south routes. While portions of the downtown core are linked by east-west connections, additional links between Minoru Boulevard and Garden City Road would increase cycling accessibility within the Richmond City Centre area.

Outside of the City Centre, Steveston is accessible via the Crabapple Ridge local street bikeway, West Dyke Trail, as well as the Railway Greenway and adjacent on-street bike lanes. The commercial areas adjacent to Highway 99 in North Richmond are not well connected to the cycling network, nor is the mixed use commercial area in Ironwood west of Highway 99.

6.2.2 Community Centres

Richmond's community centres are generally accessible via the cycling network (within a 400m networked buffer). One exception is the Cambie Community Centre (located south of the Knight Street Bridge) where nearby cycling facilities are disconnected from the rest of the network, with cyclists depending on unofficial routes to reach this destination.

6.2.3 Major Transit Nodes

All of TransLink's Canada Line rapid transit stations in Richmond are located adjacent to cycling facilities, in addition to the major bus exchange and Bridgeport Station.

Notably, cycling accessibility to the stations within the City Centre (i.e., Lansdowne and Aberdeen Stations) via the existing network is limited, potentially requiring a circuitous route to reach the bike lanes on No. 3 Road.

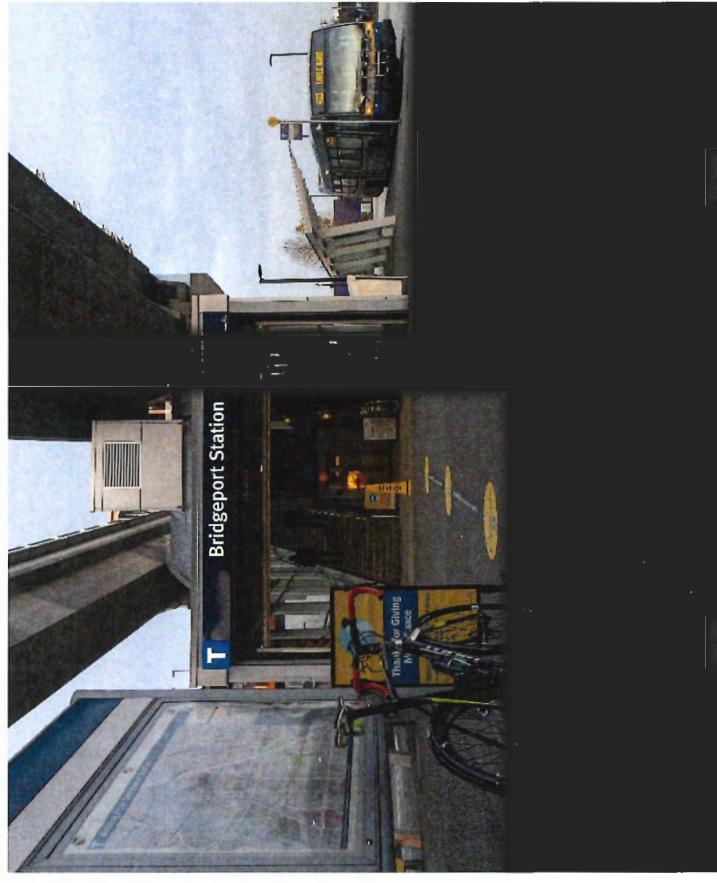
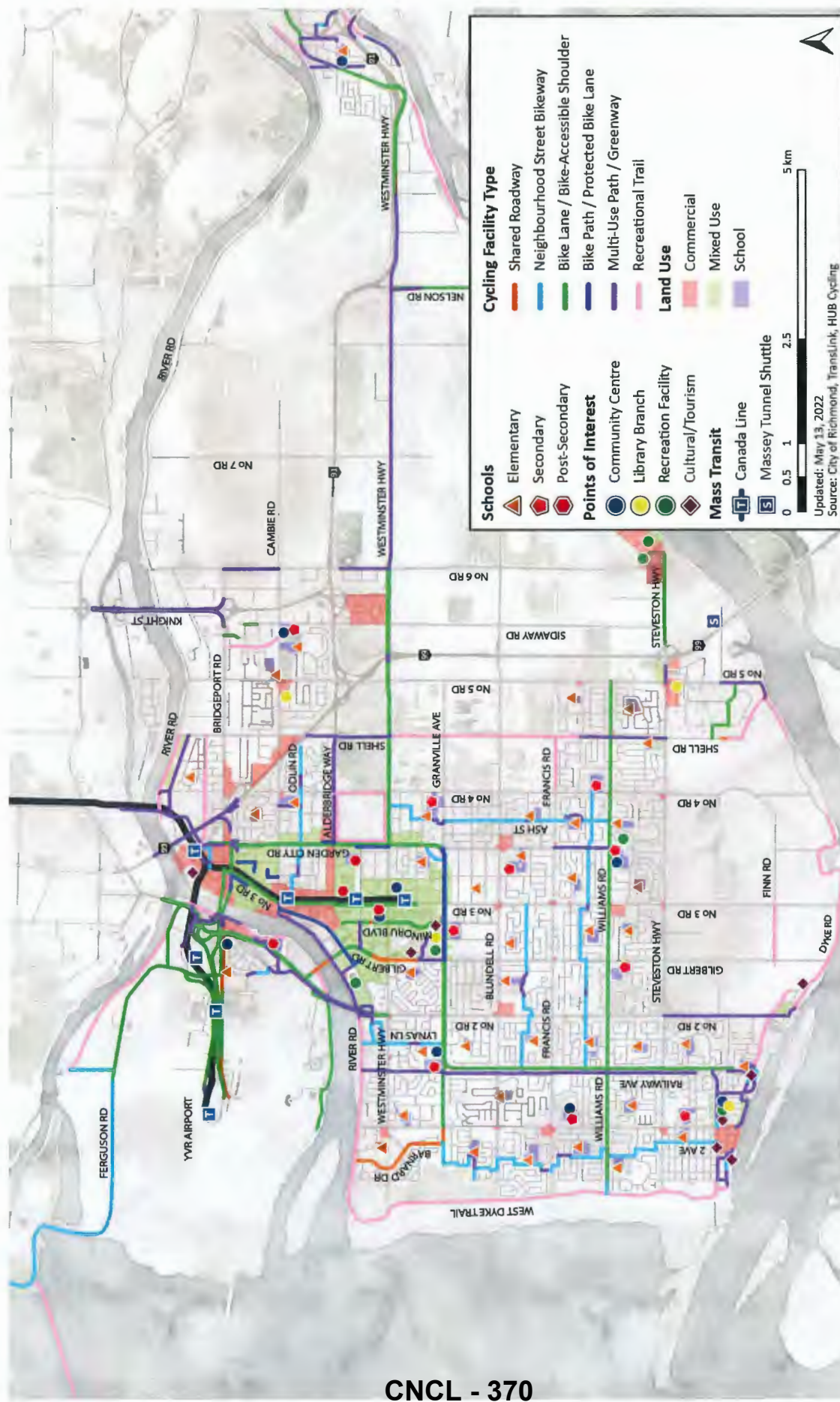


Figure 6.3: Bridgeport Canada Line Station and Bus Exchange



CNCL - 370

Figure 6.4: Key Destinations, Points of Interest and Major Transit Nodes



Figure 6.5: Cyclists riding on Bayview Street East of No. 1 Road

6.2.4 General Points of Interest / Tourist Destinations

All of the identified key tourist destinations/points of interest are located within 400m of the cycling network. In most cases, multiple different route options are available, increasing accessibility from different parts of the city.

6.2.5 Schools / Educational Institutions

Cycling accessibility to schools and educational institutions was considered to be particularly important. Similar to changing commuter behaviour, encouraging cycling as a safe, convenient, and desirable mode of transportation for students offers a multitude of benefits to individuals, communities, and the City.

In addition to the direct benefits to individual cyclists (promoting a healthy active lifestyle, building confidence, and fostering a connection with the community, for example), an increase in student cyclists reduces vehicle drop-offs, improving traffic congestion and greenhouse gas emissions.

Networked buffers of 400m and 800m were created for all elementary, secondary and post-secondary institutions to determine the ease of access by bicycle. In addition to assessing whether each institution could be easily accessed from the cycling network, the level of comfort of adjacent cycling facilities was also considered.

Figure 6.6 on the following page shows the cycling accessibility to schools by comfort level. While this exercise provides an indication of the comfort level of nearby cycling facilities, consideration for the level of cycling comfort level along the entire journey is especially relevant for students who are less likely to be confident cyclists. For young students in particular, cycling facilities with higher levels of traffic exposure are unlikely to be considered viable options by students or their parents and guardians.

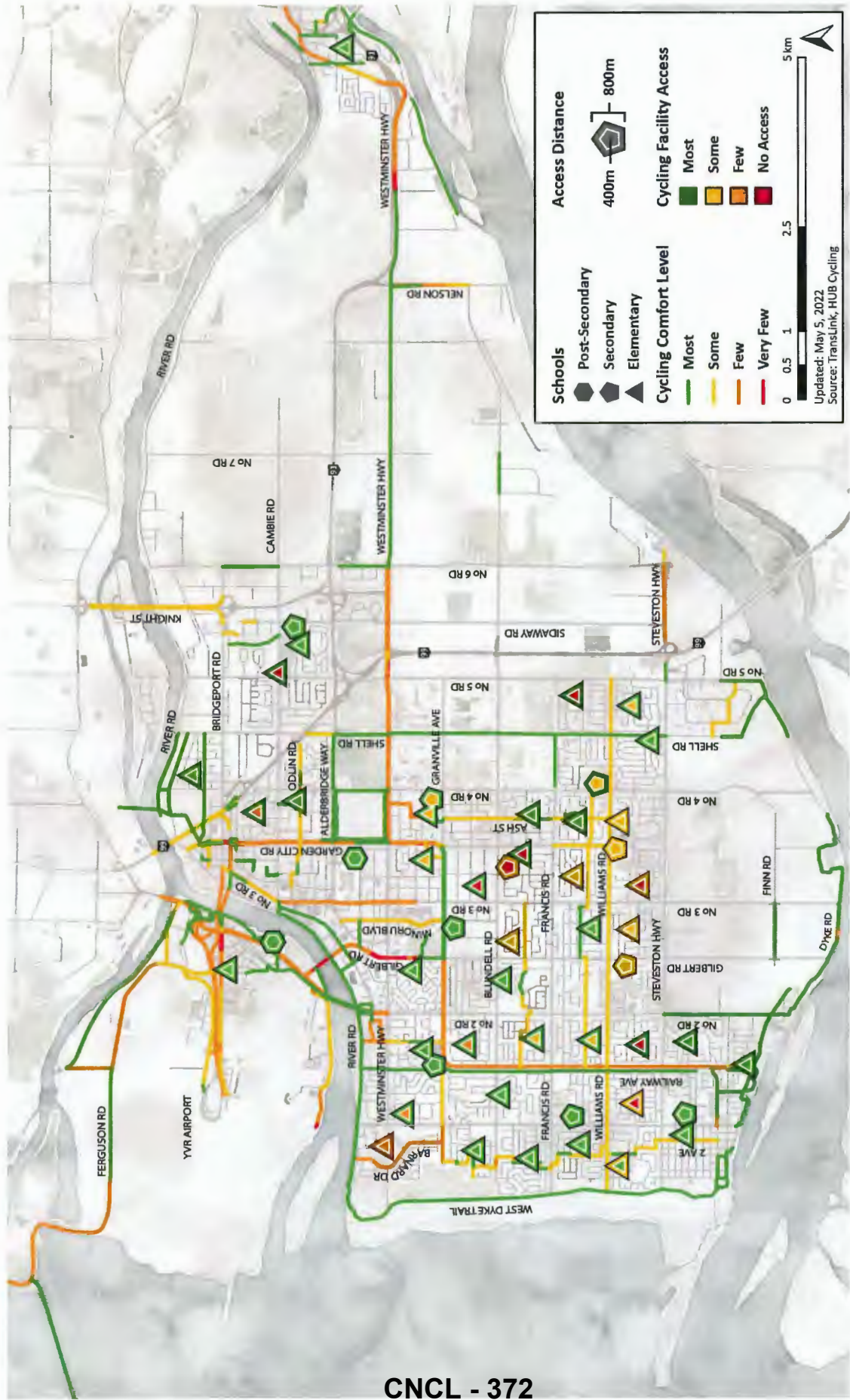


Figure 6.6: Cycling Accessibility to Educational Institutions

7 Key Findings and Next Steps

Existing Cycling Network

The cycling network currently includes more than 330 lane-km of cycling facilities and is mainly composed of bike lanes and bike accessible shoulders (29%), multi-use paths (27%), recreational trails (23%), and neighbourhood street bikeways (16%). An awareness of the current composition and distribution of facilities within the cycling network is essential to inform further consultation efforts and subsequent cycling infrastructure investments. As the foundation of many existing cycling trips in the city, the current network actively shapes and informs how users will experience and perceive their cycling needs. It is the baseline when considering further cycling improvements and their prioritization.

Cycling Comfort Level

Results of the cycling comfort analysis reveal that while over 50% of the existing cycling network in Richmond can be classified as 'comfortable for most,' this is largely made up of trails and multi-use paths/greenways. Going forward, careful consideration should be made for the distribution and suitability of these facilities for different trip purposes by engaging with public and stakeholders on perceptions of safety and facilities that would positively influence cycling behaviour. Ultimately, the comfort level analysis and feedback helps to inform considerations for the types of cycling infrastructure investments that should be prioritized moving forward.

Cycling Ridership

Bike counters at the initial three locations provide insight into the daily trends and seasonal usage patterns of cyclists in Richmond. Continued monitoring of this data as well as expanded installation of bike counters at other strategic locations in the future helps to better understand cycling patterns as the cycling network evolves.

Third-party data obtained from Strava supports anecdotal observations of greater levels of local recreation during the summer months of the COVID-19 pandemic. Despite Strava's limitations as a more recreationally focused subset of the cycling population, the platform provides a fine-grained level of cycling data for all locations within the city at no cost. This data helps to identify common cycling trip patterns and better inform development of the future network and investment prioritization.

Cycling Related Incident Analysis

The incident analysis found that corridors with higher cyclist volumes experience higher annual cycling incident rates, signalling the need for safe intersection designs that minimize the potential for conflicts. Intuitively, facilities with lower cycling comfort levels tended to have higher reported cycling incident rates per lane-km. The highest distance-weight incident rates were observed on shared roadways and bike lanes.

These findings support an approach of prioritizing investment toward higher comfort level facilities as the network expands to minimize the potential for conflicts while simultaneously building a network that is attractive to a broader group of potential cyclists. Identified intersections with a high numbers of collisions involving cyclists are also key candidates for improvements as part of Cycling Network Plan.

Network Connectivity and Accessibility Analysis

This analysis highlights considerations for diverse user groups and the role that different facility types can play in serving them. It also underscores the importance of providing connections to destinations to encourage cycling as a safe and convenient transportation alternative.

Most identified key destinations are located near existing cycling facilities. However, limited route options or network gaps limit the utility of these facilities as a viable option 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 high comfort level facilities.

Despite existing gaps, an evaluation of the increase in overall network connectivity attained by formalizing some of the informal routes in the city demonstrates that small extensions of the network can lead to dramatic improvements. Engagement with the public and stakeholders provides opportunities to understand where upgrades are desired, and where new facilities might better connect residents to the places they want to go.

Next Steps

The analysis and findings summarized within this memo inform public and stakeholder engagement and act as a stepping-stone to future phases of work. This work and the feedback gained through consultation guides the development and implementation of the updated Cycling Network Plan, including the identification of priorities for new cycling network facilities and recommendations for upgrades to existing facilities.

Ultimately, the updated Cycling Network Plan will help to improve cyclist safety, enhance the utility of the active transportation network, and increase the overall attractiveness of cycling as a comfortable and convenient transportation mode in Richmond.



Figure 7.1: Cyclist on Lansdowne Road (Source: City of Richmond)

Control Information

Prepared by	Steer Suite 1030 – 999 W Hasting Street Vancouver, BC V6C 2W2 Canada +1 (604) 629 2610 www.steergroup.com	Prepared for	City of Richmond 6911 No. 3 Road Richmond, BC V6Y 2C1 Canada
Steer project/proposal number	23743801	Client contract/project number	6584412
Author/originator	Mr. Fitzgerald S. Page	Reviewer/approver	G. England
Other contributors		Distribution	Client: Project Team
Version control/issue number		Date	
1.0 - DRAFT		November 24, 2020	
2.0 - DRAFT		March 12, 2021	
3.0 - FINAL		May 19, 2022	



D HUB Cycling/TransLink – State of Cycling Comfort Level Criteria

CNCL - 376

Bikeway Classification System (Source: HUB Cycling / TransLink)

e.g. Type *	Class A	Class B	Class C	Class D	Class E	Notes
Separated from vehicle traffic						
1 Bike Path: Off-road facility for the exclusive use of people cycling, may be unidirectional or bidirectional. Separate from both motorists and pedestrians, but designed based on bicycles operating in parallel with pedestrians, especially at intersections.	Width: Bidirectional 3.0-4.0m Unidirectional 2.0-3.0m Posted Speed: N/A Volume: N/A	Width: Bidirectional 2.4-2.9m Unidirectional 1.5-1.9m Posted Speed: N/A Volume: N/A	Width: Bidirectional 2.3-2.8m Unidirectional 1.2-1.4m Posted Speed: N/A Volume: N/A	Width: Bidirectional <2.1m Unidirectional <1.2m Posted Speed: N/A Volume: N/A	Never	When in a road right of way (ROW): A bike path should fall outside of the Clear Zone (>1.2 m on roadways with posted speeds of ≤60 km/h; see Transportation Association of Canada Geometric Design Guide (TAC GDG), see Table 7.3.1 for higher speed roads). Further, designs of bike paths should avoid obstacles in the pathway, include adequate sight lines and lighting, be direct, and avoid the use of rigid bollards. If cyclist volumes exceed 1,500 per day then recommended facility widths shall be ≥3.6 m bidirectional, and ≥2.4 m unidirectional. Bike Path's are generally appropriate in association with higher speed roads.
2 Protected Bike Lane: Exclusive on-road facility delineated by a vertical barrier element/physical separation from motor vehicles, as well as separation from pedestrians. Can be unidirectional or bidirectional	Width: Bidirectional 3.0-4.0m Unidirectional 2.0-3.0m Posted Speed: ≤50 km/h Volume: N/A	Width: Bidirectional 2.4-2.9m Unidirectional 1.5-1.9m Posted Speed: ≤60 km/h Volume: N/A	Width: Bidirectional 2.3-2.8m Unidirectional 1.2-1.4m Posted Speed: ≤60 & <80 km/h Volume: N/A	Width: Bidirectional <2.1m Unidirectional <1.2m OR Posted Speed: ≤80 & ≤90km/h Volume: N/A	Width: Bidirectional <2.1m Unidirectional <1.2m Posted Speed: ≥80km/h Volume: N/A	Separation from vehicles by delineator (curbs, bollards, concrete barriers, etc.) is required. Type of delineator dependent on speed and volume of traffic (for specific details see TAC GDG chapter 5, section 5.7.5). At intersections, a protected bike lane should be set back 6m from the parallel travel lane-see Transportation Association of Canada Geometric Design Guide (TAC GDG), Section 5.6.2.3 for guidelines. Parking may provide additional barrier beyond the delineator - at a minimum curbstops over 100 mm high are necessary with periodic gaps for drainage and wheelchair access. Width of delineator is 0.30-1.0 m. If adjacent to parking, min separation is ≥0.80 m (Class A), ≥0.60 m (Class B). Volume: If motor vehicle ADT is greater than 4,000, this facility is more acceptable than others. If cyclist volumes exceed 1,500 per day then recommended facility widths shall be ≥3.6 m bidirectional, and ≥2.4 m unidirectional.
3 Multi-Use Path (MUP): Off-road facility that allows for shared use by people cycling and pedestrians.	Width: Bidirectional 3.5-4.0m Unidirectional 2.5-3.0m Posted Speed: N/A (ie outside of road ROW) Volume: N/A Paved	Width: Bidirectional 3.0-3.4m Unidirectional 2.4-2.9m Posted Speed: ≤50km/h & ≥1.2m from curb face Volume: N/A Paved	Width: Bidirectional 2.7-2.9m Unidirectional 2.1-2.3m Posted Speed: ≤60km/h & <1.2m from curb face Paved or Unpaved	Width: Bidirectional <2.7m Unidirectional <2.1m OR Posted Speed: ≥60km/h & with adequate setback or physical protection as per TAC guidance	Never	MUP's are not intended to replace a sidewalk where there is sufficient motor vehicle or pedestrian and bicycle traffic that may lead to high rates of conflict. As a guide, MUPs are not recommended when pedestrian and bicycle traffic volumes exceed a total peak hour volume of 200 users. A MUP should fall outside of the Clear Zone (>1.2 m on roadways with posted speeds of ≤60 km/h - see TAC GDG, Table 7.3.1 for higher speed roads). Further, designs of MUPs should avoid obstacles in the pathway, include adequate sight lines and lighting, be direct, and avoid the use of rigid bollards.
Unseparated from vehicle traffic						
4 Neighbourhood Street Bikeway or Shared Roadway: Bikes and motor vehicles share the roadway, which provides a continuous corridor for suitable operating conditions for people cycling, including limiting exposure to motor vehicle traffic. Can include a variety of roadways including local roads, alleys and service roads.	Width: Parking area side 3.5-7.5m, parking both sides 8.0-11.0m Posted Speed: ≤30km/h Volume: ≤1,000 ADT	Width: Parking area side 3.5-7.5m, parking both sides 8.0-11.0m Posted Speed: ≤30km/h Volume: ≤2,000 ADT	Width: varies by road type Posted Speed: ≤50km/h Volume: ≤3,000 ADT OR Posted Speed: ≤30km/h & Collector	Width: varies by road type Posted Speed: ≤50km/h Volume: ≤6000 ADT OR Posted Speed: ≤30km/h & Arterial	Width: varies by road type Posted Speed: ≥50km/h Volume: ≥1,000 OR Posted Speed: ≥50 & ≤70km/h Volume: ≥1,000	Traffic diversion can include such treatments as directional and median barriers. Traffic calming can include such treatments as raised crossings, and bicycle permeable humps and chicanes. All such facilities should include shared lane markings to indicate the potential presence and positioning of people cycling. Municipalities are recommended to limit posted speeds to 30 km/h on all Neighbourhood Street Bikeways and Shared Roadways. Widths: If curb less than 100 mm, or parking along curb, gutter pan can be included in width. Otherwise, width excludes gutter pan.
5 Bike Lane: On-road facility adjacent to a curb or a parking lane and delineated from motor vehicles with paint markings.	Never	Width: 1.7-2.4m Posted Speed: ≤50km/h Volume: ≤4,000 ADT Absence of curbside parking.	Width: 1.5-1.6m Posted Speed: ≤50km/h Volume: N/A Curbside parking permitted.	Posted Speed: ≥50 & ≤70km/h Volume: N/A	Posted Speed: ≥50 & ≤70km/h OR Bicycle parking Volume: N/A	If parking present or speeds/ volumes might exceed limits or over 1,500 people cycling per day, separated bikeway recommended. Widths: If curb less than 100 mm, or parking along curb, gutter pan can be included in width. Otherwise, width excludes gutter pan.
6 Bike Accessible Shoulder: Signed and marked, paved area with no curb, located to the right of roadway general purpose travel lanes, and separated from general purpose lanes by white edge line or painted buffer. Usually in rural areas. May be shared with pedestrians.	Never	Width: 1.8-2.4m Posted Speed: ≤50 km/h Volume: ≤4,000 ADT	Width: 1.5-1.7m Posted Speed: ≤60km/h Volume: N/A	Posted Speed: ≥60 & ≤90km/h OR Posted Speed: ≤60km/h & Parking permitted outside shoulder	Width: N/A Posted Speed: ≥60 & ≤90km/h OR Bicycle parking Volume: N/A	Parking not permitted in bikeway. If speeds/ volumes exceed limits, or over 1,500 people cycling per day separated bikeway recommended. Width for buffered facility: 2.4-3.5 m total, bike lane 1.8-2.4 m

* In all cases pavement markings (bicycle stencils) and signage are necessary at regular intervals and should be placed at a distance of 20 to 30 metres in advance of, and following each intersection and other decision points, or every 400 m when intersections are not present.

Notes:

Class A: Designed toward the practical and absolute upper limit of the design domain and intended to comfortably accommodate higher volumes of users, including for example passing movements and side-by-side cycling.

Class B: Includes dimensions that sit between lower practical and practical upper limits for the dimensions of bikeways. These facilities may not be intended to accommodate passing movements or side-by-side cycling. Agencies implementing such facilities should check with TAC guidance if passing movements or side by side cycling is intended.

Class C: These facilities are intended to accommodate lower volumes of cyclists and tend toward the lower practical and absolute lower limits of cycling infrastructure. Such facilities will tend to accommodate single file cycling, but are not intended to accommodate passing movements or side-by-side cycling.

Class D: These facilities are intended to accommodate low volumes of cyclists and are at or below absolute lower limits of the design domain. These facilities provide basic accommodation of cyclists operating in single file and exhibit deficiencies including, but not limited to deficient signage and pavement markings, higher speed and higher volume motor vehicle traffic on adjacent facilities, and/or motor vehicle parking permitted in close proximity to cyclists.

Class E: These facilities do not meet the absolute lower limit of the design domain and even experienced cyclists should use such facilities with caution. Such facilities tend to have a combination of deficiencies including for example, a lack of signage and pavement markings, higher speed and higher volume motor vehicle traffic on adjacent facilities, and/or motor vehicle parking permitted in close proximity to cyclists.

Comfort : Green = Comfortable for "Most", Yellow = Comfortable for "Some", Orange = Comfortable for "Few", Red = Comfortable for "Very Few"

Volume Assumptions: Local (or equivalent) = 2000, Collector (or equivalent) = 4000, Arterial (or equivalent) = 6000

E Implementation Strategy: Expanded Project Descriptions

CNCL - 378

E1 Short-Term (2022-2026)

E1.1 Shell Road (Alderbridge Way to River Road)

Extending the Shell Road bike corridor north of Highway 99 to connect to Bridgeport Road and River Road was one of the most requested new routes during Phase 1 engagement. This addition has also been identified in the City's recent 5-year cycling capital planning exercises. By extending the existing multi-use path, this route will not only offer a convenient and continuous off-street facility for north-south travel, but also improve cycling connections to the East Cambie and Bridgeport areas.

E1.2 Sexsmith Road – Brown Road (Beckwith Road to Browngate Road)

Continuing to build out segments of off-street bike paths on Sexsmith Road and Brown Road will eventually establish a protected north-south corridor through the City Centre, offering an AAA alternative to the current facilities on Garden City Road and No. 3 Road. These segments were frequently identified as a network gap during Phase 1 engagement. In their responses, the public specifically noted the potential for this route to provide an alternative to Garden City Road for access to and from Bridgeport Station and the Canada Line Bridge (to Vancouver). These additions were some of the highest scoring in the segment level analysis and have been identified in the City's 5-year cycling capital plan for 2022.

Further connections on **Charles Street (between the existing multi-use path and Van Horne Way)** and **Browngate Road (between Hazelbridge Way and No. 3 Road)** are also envisioned in the short term. These projects will improve connections between Sexsmith Road and Brown Road to nearby routes, extending facilities to meet the existing cycling network and averting the creation of future gaps.

E1.3 Gilbert Road (Elmbridge Way to Granville Avenue)

In addition to aligning with the priority to close gaps caused by existing shared road segments, improving Gilbert Road also enhances cycling

connections in the City Centre to Minoru Park, Richmond General Hospital and Samuel Brighthouse Elementary School. This priority has been reflected in the City's recent 5-year capital plans for cycling facilities. This segment was emphasized as a high priority during Phase 2 public engagement and upheld by a high score during the segment level analysis.

E1.4 Lansdowne Road (Pearson Way to Gilbert Road)

A top scoring east-west route in the segment level analysis, Lansdowne Road provides a direct connection between the Canada Line, Kwantlen Polytechnic University, and the Richmond Olympic Oval. While further upgrades are dependent on development, completing this network gap has been prioritized in the short-term, thus connecting facilities on Gilbert Road, River Road, and the Middle Arm Greenway and maximizing benefits from other recent improvements in the area.

E1.5 Lucas Road – Bowcock Road – Dayton Avenue

The Crosstown Neighbourhood Bikeway extension improves cycling connections to three schools – RC Palmer Secondary, Garden City Elementary, and Howard DeBeck Elementary – while also completing an east-west connection between the Railway Avenue Greenway and the Parkside (Ash Street) Neighbourhood Bikeway (beginning at Colbeck Road). Addressing an east-west gap until the long-term completion of Blundell Road, this segment also completes and improves upon recent cycling capital plans. As the east and west legs of **Lucas Street at No. 3 Road** are off-set by approximately 30 metres, corridor and traffic signal improvements at No. 3 Road have been identified in the short-term.

E1.6 Moffatt Road – Deagle Road – Bamberton Drive

The addition of the north-south Midtown Neighbourhood Bikeway midway between Gilbert Road and No. 3 Road offers an opportunity to provide a short-term response to the lack of north-south facilities between the Railway Greenway and the Parkside (Ash Street) Neighbourhood Bikeway. This need for a facility in central Richmond was widely expressed during

engagement and included requests for facilities on Gilbert Road and No. 3 Road. The neighbourhood bikeway approach, recognized by recent cycling capital plans, presents a low-cost means to reduce exposure of cyclists to high volumes of motor vehicles. Meanwhile, Gilbert Road is envisioned as a long-term priority.

Several upgrades at major intersections have been identified to complete this route. At the northern terminus, Granville Avenue is a divided road. Hence, cyclists must head eastbound toward the **intersection of Minoru Gate**. Improvements to wayfinding, the eastbound travel lane, and this intersection are envisioned to connect cyclists looking to travel westbound. Similarly, a new pedestrian and cyclist-controlled intersection will improve the southern terminus at **Bamberton Drive and Steveston Highway**, facilitating left turns between on and off-street facilities. Finally, the intersection of **McCutcheon Place and Schaefer Gate at Francis Road** is off-street by approximately 50 metres. A new pedestrian and cyclist-controlled intersection and brief facilities on Francis Road will enhance north-south connectivity along this neighbourhood street bikeway.

E1.7 River Road (McCallan Road to Middle Arm Greenway)

Extending paved segments of the Middle Arm Greenway westward along the south side of River Road to meet McCallan Road supports a continuous recreational and off-street connection to the Railway Greenway. Previously identified for short-term completion through capital planning, this route serves recreational uses and connections to the City Centre.

E1.8 Westminster Highway (Lynas Lane to No. 2 Road)

This segment has been prioritized to create a safer connection southbound from the No. 2 Road Bridge to the Lynas Lane neighbourhood bikeway. This connection to the No. 2 Road Bridge was noted as a key network gap during Phase 1 engagement, with interim solutions aligning with priorities to address the top 20 collision prone intersections. Upgrades to the **intersection of Lynas Lane and Westminster Highway** are thus proposed to

support necessary cyclist turning movements from westbound to southbound (e.g., bike boxes). Providing cycling facilities on No. 2 Road connecting to Granville Avenue is a medium-term priority.

E1.9 Steveston Highway (Railway Avenue to Shell Road)

The Steveston Highway route, identified in the City's recent 5-year cycling capital plans, offers the most direct east-west connection between Ironwood and Steveston. Envisioned as a multi-use path / greenway, this route will provide an off-street connection between two key recreational routes: Railway Avenue Greenway and Shell Road Trail. A continuous facility on Steveston Highway will further integrate the southern termini of the planned neighbourhood street bikeway facilities at Mortfield Gate and Bamberton Drive within the wider cycling network and provide connections to the future Fraser River Crossing cycling facilities.

E1.10 Westminster Highway (Fraseride Gate to Smith Crescent)

In addition to aligning with the priority to close gaps caused by existing shared road segments, this segment in the community of Hamilton was noted as a priority for safety improvements during the first phase of engagement. Respondents noted close calls with motorists and sought further delineation and separation for cyclists. Desires to improve this segment have also been reflected in recent cycling capital plans. These improvements also enhance regional connections to New Westminster and Burnaby.

E1.11 Garden City Road – South Arm Park – Ryan Road (Francis Road to Steveston Highway)

Garden City Road is a continuous north-south facility with proximity to many locations in the City Centre and Central Richmond. Hence, short-, medium-, and long-term improvements are planned for this route, beginning with a connection to the new Steveston Highway route. Improvements also complete gaps in the existing multi-use path between Francis Road and Williams Road, which currently ends in narrow markings

at Williams Road. This project aligns with recent cycling capital plans as well as stakeholder feedback.

With a new multi-use path facility planned for the south side of Steveston Highway, upgrades to the existing pedestrian **intersection at Mortfield Gate** are proposed. In particular, cyclist push buttons and green paint.

E1.12 No. 2 Road (Williams Road to Steveston Highway)

A continuous cycling facility on No. 2 Road has not been envisioned within the horizon of this plan, recognizing the strengths of the nearby Railway Avenue Greenway. However, extending the recent multi-use path upgrades south of Steveston Highway along No. 2 Road to Williams Road remains an established priority from previous planning decisions. As Williams Road is envisioned as a key route in the cycling network, this is a logical terminus for the No. 2 Road multi-use path.

E1.13 Intersection Upgrades and Missed Connections

Alderbridge Way

Much of the multi-use path on Alderbridge Way between Garden City Road and Shell Road has been completed in recent years. The **missed connection west of No. 4 Road** remains a priority in the short-term once property has been acquired. Upgrades to the busy **intersection of Alderbridge Way and Shell Road** present an opportunity to better integrate these two off-street facilities. These short-term improvements are aligned with City priorities to address the top 20 collision-prone intersections and the short-term completion of both multi-use paths.

Garden City Road (Cook Road to Citation Drive)

Cyclists and vehicles **share the existing right turn lane for Citation Drive** heading southbound on Garden City Road. Greater delineation for cyclists, including bike lanes and green paint at conflict points are beneficial cycling improvements that can be undertaken in this area.

Odlin Road at Shell Road

Recently, a neighbourhood street bike route has been completed on Odlin Road, ending in a cul-de-sac just west of Highway 99. While dependent on wider support from the Ministry of Transportation and Infrastructure, completing this **missed connection between Odlin Road and Shell Road** is an aspiration in the short-term. This emphasis responds to the potential to develop a continuous east-west connection from the Shell Road Trail to the City Centre while overcoming barriers presented by highway crossings (key feedback from Phase 2 engagement).

Williams Road at No. 3 Road

The intersection of **Williams Road and No. 3 Road** experienced a relatively high number of collisions involving cyclists from 2014 to 2019, with safety concerns confirmed by public feedback. Short-term improvements will focus on cyclist through traffic on Williams Road, including separating the bike lane from the right turn lane in both directions up to the intersection.

Saunders Road at No. 3 Road

The Woodwards Road and Saunders Road neighbourhood bikeway relies on a pathway from the rear lane to reach No. 3 Road. Upgrades to this pathway and the **pedestrian-controlled intersection at No. 3 Road and Saunders Road** are planned in the short-term to increase the safety of cyclists crossing the arterial.

Westminster Highway at No. 5 Road

Current conditions on **Westminster Highway at No. 5 Road** include the eastbound bike lane merging into the right turn lane prior to the intersection. As one of the top 20 collision prone intersections with high traffic volumes, upgrading this shared road segment is one of the priorities for short-term improvements.

Westminster Highway at Southbound Highway 99 On-Ramp

Currently, narrow markings in the bike-accessible shoulder on Westminster Highway direct cyclists heading eastbound toward the Highway 99 overpass with no markings where conflicts could emerge with motorists. In addition, safety concerns about this exit ramp were expressed during public engagement. In coordination with the Ministry of Transportation and Infrastructure, similar green paint treatments used in vehicle turning lanes at the intersection of Westminster Highway and No. 5 Road are suitable improvements.

E2 Medium-Term (2027-2031)

E2.1 Garden City Road (Granville Avenue to Francis Road)

Completion of a continuous route on Garden City Road is planned for the medium-term, establishing a foundation to continue to improve this north-south corridor within Central Richmond. This segment between Granville Avenue and Francis Road will also complete the final leg of a central loop of directional bike lanes on Garden City Road, Williams Road, Railway Avenue, and Granville Avenue that are well connected to the wider cycling network.

As part of these improvements, upgrades to the **off-set intersection of Garden City Road with Bowcock Road and Dayton Avenue** should also be undertaken. Improvements to this intersection (off-set by 60 metres), such as cyclist push buttons and green paint, would improve safety for accessing nearby schools.

E2.2 No. 2 Road (Westminster Highway to Granville Avenue)

A top scoring segment during our evaluation that was frequently identified as a network gap during Phase 1 engagement, cycling facilities on this section of No. 2 Road are a key priority for the medium-term. Once completed, they will provide a more direct connection from Granville Avenue to the No. 2 Road Bridge with access to Burkeville, YVR, Iona Beach Regional Park, and Vancouver.

E2.3 Westminster Highway (McMillan Way to Graybar Road)

This 300m segment of shared roadway for eastbound cyclists between McMillan Way and Graybar Road was a key focus of safety concerns heard during public engagement. Upgrading shared roads is a top priority for this implementation plan, with corridor constraints along Westminster Highway making improvements more feasible in the medium term. As off-street facilities will be more comfortable with prevailing traffic conditions (including large trucks), it is recommended that the existing off-street multi-use path be continued eastward for this segment.

E2.4 Browngate Road Extension (No. 3 Road to River Parkway)

While complete build out of the Odlin Road and Browngate Road route is unlikely to be achieved in the short-term, this final extension is an important priority to carry into the medium-term. Once completed, it will provide a direct connection between existing protected facilities on River Parkway and planned protected facilities on Sexsmith Road.

E2.5 Capstan Way (River Road to Garden City Road)

Development and the associated completion of off-street cycling facilities is ongoing along Capstan Way. A continuous cycling route is aspirational for the medium-term, with connections to protected facilities on Sexsmith Road and a future extension of River Parkway, as well as the new Capstan Canada Line Station. Once off-street facilities have been completed in all directions, the high-traffic **intersection of Sexsmith Road and Capstan Way** would benefit from the installation of a protected intersection to support of safe through and turning movements for cyclists.

E2.6 No. 3 Road (Browngate Road to Alderbridge Way)

Presently, there are no cycling facilities heading southbound on this segment of No. 3 Road. While dependent on development activity due to corridor constraints, addressing this network gap in the medium-term provides enhanced permeability in the City Centre and a direct link between

other parts of the network via Lansdowne Road, Cook Road, and Browngate Road. This connection was also high scoring in the segment level analysis, and part of a key network gap from Capstan Way to Alderbridge Way emphasized during Phase 1 engagement. The northern segment of this gap is addressed with the River Parkway Extension (E2.7).

E2.7 River Parkway Extension (Cambie Road to Capstan Way)

Completion of the off-street facilities on Capstan Way through ongoing development presents a synergistic opportunity for northward expansion of the pedestrian and cycling facilities within the River Parkway corridor, with connections to the Middle Arm Greenway. With no southbound facility and an abundance of driveways on parallel segments of No. 3 Road, a multi-use path along the River Parkway right-of-way provides a suitable and safer alternative for cyclists in the medium-term.

E2.8 Cambie Road (Shell Road to No. 6 Road)

The completion of Shell Road in the short-term presents an opportunity to connect a cycling facility on Cambie Road into the wider cycling network. One of the key pieces of feedback received pertaining to connectivity during Phase 1 engagement was the lack of connections to East Cambie and East Richmond. This route addresses that need, with connections King George Park, Cambie Community Centre, Cambie Secondary School, and businesses in the Jacombs Road, Viking Way and No. 6 Road areas.

E2.9 No. 6 Road (Cambie Road to Commerce Parkway)

Filling in the gaps of multi-use paths between Cambie Road and Commerce Parkway along No. 6 Road supports key themes from public engagement, including prioritizing network gaps, connections to East Richmond, and overcoming the barriers of crossing major highways. Hence, this segment on No. 6 Road is also envisioned to be completed in the medium-term together with Cambie Road. Similarly, improvements to bring the multi-use path right through the **intersection of No. 6 Road with Cambie Road**, creating strong linkages between these routes, are considered as part of this project.

E2.10 Lansdowne Road (Minoru Boulevard to Garden City Road)

A top scoring east-west route in the segment level analysis, Lansdowne Road is dependent on development for full completion. Providing a direct connection to the Lansdowne Canada Line Station and Kwantlen Polytechnic University, this segment is proposed for the medium-term, completing a continuous east-west route within the City Centre.

Current conditions at the **intersection of Lansdowne Road and Garden City Road** include high-traffic volumes and lanes divided by a median. With Garden City Road being an important route in the wider cycling network and a need to accommodate left turning cyclists, intersection improvements should be undertaken with the completion of the eastern terminus on the Lansdowne Road route.

E2.11 Cook Road (No. 3 Road to Garden City Road)

Cook Road presents another opportunity for east-west connectivity in the City Centre, with connections to the Richmond-Brighouse Canada Line Station, bus mall and William Cook Elementary from Garden City Road. It is envisioned as a medium-term opportunity to improve connections within the City Centre. In the future, cycling facilities could be extended to Minoru Boulevard and Gilbert Road via development activity and Minoru Park.

E2.12 Cooney Road (Lansdowne Road to Granville Avenue)

Supporting the development of a finer grain network in the City Centre, with connections to Lang Centre and Richmond Public Market, Cooney Road is also proposed for the medium-term. A route that is dependent on development, Cooney Road cycling facilities are eventually envisioned to form a continuous route with Brown Road in the long-term. In the interim, this segment enhances connections between several other nearby routes.

E2.13 Moncton Street (No. 1 Road to Railway Avenue)

Steveston has an abundance of cycling destinations, with several meandering neighbourhood street bikeways and multi-use paths. This facility on Moncton Street would provide a direct east-west route into Steveston Village from Railway Avenue.

E2.14 Steveston Highway (Shell Road to Sidaway Road)

This segment of Steveston Highway fulfills three important objectives: enhanced connections to Ironwood, an improved crossing of Highway 99 for cyclists, and potential connections to the future Fraser River Tunnel. Completing the entire route is dependent on improvements being made by the Ministry of Transportation and Infrastructure within their jurisdiction.

E2.15 Shell Road (Steveston Highway to Horseshoe Slough Trail) and Rice Mill Road (No. 5 Road to Fraser River Tunnel)

These segments along Shell Road and Rice Mill Road present an opportunity for improving cycling connections to the future Fraser River Tunnel within municipal jurisdiction and on roads with lower traffic volumes. Upgrades are envisioned to occur in tandem with future provincial upgrades to the new Fraser River crossing.

E2.16 Intersection Upgrades and Missed Connections

Railway Avenue

The segment of Railway Avenue between Garry Street and Moncton Street was frequently noted as a priority upgrade during Phase 1 engagement. Extending an off-street facility for all ages and abilities to complete the existing multi-use pathway is targeted for the medium-term. This continuity is also a suitable first step to addressing the relatively high number of collisions involving cyclists recorded at Garry Street and Railway Avenue.

Two existing pedestrian intersections on Railway Avenue – Woodwards Road and Colbeck Road – would also benefit from upgrades to their current

pedestrian crossings. Adding cyclist push buttons and green paint will support connections between these neighbourhood street bikeways and the on- and off-street cycling facilities on Railway Avenue.

Williams Road

Two nearby intersections on Williams Road met the criteria for improvements and have been prioritized in the medium term. **Williams Road and Garden City Road** experienced a high number of collisions involving cyclists from 2014 to 2019 and has direct connections into South Arm Community Park, McRoberts Secondary School and South Arm Community Centre. This intersection, and the nearby **intersection of Williams Road and Ash Street** (Parkside Neighbourhood Bikeway) would benefit from improvements such as cyclist push buttons and green paint to increase cyclist safety.

Shell Road

The high traffic **intersection of Williams Road and Shell Road** should be upgraded to support transitions between the bi-directional facilities on Williams Road and the multi-use path on Shell Road. A pedestrian and cyclist-controlled intersection is also proposed for the **Shell Road Trail crossing at Blundell Road**. More time has been allowed to develop improvements to these intersections by the medium-term, recognizing the adjacent rail line and need for collaboration.

Odlin Road and Garden City Road

While the Browngate Road extension at No. 3 Road is an important contribution to the complete build out of the Odlin Road and Browngate Road route, upgrades to the **intersection of Odlin Road and Garden City Road** are also worthy of consideration for the medium-term. Vehicle turning lanes and medians make this a wide intersection to cross for cyclists and pedestrians. Improvements such as bike boxes and cyclist-activated signals would benefit cyclists making left turns at this intersection.

Minoru Boulevard

There are currently two brief **shared road segments on Minoru Boulevard** located in both directions north of Elmbridge Way and travelling northbound between Minoru Gate and Granville Avenue. Both locations are proposed for bike lane upgrades in the medium-term.

E3 Long-Term (2032-2036)

E3.1 Gilbert Road (Granville Avenue to Steveston Highway)

Gilbert Road was one of the top new routes requested during both phases public engagement. Serving similar trips to a facility on No. 2 Road or No. 3 Road, a facility on Gilbert Road provides greater coverage. Once completed, it will provide a north-south route midpoint between Garden City Road and Railway Avenue, placing most Central Richmond destinations within 800 metres of the cycling network.

E3.2 Blundell Road (No. 1 Road to Shell Road Trail)

With two future neighbourhood centres and the potential to act as a future cycling crossing of Highway 99, Blundell Road is the primary candidate to provide similar coverage (i.e., 800 metres) for east-west travel in Central Richmond. Further improvements along Blundell Road to improve the 90-metre **off-set intersection of the Midtown Neighbourhood Bikeway with Moffatt Road** should also be considered as this route is built out in the long-term.

The **intersection of Blundell Road and Railway Avenue** has high traffic volumes and experienced a higher number of collisions involving cyclists from 2014 to 2019. Improvements are recommended with the addition of a facility to Blundell Road, given the potential for increased turning movements by cyclists.

E3.3 Westminster Highway (McCallan Road to Gilbert Road)

In the long-term, the segment of Westminster Highway between McCallan Road and Gilbert Road will be stitched into the surrounding network, with improved connections to Thompson and the Railway Greenway. Right of way constraints between Gilbert Road and Garden City Road push continuous facilities on Westminster Highway beyond the long-term, with connections to River Road and Lansdowne Road playing an important role in maintaining east-west connectivity through the City Centre.

These improvements will establish cycling facilities in all directions at the **intersection of Westminster Highway and No. 2 Road**. Given the previously mentioned needs for cyclists to turn at this intersection and the higher vehicle volumes, intersection improvements are critical in the long-term. As one of the top 20 collision prone intersections, improvements may be undertaken on a shorter timeline.

E3.4 Brown Road Extension (Odlin Road to Lansdowne Road)

A continuous north-south facility from Cooney Road to Brown Road and Sexsmith Road is envisioned in the long-term and is dependent on development to create the opportunity to open this permeability between Lansdowne Road and Alderbridge Way. Hence, this high scoring route is to be completed over a longer time horizon. Once constructed, cyclists will have an alternative to No. 3 Road and Garden City Road for access to City Centre destinations, Sea Island and Vancouver.

E3.5 River Road (No. 2 Road to Lansdowne Road)

River Parkway is the longest protected facility in the City Centre with opportunities to expand. Completion of the western leg of this route is targeted for the long-term, removing an awkward network gap in front of the Richmond Olympic Oval and improving access from No. 2 Road.

E3.6 Minoru Boulevard Extension (River Parkway to Alderbridge Way)

Redevelopment along Alderbridge Way will present opportunities to extend Minoru Boulevard, potentially within this long-term planning horizon. When creating a **new intersection at the existing River Parkway protected bike lane facility**, cycling connections should be considered during intersection design with extension of the Minoru Boulevard cycling route northward from Alderbridge Way.

E3.7 No. 3 Road

Continuous cycling facilities on No. 3 Road through the City Centre were a top safety improvement put forward during Phase 1 engagement, scoring high during evaluations, and are planned for the long-term. To complete No. 3 Road, the following segments are identified within this planning horizon:

River Road to Bridgeport Road (development dependent)
Capstan Way to Browngate Road (southbound only)
Cook Road to Granville Avenue

In addition to serving north-south connectivity, these improvements are important for network connections to Canada Line stations as well as the Moray Channel and Airport Connector Bridges.

The **intersection of No. 3 Road and Granville Avenue** experiences a high number of collisions involving cyclists and is one of the top 20 collision prone intersections. Hence cycling improvements should be undertaken for this intersection, with considerations for cyclist turning movements at this southern terminus of the No. 3 Road facility.

E3.8 River Road (No. 3 Road to Tait Waterfront Park Trail)

One of the most requested new routes during public engagement was the creation of a continuous route from the Canada Line Bridge to the Middle Arm Trail. A continuous waterfront-oriented alignment is beyond the horizon of this plan, with all improvements dependent on development activity. However, this initial alignment is a suitable aspiration for the long-

term, with good connections to the existing network (i.e., No. 3 Road and Great Canadian Way).

E3.9 Middle Arm Greenway / River Road (Capstan Way to Cambie Road)

Connecting the current Middle Arm Greenway (off-street multi-use path) from Capstan Way to Cambie Road will provide wider network connections for users of future cycling facilities on Cambie Road, as well as providing a quieter north-south alternative to No. 3 Road. In the future, northward expansion under the Moray Channel and Airport Connector Bridges presents another opportunity to close a network gap.

E3.10 River Road (Shell Road to No. 6 Road)

“Make all of River Road along the North Arm a safer bike route” received the most upvotes of any new route requested on the Ideas Board during Phase 1 engagement, with multiple entries requesting similar extensions on River Road. With the complete route being a considerable undertaking, a first phase is within the considerations of this plan. Acting as an alternate east-west route for East Richmond along a desirable route for road cyclists, this route will extend to facilities on No. 6 Road.

E3.11 No. 6 Road (River Road to Bridgeport Road)

Completion of the northern segment of the multi-use path on No. 6 Road will complete a major grid for cycling connections in East Cambie. It will also service industrial destinations and provide an alternative route from Hamilton to northern destinations in Richmond.

E3.12 Blundell Road Extension through Southeast Richmond

This potential route between No. 6 Road and Nelson Road on Blundell Road provides an alternative route from Hamilton to southern destinations in Richmond. Portions of the route already exist (Savage Road to No. 7 Road) while significant road construction is required to create the entire route. The portion between No. 7 Road and No. 8 ad is planned for development by the Vancouver Fraser Port Authority.

E3.13 Further Intersections and Missed Connections

Garden City Road and Sea Island Way

The **intersection of Garden City Road and Sea Island Way** was the most requested for improvements during public engagement, with right of way constraints challenging potential solutions to the **shared road segment approaching Sea Island Way in the southbound direction**. Safety improvements are being considered here as part of efforts to address the top 20 collision prone intersections. Cycling specific improvements should also be prioritized by the long-term, considering the elevated number of collisions involving cyclists recorded here.

Westminster Highway and Garden City Road

The intersection of **Westminster Highway and Garden City Road** would benefit from greater protection and delineation to support safe through and turning movements for cyclists. As the terminus of the Westminster Highway route east of the City Centre, cycling turning movements continue to be necessary here.

Williams Road and Railway Avenue

As an established area of the cycling network that experiences a relatively high number of incidents involving cyclists, the **intersection of Williams Road and Railway Avenue** is a good candidate for upgrades to support transitions between bi-directional facilities and a multi-use path.

Westminster Highway and Birch Street

The current **alignment of the Parkside Neighbourhood Bikeway on Birch Street** connects to Westminster Highway at a divided median. If this intersection cannot be upgraded by the long-term to connect cyclists to Westminster Highway travelling westbound, an alternative alignment such as Alder Street should be considered.

Odlin Road and No. 4 Road

The **intersection of Odlin Road and No. 4 Road** would benefit from improvements such as cyclist push buttons or paint to increase cyclist visibility and priority where the Odlin Road Neighbourhood Bikeway crosses a major street.

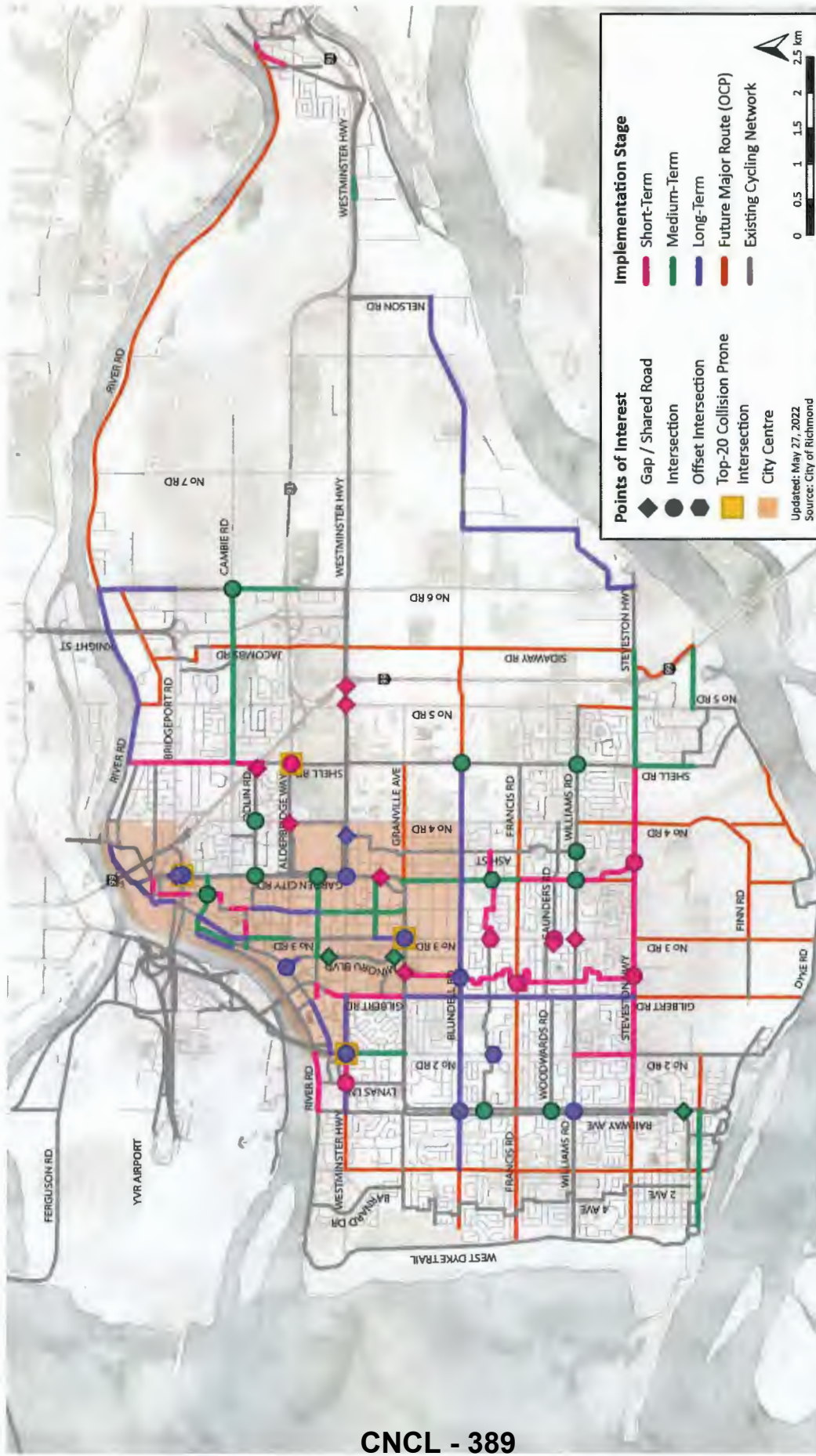
No. 2 Road at Colville Road and Danube Road

The intersection of **Colville Road and Danube Road at No. 2 Road** is offset by approximately 50 metres. Short cycling upgrades to the No. 2 Road corridor in this segment would enhance east-west connectivity along this existing Crosstown Neighbourhood Bikeway.

F Map of Implementation Plan and Future Major Routes

CNCL - 388

Figure F1: Map of Implementation Plan and Future Major Routes



CNCL - 389

Note: Major routes from the OCP are provided to envision and contextualize future expansion of the network beyond the timeframe of this plan. Future planned routes from the CCAP and minor routes from the OCP (i.e., the proposed network of neighbourhood bikeways) are not shown for legibility.

G Infrastructure Design Review Memo

CNCL - 390

Introduction

The City's existing standards for cycling infrastructure were reviewed to help the City refine existing and identify new standards and guidance that may be best suited for the Richmond context. The standards and guidance reviewed reflect both feedback heard during engagement with stakeholders, the public and City staff, as well as future gaps and challenges that may emerge with the types of facilities being considered for Richmond. For example, we heard support for further expansion of neighbourhood bikeways as well as a need for greater protection at intersections. Hence, this memo considers design for offset intersections at major roads, anticipating this future challenge in expanding the network.

In general, this review should be viewed as a companion document to existing design guidance, mostly targeting recommendations beyond the mid-block condition. As facilities continue to be upgraded along corridors, the City should be mindful of the design challenges presented herein. This review does not provide a comprehensive overview of all design considerations, but rather those elements best suited to the current and future challenges anticipated in expanding Richmond's network given the local design context.

Off-Street Bike Paths and Protected Bike Lanes

Off-street bike paths are cycling facilities that are typically separated from traffic by a landscaped boulevard, but sometimes are located further from the roadway (e.g., within parks). Protected bike lanes are on-street cycling facilities adjacent to traffic that include a physical barrier separating cyclists from motor vehicle traffic. Common physical barriers include raised medians, vegetated buffers and bollards.

These types of facilities are broadly considered safe and comfortable for cyclists of all ages and abilities. Off-street bike paths and protected bike lanes are most applicable for streets with high traffic volumes or speeds.

New Standard: Fully Protected Intersection (Dutch Style)

Fully protected intersections (sometimes referred to as "Dutch-Style" intersections because they have been commonly used in the Netherlands) have dedicated queuing and crossing areas for cyclists. These queuing areas are often physically separated from motor vehicles, as well as pedestrians, and the crossing areas may have a different design treatment than the crosswalks to signify separation between user groups.

Protected intersections can be applied on any street where enhanced cycling comfort is desired. They are commonly found on streets with parking-protected cycling lanes or buffered cycling lanes. Where no parking lane exists, a setback can be created by shifting the bikeway or vehicle travel lanes away from one another on the intersection approach. Variants can be applied where there is no cycling facility on the intersecting street, as well as streets with two-way protected cycling lanes.

Current Status in Richmond

Currently, there are no fully protected intersections in the City of Richmond. In the City of Vancouver, the intersections of 1st Ave and Quebec St, Cornwall Ave and Burrard St, as well as Pacific Blvd and Burrard St (shown in Figure 1) provide local examples of this design treatment.

The City of Richmond's Official Community Plan (OCP) states that bike routes should have enhanced crossings at arterial roads and that, where feasible, key segments of the major street bike network should be upgraded to provide physical separation between cyclists and motorists. In addition, the City Centre Area Plan states that where feasible, cycling routes should be physically separated from vehicle traffic on major thoroughfares and major streets.

For street design, the City of Richmond follows their Engineering Design Specifications (EDS) and ensures that designs conform with guidelines from the Transportation Association of Canada (TAC) and the Province of BC. There are currently no design regulations for cycling protected intersections in the City of Richmond EDS. However, as of 2017, the Geometric Design Guide for Canadian Roads, published by TAC provides guidance on protected intersections (Chapter 5, Sub Section 5.6.2.3, Protected Intersection).

Figure 1: Intersection of Pacific Blvd and Burrard Street (Source: Associated Engineering, n.d.)



Issues and Challenges with Current Facilities

Intersections can be the most dangerous conflict location along cycling routes due to cross directional travel movements and turning motor vehicles. Even if cycling facilities adjacent to roadways are physically protected, if the intersections are unprotected, cyclists can still be exposed to turning vehicles or must wait on the sidewalk where they compete for space with pedestrians.

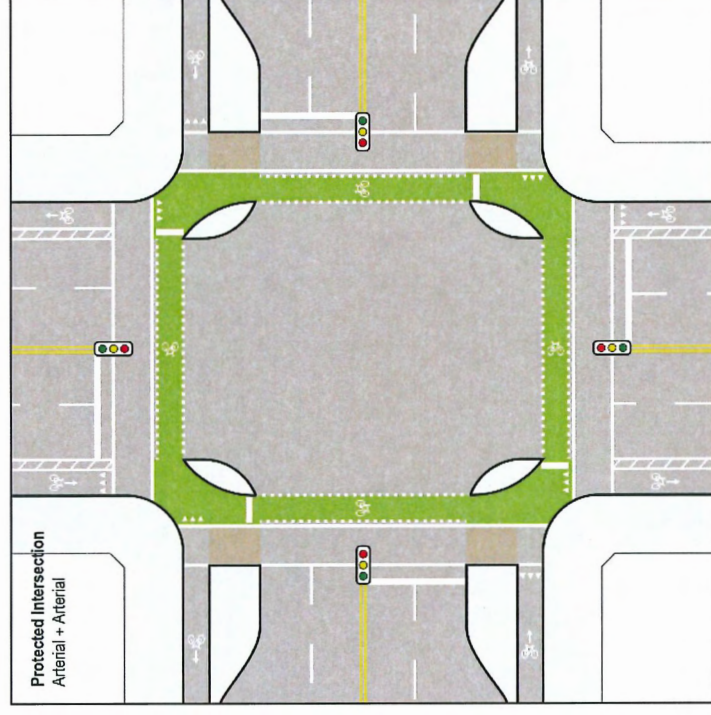
During Phase 1 engagement, 37 mapping pins and 16 ideas board topics centered on improving intersections. Key corridors mentioned were No. 3 Road, Garden City Road and Shell Road, with Garden City Road and Sea Island Way being the most referenced intersection.

Considerations and Recommended Approaches for Richmond

- **Available Space:** Protected intersections may require more space than intersections with unprotected cycling facilities. The amount of space required is dependent on several factors including lane configuration, presence of curbside parking, and turning radius requirements. Right-of-way acquisition may be required at corner locations to separate cyclists and pedestrians.
- **Cycling Lane Setback Distance:** This lateral distance between the cycling facility and the adjacent motor vehicle lane determines most other dimensions at a protected intersection. A setback of 4-6 metres is preferred. If the setback is smaller, a longer clearance distance for vehicle sight lines and additional signal phasing or speed reduction strategies should be applied.
- **Turning Radii:** The corner turning radii should be small enough that vehicles are discouraged from turning faster than 15 km/h. This is typically achieved with an effective turn radius of less than 5.5 metres. Corner islands may have a mountable area to accommodate larger vehicles.

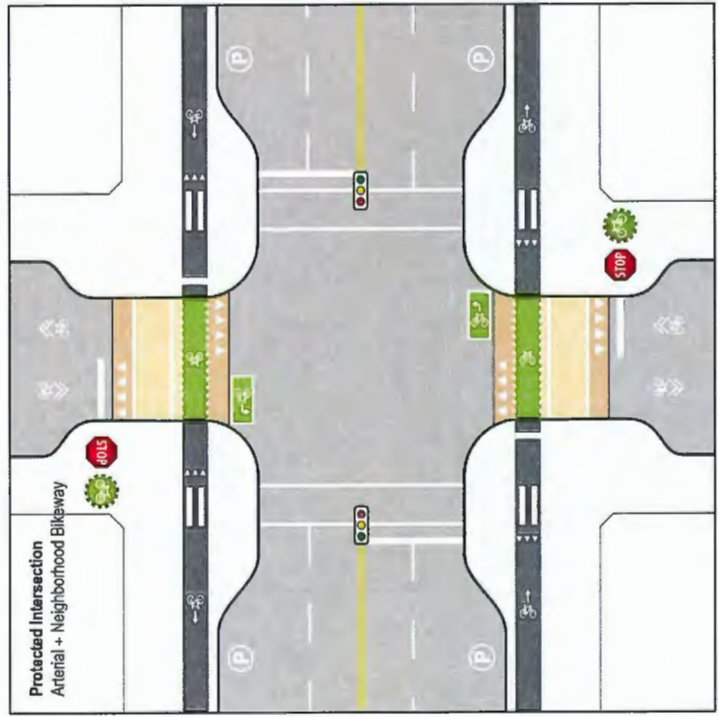
- **Cyclist Queue Areas:** Queuing areas for cyclists should be large enough for the anticipated volume of cyclists and should be at least 2 metres deep (achieved using concrete barricades in Figure 2). A deeper bicycle queue area may be necessary to accommodate trailers, cargo bikes, and higher bicycle volumes.
- **Turning for Motor Vehicles:** A “Turning Vehicles Yield to Cyclists and Pedestrians” sign is recommended where right-turning vehicle movements are permitted at the same time as cyclist and pedestrian movements. Exclusive cyclists signal phase or prohibiting right-turns from vehicles during a red light will reduce these interactions but may negatively impact intersection capacity and throughput.

Figure 2: Protected Intersection (Arterial + Arterial)



- **Vision Impairments:** These intersections may be more challenging for individuals who are visually impaired due to the potential for pedestrian path deflection and challenges in detecting moving cyclists at crossing points. Potential mitigation measures include audible warnings, tactile walking surface indicators and 'Cyclists Yield to Pedestrian' signage.
- **Maintenance:** With the extra design elements and physical separation, these intersections may require specialized sweeping and snow removal practices.
- **Time and Budget:** Fully protected intersections can be expensive when fully implemented with materials like concrete. However, protected intersections can be implemented using interim materials such as paint and plastic bollards.

Figure 3: Protected Intersection (Arterial + Neighbourhood Bikeway)



Further Guidance for Richmond

Several standards and design documents provide further information and advice on intersection geometry, design elements and requirements when constructing fully protected intersections. They also provide further design considerations, applications, and examples. These guidelines include:

- [Transportation Association of Canada \(TAC\), Geometric Design Guide for Canadian Roads, Chapter 5 – Bicycle Integrated Design \(2019\)](#)
- [Government of B.C., Active Transportation Design Guide, Section G.4 – On-Street Bikeway Crossings \(2019\)](#)
- [CROW Design Manual for Bicycle Traffic, Section 6 - Junctions \(2016\)](#)
- [National Association of City Transportation Officials \(NACTO\), Don't Give Up at the Intersection Guide \(2019\), Protected Intersections](#)
- [City of Nanaimo, Manual of Engineering Standards and Specifications, Section 8 – Transportation Standards and Drawings \(2020\)](#)

Neighbourhood Street Bikeways

Neighbourhood street bikeways can be highly comfortable places to cycle for riders of all ages and abilities. These bikeways are located on local streets with low volumes of motor vehicles that travel at low speeds. In these conditions, cyclists share the roadway with motor vehicles with no physical separation from traffic. Often these neighbourhood street bikeways will have traffic calming (design elements to slow, reduce or divert the number of motor vehicles), distinctive directional signage and enhanced crossings at arterial roads (e.g., push buttons specifically for cyclists). They can be relatively low cost to implement compared with physically separated cycling facilities.

New Standard: Offset Intersection at Arterial/Collector Road

A common challenge for implementing neighbourhood street bikeways in Richmond can be the intersections with arterial roads. Historically, arterial roads may have acted as a boundary between different subdivisions that were developed at varying times and may have been designed to discourage through traffic. As a result, local streets may not always connect directly with each other across an arterial. Therefore, intersections for neighbourhood street bikeways often need to be “offset,” where cyclists must travel along a small section of the arterial before crossing (Figure 4). Even in cases where intersections are aligned, adding a pedestrian/cyclist activated crossing at uncontrolled intersections can facilitate safer crossings.

Current Status in Richmond

There are several neighbourhood street bikeways in Richmond that consist of offset intersections. These bikeways include:

- Crabapple Ridge (connects Steveston with Terra Nova)
- Crosstown (connects Railway Ave with Garden City Road)
- Woodwards-Saunders (connects Railway Ave with Parkside bikeway on Ash St)

The OCP provides policy direction to establish a grid of neighbourhood street bike routes including enhanced crossings at arterial roads, but there is no specific guidance regarding offset intersections.

For crossing arterials, the City has installed pedestrian signals with cyclist activated loop detectors in the pavement with a painted bike symbol, along with directional signage. There are no specific design regulations for these offset intersections in the City of Richmond EDS or the TAC Geometric Design Guide. Throughout public engagement, respondents advocated to expand the installation of cyclist push buttons and bicycle signal heads (with several pins located on Ash St using the *Let's Talk Richmond* Mapping Tool).

Issues and Challenges with Current Facilities

Offset intersections along neighbourhood street bikeways can create gaps in the cycling network as they require cyclists to make right and left turns onto another street (usually a higher-volume, higher-speed arterial road) in order to continue in their original travel direction.

There are several design challenges for offset intersections, including ensuring safety, seamless connectivity and wayfinding for those travelling along a neighbourhood bikeway.

During Phase 2 engagement, there was broad support from the community for expanding neighbourhood bikeways, including having more safe crossings at major intersections.

56% of *Let's Talk Richmond* survey respondents selected ‘Safer Crossings at Major Streets’ (e.g., traffic signals, green paint, refuge islands) as their top choice to improve the comfort level of neighbourhood bikeways.

Figure 4: Williams Road and Fourth Ave/Elkmond Road (Source: Google Earth)



Figure 5: Offset Intersection of King Edward Street and Yukon Street (Vancouver, BC)



Considerations and Recommended Approaches for Richmond

When designing these intersections, there are several design considerations including:

- Characteristics of the Intersecting Street:** Selecting the appropriate cycling facility inside and approaching the intersection depends on the width and traffic characteristics of the intersecting street and on whether the neighbourhood street bikeway jogs to the right or to the left. If an intersecting street has traffic speeds and volumes equivalent or similar to the neighbourhood street bikeway, then specialized treatment may not be needed. However, wayfinding (signing and pavement markings) should clearly direct cyclists through the offset intersection.

Figure 6: Offset Intersection (Local Street + Major Street with Parking)

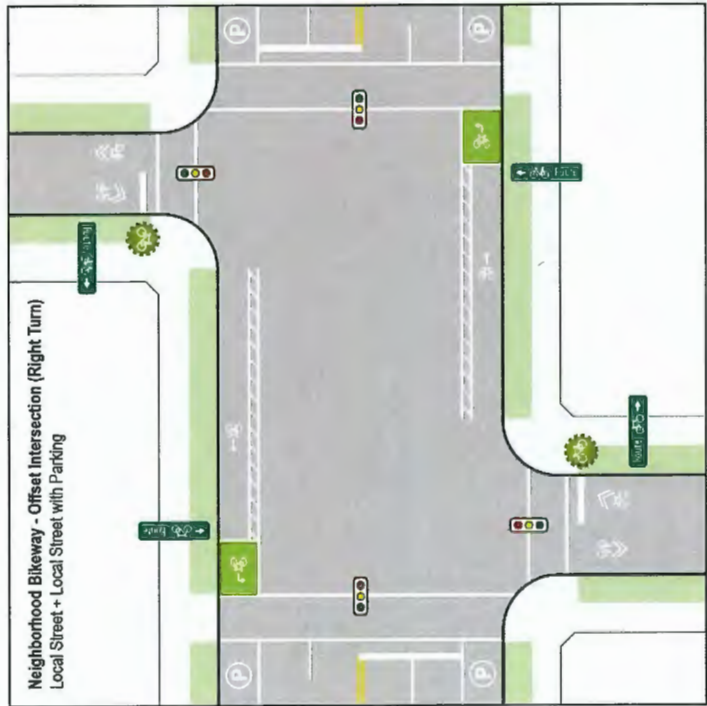
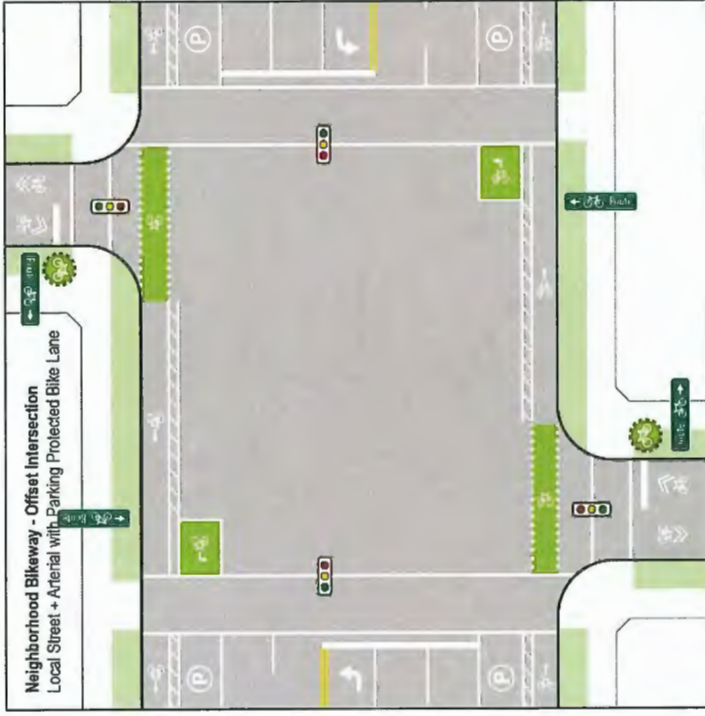


Figure 7: Offset Intersection (Neighbourhood Bikeway + Arterial)

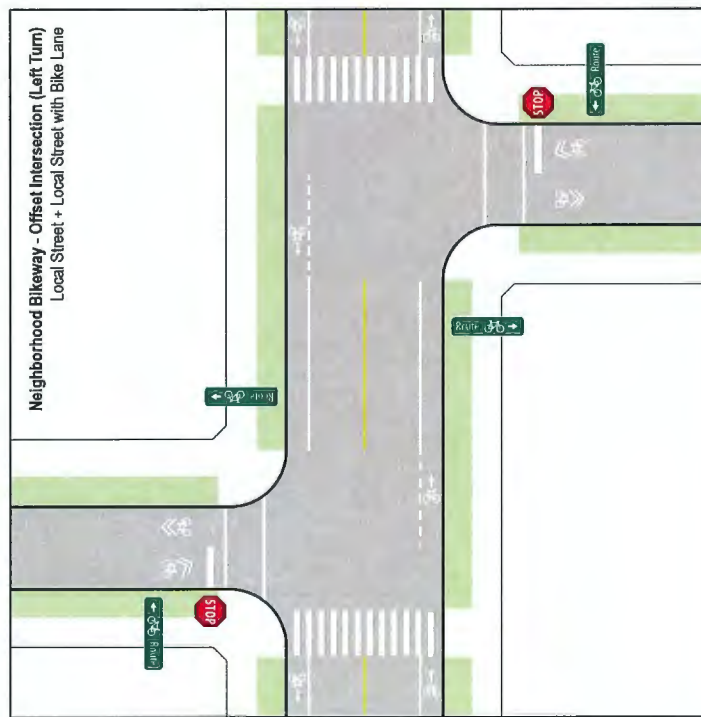


Crossing Facilities:

- One-way cycling facilities (Figure 6 to Figure 8) or separated bi-directional facilities (Figure 5) are preferred for connecting along the section of arterial roadway between the offset segments of a neighbourhood street bikeway. Where there are space constraints on this connecting road segment, these facilities may be accommodated by removing curbside parking. If curb-to-curb space is highly constrained, a shared multi-use path may be suitable (see Table 1 on page 11).
- At right-turn offset intersections, crossing streets with or without cycling facilities, a two-stage turn queue box placed in the on-street parking lane can allow cyclists to reposition and wait for a crossing opportunity (Figure 6 and Figure 7).

- At right-turn offset intersections, on streets with low traffic speeds and volume, centre left-turn lanes can be marked to allow cyclists to turn left from the cross street back onto the neighborhood street bikeway.
- Signalization:** Where the intersection is signalized, adjusting for a longer signal phase, or installing a cyclist-activated signal could help facilitate safe crossing movements. Figure 8 shows the intersection of a neighbourhood bikeway with an existing bike lane. Here, a cyclist activated signal would be a good measure to upgrade the intersection for connecting from the neighbourhood bikeway.

Figure 8: Offset Intersection (Neighbourhood Bikeway + Existing Bike Lane)



Further Guidance for Richmond

There are several standards and design documents that may provide further guidance to the City of Richmond in considering offset intersections for neighbourhood street bikeways. These include:

- [Government of B.C., Active Transportation Design Guide, Section D.2 – Neighbourhood Bikeways \(2019\)](#)
- [National Association of City Transportation Officials \(NACTO\), Urban Bikeway Design Guide, Offset Intersections \(2014\)](#)

Multi-Use Paths and Greenways

Multi-use paths (MUPs) or “greenways” are off-street paved facilities that are shared between a variety of different active transportation modes in addition to cycling including walking, skateboarding, and rolling with mobility aids. These pathways are considered safe for cyclists of all ages and abilities and can be highly comfortable to travel along as they are away from motor vehicles.

The City of Richmond has several MUPs including:

- Railway Greenway (River Road to Garry Street)
- Shell Road Trail (Steveston Highway to Athabasca Drive & Westminster Highway to Highway 99)
- No. 2 Road (Steveston Highway to Dyke Road)
- Westminster Highway (No. 6 Road to McMillan Way)

New Standard: Intersections

MUPs can have varying intersection designs when they are crossing streets. Some MUPs may travel in parallel to streets and use the same intersections, while others may follow different corridors and cross streets at mid-block locations. Depending on the context, different types of crossing devices and curb treatments may be used.

Current Status in Richmond

For designing intersections used by MUPs, the City of Richmond follows their EDS and ensures that designs conform with guidelines from TAC and the Province of BC. The EDS detail the curb radii to be used at intersections to ensure designs can accommodate the turning of large vehicles such as transit vehicles, emergency vehicles and/or trucks. The EDS also provides some direction on off-street bike paths “where an off-street bike path intersects a roadway or sidewalk at midblock, bollards or other equivalent speed deterrent measures” should be installed at the sidewalk to deter cyclists from speeding.

In addition, TAC’s Geometric Design Guide for Canadian Roads provides some guidance on multi-use paths at intersections (Chapter 5, Sub Section 5.6.3).

60% of *Let’s Talk Richmond* survey respondents either strongly agreed or agreed that multi-use pathways should be upgraded to separate cyclists and pedestrians

Figure 9: Intersection of Alderbridge Way and McClelland Road (Source: Google Earth)



Issues and Challenges with Current Facilities

Intersections deserve special attention due to the confluence of users moving in different directions. While cyclists may be travelling in a dominant travel direction, pedestrians are likely to cross in all directions. In addition, there is the challenge of intersecting space with motor vehicles, particularly at locations where motorists are turning.

Across the City of Richmond there is no consistent intersection treatment for MUPs, as the use of colour and separation measures has evolved over time. While green paint with elephant’s feet is now used for connecting MUPs across a street, there is no consistent design treatment for how MUP intersections connect with different types of cycling facilities.

Throughout public engagement, several comments were received about the design of current intersections for MUPs. The intersection of Williams Road and Shell Road was explicitly noted as having poor-quality design, without paint through the intersection (unlike Alderbridge Way shown in Figure 9) or queuing areas for cyclists.

Considerations and Recommended Approaches for Richmond

When designing these intersections, there are many considerations including:

- **Managing Conflicts Between Turning Motorists and Cyclists:** Separately signalized movements for turning vehicles can reduce conflicts with cyclists and pedestrians but may potentially require additional space for turning vehicle lanes, potentially reducing intersection capacity for vehicle throughput due to longer signal cycles.
- **Accommodating Cyclist Turning Movements:** Some cyclists may be turning between the MUP and the cross street. This movement can be facilitated by providing waiting areas or bike boxes for turning cyclists.

Figure 10: Separated Bicycle and Pedestrian Bend-In Crossing (Source: B.C. Active Transportation Design Guide)



- **Bend-in or Bend-out Intersections:** Bends can slow cyclists and improve alignment at crossings. Bend-out intersections can provide more queuing space for pedestrians and cyclists and can provide motorists with more time and space to react. However, a wider right of way is typically required and sightlines may be impacted.
- **Tightening Intersections:** Having smaller curb radii can create a shorter crossing distance for people walking and cycling, as well as encourage slower motor vehicle turning speeds. However, the application of this treatment is highly dependent on what type of control/design vehicle is considered and the assumed motor vehicle speed. That is, tightened intersections are most achievable on lower speed roads with few or no specialized vehicles.
- **Slowing Down Cyclists Safety:** While physical speed deterrents such as bollards or maze gates can be effective to slow down cyclists, they are not recommended as they also pose a safety risk and inconvenience. Instead, pavement paint, signage and other design strategies that do not present a physical interruption to cyclist movements are strongly preferred. Where a physical element is required to prevent vehicular access, flexible bollards or low-height centre medians could be considered.

- **Surface Treatment:** Enhanced surface treatment (e.g., combination of pavement markings and symbols) is recommended at intersections to improve visibility and reinforce the presence of a “mixing” zone.
- **Separating People Walking and Cycling:** As volumes of cyclists and pedestrians increase, it may become important to separate these different user groups. Considerations of how and when to separate cyclists and pedestrians are discussed in detail in the next section.

Further Guidance for Richmond

There are certain standards and design documents that may provide further guidance to the City of Richmond for intersections with MUPs crossing including:

- Government of B.C., Active Transportation Design Guide, Section G – Intersections + Crossings (2019)
- City of Toronto, Multi-Use Trail Design Guidelines, Section 5 – Trail Crossings (2015)
- Transport for London, Cycling Design Standards, Chapter 5 – Junctions and Crossings (2014)
- U.K. Department of Transport, Local Transport Note 1/20 Cycle Infrastructure Design, Section 10 – Junctions and Crossings (2020)
- National Association of City Transportation Officials (NACTO), Don’t Give Up at the Intersection Guide (2019)

New Standard: Separation & Bike Calming Measures

MUPs also vary in their design in how they separate different types of users (e.g., pedestrians, cyclists), and the type of strategies employed to reduce the speed of users travelling at high speed. The recommendation to separate cyclists and pedestrians on pathways is highly dependent on the mix and volume of people walking and cycling on the MUP.

Current Status in Richmond

In Richmond, there are select short MUPs that separate pedestrians and cyclists, including Lansdowne Road between Alderbridge Way and Cedarbridge Way, and the northern extent of Sexsmith Road. The Railway Greenway and Garden City MUP (Williams Road to Francis Road) have directional separation, but not user separation between cyclists and pedestrians.

The OCP provides policy direction to improve the connectivity of pedestrian and rolling network, but does not provide direction on the design, including separation and bike calming of these facilities.

In the City of Richmond EDS, there are design regulations for traffic calming and where an off-street bike path intersects a roadway at midblock, but no specific design regulations for MUPs. However, TAC's Geometric Design Guide for Canadian Roads does provide some guidance on MUPs (Chapter 5, Sub Section 5.6.3).

Issues and Challenges with Current Facilities

There is potential for conflicts between different users on MUPs due to the speed differential between cyclists and other pathway users, and among cyclists with different skills and comfort levels. This issue has gained attention in recent years as e-bikes, e-scooters and other motorized micromobility devices widen the difference in average travel speed between users.

These issues were reiterated by various stakeholders throughout the public engagement process. The City's Advisory Committee on the Environment discussed the need for separating cyclists and pedestrians in busy areas (e.g., Steveston Boardwalk) and the Richmond Active Transportation Committee also provided comments on the need to safely share trails and pathways with pedestrians. There was discussion of this through the *Let's Talk Richmond* Ideas Board, with greater support given for separation of modes on multi-use pathways than there was for speed limits.

73% of *Let's Talk Richmond* survey respondents in Phase 2 supported separating cyclists and pedestrians as a measure to encourage more appropriate cycling speeds on shared pathways. Second was bike calming (e.g., rumble strips, raised crossings, painted warnings), with 47% support from respondents.

Considerations – User Separation

- Pathway Context and Thresholds:** The separation of cyclists (and other similar user types) from other pathway users is based on several factors including available right-of-way width, total volume of current and anticipated pathway users, and ratio of pedestrians to all daily pathway users. The TAC Geometric Design Guide for Canadian Roads provides thresholds for user separation (Table 1).

Table 1: TAC Guidance for User Separation by MUP Width

User Ratio for Separation	Daily Anticipated User Volume for Various Pathway Widths (Users)		
	3m	3.5m	4m
More than 20% of users are pedestrians and total user volumes are greater than 33 persons per peak hour	1,000	1,200	1,400
Less than 20% of users are pedestrians and total user volume is greater than 50 persons per peak hour	1,500	1,750	2,000

In addition to TAC, guidance from the City of Vancouver recommends separating pedestrians and cyclists if there are 1,500 combined users on a MUP that is between 3 to 4 metres in width.

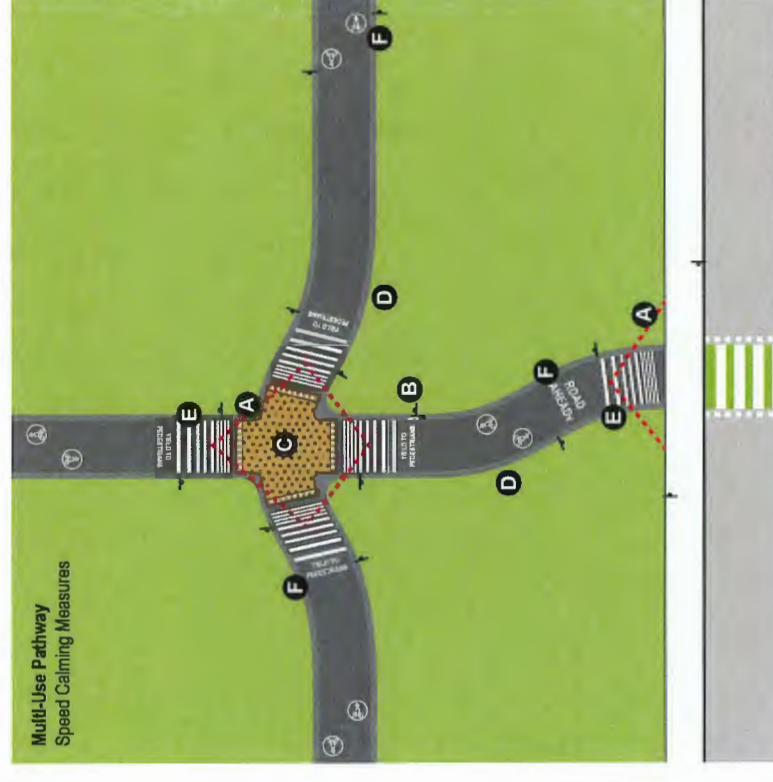
- **Forward Planning:** When designing a MUP, the future context and number of users should be considered to determine when user thresholds may be reached, and if there are potential cost savings to design for these higher user volumes in present construction.
- **Cost:** Compared to shared MUPs, separated MUPs require additional space and engineering treatments, which can be more costly especially if additional property needs to be acquired.
- **Maintenance and Cleaning:** Drainage can be a concern, particularly in the winter with snow and ice accumulation. Separated facilities may require different levels of snow and ice control, including the use of specialized maintenance equipment to clear the width of the facility.
- **Design Elements:** Visual cues are needed to ensure separation is clear. In addition to visual cues, tactile cues can be provided to reinforce that there are two facilities with different user groups.

Considerations – Bike Calming Measures

- **Sight Distance:** MUP sight distance is the length of the pathway that is observable by a user (A in Figure 11). Providing appropriate sight distance allows the pathway user to recognize an obstruction such as debris, other pathway users, and intersections, with enough time to take the appropriate action to avoid conflict. A minimum unobstructed sightline zone starting 10 metres in advance of crossing pathway users is recommended. Directional and warning signage should be installed outside of the unobstructed sightline zone.
- **Lighting:** Additional lighting can be considered to ensure any hazards or pathway users are visible along the corridor and at crossing locations.
- **Barriers and Markings:** The use of rigid bollards or maze gates have been shown to increase the likelihood of conflicts and collisions for cyclists and are no longer recommended. Where a physical element is required to prevent vehicular access, flexible bollards or low-height centre medians should be considered

- instead. Non-physical measures for bike calming such as signage (B) and pavement markings (F) may be difficult to enforce in practice but can complement/reinforce other treatments.
- **Surface Treatment:** Enhanced surface treatment (e.g., unique paving materials - C) can reinforce the presence of a “mixing” zone.
- **Bend-in or Bend-out Intersections:** Bends (D) can slow cyclists and improve alignment at crossings
- **Tactile Striping:** Tactile striping (E) can be a cost-effective and subtle way to slow down cyclist speeds but may present further challenges for ongoing maintenance (including increased costs).

Figure 11: Bike Calming Measures for Multi-Use Paths



Further Guidance for Richmond

There are certain standards and design documents that may provide further guidance to the City for intersections with MUPs crossing including:

- [Transportation Association of Canada \(TAC\), Geometric Design Guide for Canadian Roads, Chapter 5 – Bicycle Integrated Design \(2019\)](#)
- [Government of B.C., Active Transportation Design Guide, Section E – Multi-Use Facilities \(2019\)](#)
- [City of Toronto, Multi-Use Trail Design Guidelines \(2015\)](#)

Unique Cycling Facilities at Intersections

There are cases that require special design attention as they can be areas where there is higher risk for vulnerable road users, such as those walking and cycling. For cycling, these can include motor vehicle slip lanes, on/off ramps, moving around bus stops, and how to transition from one cycling facility type to another. These cases apply to multiple types of cycling facilities (e.g., MUP, off-street bike path, bike lane, etc.)

Figure 12: Intersection of Westminster Hwy and No. 5 Road (Source: Google Earth)



New Standard: Motor Vehicle Slip Lanes and On-/Off-Ramps

Slip lanes (or channelized turn lanes) are road connections through street corners that allow motorists to make a higher speed right turn (yield only to oncoming traffic) and provide an 'island' for people walking and cycling. These turning lanes pose similar challenges to on-/off-ramps, which are lanes designed for motorists to speed up/slow down between a highway and a local road.

Current Status in Richmond

The City has several slip lanes that intersect with cycling routes including:

- Shell Road at Westminster Highway
- Garden City Road at Sea Island Way
- Garden City Road at Alderbridge Way
- Westminster Highway at No. 5 Road (Figure 12)

In addition, there are several highway on-/off-ramps in Richmond that have cycling facilities crossing them including:

- Steveston Highway to/from Highway 99
- Westminster Highway to/from Highway 99

The EDS for the City of Richmond provide direction for intersection design, and all intersections should be designed in accordance with guidelines from TAC and the Province of BC. Generally, the EDS does not provide specific guidance for slip lanes or on-/off-ramps but would also follow the same guidelines. The EDS does state that slip lanes and channelized turn lanes "shall be sufficient to provide landing areas on sidewalk for pedestrians and for signal equipment." In addition, most highway on-/off-ramps are within provincial jurisdiction.

Issues and Challenges with Current Facilities

Slip lanes and on-/off-ramps facilitate high motor vehicle speeds through the crossing areas, presenting challenges for cyclists. These locations typically have relatively poor sightlines for drivers and create an additional barrier for people walking and rolling to cross a street. In addition, the refuge island may be limited in size and provide inadequate queuing space for people walking and cycling.

Comments received during Phase 2 engagement referenced these types of crossings as being a key barrier to travel between different areas of Richmond. For example, one respondent using the *Let's Talk Richmond* Mapping Tool commented that:

"Crossing Highway 99 at Steveston Highway is incredibly intimidating, even for experienced cyclists. It feels like there's a steady stream of cars criss-crossing everywhere. The road is narrow, and there's no accommodation for cyclists."

Considerations and Recommended Approaches for Richmond

Best practice for user safety is to redesign these intersections to be more compact, with shorter crossing distances for people walking and rolling as well as better sightlines between users. Changes may include removing slip lanes, as the City recently did at the Garden City Road-Lansdowne Road intersection. For highway on-/off-ramps, this may include using diamond interchanges, which use traffic signals and require 90-degree turns between the on-/off-ramps and cross street.

However, this type of infrastructure re-design can be expensive, take time, and may be infeasible due to existing conditions or constraints. In these circumstances, there are other lower cost but less effective design treatments that can make these crossings safer for people walking, cycling, and rolling. These design treatments may include

realignment of cycling/vehicle space, additional signals and raised medians. When designing these treatments, consideration should be given to the following:

- **Motor Vehicle Speed and Volume:** Generally, for lower speed and volume roadways, crossing designs with cycling lanes should be based on the cyclist having the right-of-way by requiring drivers to yield. The opposite is applied for higher speed and volume roadways where drivers would have the right-of-way and cyclists may be required to cross during gaps in traffic flow if the crossing location is not signalized.

- **Redesigning the Intersection:** All intersection users can better see each other and have more time to react if the slip lane or on-/off-ramp approaches the intersection at an angle more perpendicular to the cross street. Bollards and other design interventions can be used to augment existing cycling facilities and to encourage cyclists to arrive at the intersection crossing at an angle approaching perpendicular (i.e., at a 90-degree angle). In instances where redesigning the intersection is not feasible, consider transitioning the cycling lane off-street in advance of the intersection. This can minimize cyclist exposure to vehicle traffic and should only be applied where adequate sightlines can be achieved and on lower speed/volume roadways where drivers would be expected to yield to people walking and cycling.

- **Additional Design Treatment: For on-/off-ramps,** adding a barrier between on-coming motor vehicles and waiting cyclists, such as a raised median or bollards, may provide an added degree of protection and comfort. In addition, adding treatments such as truck aprons may tighten turns for motor vehicles while still allowing larger vehicles to navigate the turn safely. When slip lanes can not be removed or redesigned, consider carrying the cycling facility straight through to the intersection. This option is less desirable due to a potentially long conflict area between drivers and cyclists, but it has the benefits of providing the most direct alignment for cyclists.

- **Lighting:** Additional lighting should be used for cyclists along high-speed conflict zones to improve visibility and communication. This may include improved lighting or warning devices for motorists.
- **Providing Grade Separation:** Raised crosswalks or making the median islands larger can improve visibility, safety and comfort for those walking, cycling, and rolling across.

Further Guidance for Richmond

Design standards and documents that may provide further guidance to the City of Richmond on slip lanes include:

- [Government of B.C., Active Transportation Design Guide, Section G – Intersections + Crossings \(2019\)](#)
- [Portland Bureau of Transportation, Safe Routes to School Street Design Toolkit, Slip Lanes \(2018\)](#)
- For highway on-/off-ramps, further design guidance is provided by:
 - [Transportation Association of Canada \(TAC\), Geometric Design Guide for Canadian Roads, Chapter 5 – Bicycle Integrated Design \(2019\)](#)
 - [York Region, Pedestrian and Cycling Planning & Design Guidelines, 5.4 – Freeway Crossings \(2018\)](#)
 - [Washington State Department of Transportation, Design Manual, Chapter 1520 – Roadway Bicycle Facilities \(2021\)](#)

New Standard: Bus Stops

Implementing cycling facilities along bus routes can pose additional design challenges for cycling facilities at bus stops. On-street cycling facilities share space with buses while off-street cycling facilities share space with pedestrians as they cross between the bus stop and sidewalk. Each of these choices have their own unique safety challenges for different users.

Current Status in Richmond

In the City of Richmond, several bus routes operate on the same streets as cycling facilities, the majority of which are on-street bike lanes. Some locations have an off-street bike path that goes behind the bus stop, such as Garden City Road at Alderbridge Way (Figure 13).

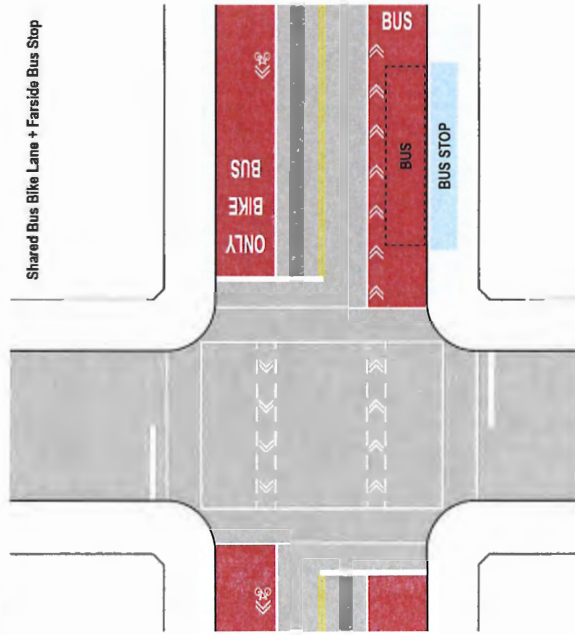
There is no policy direction in the OCP for navigating conflict between these modes, while the City Centre Area Plan encourages bicycle accommodation at bus stops.

In the City of Richmond EDS, cycling access that may conflict with transit routes is required to be identified but design requirements are primarily deferred to TransLink's "[Transit Infrastructure Design Guidelines](#)," which state "A minimum 3 m wide bus stop next to a bike lane is desirable so that a stopped bus does not impact the bike lane." In addition, "a bus stop in a bus bay adjacent to a bike lane requires longer pull-in and pull-out distances due to the additional bike-lane width that a bus needs to cross." The Geometric Design Guide for Canadian Roads by TAC provides some guidance for cycling facilities at transit stops (Chapter 5, Sub Section 5.7.4).

Figure 13: Bus Stop at Garden City Road and Alderbridge Way (Source: Google Maps)



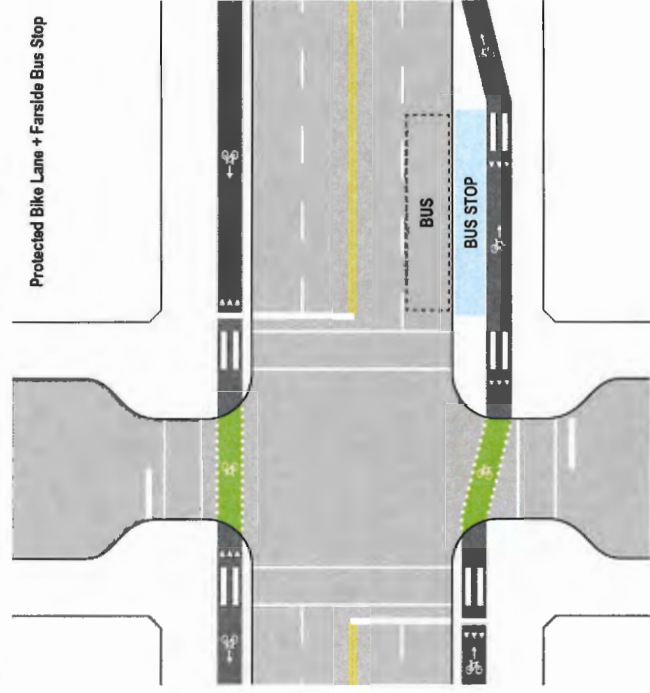
Figure 14: Shared Bus Priority and Bike Lane



Best practice design for integration between cycling and transit is evolving. In 2020, the B.C. Human Rights Tribunal ruled that, in Victoria, “floating” bus stops with a bike lane at street level (Figure 16) were discriminatory as they did not adequately address the issue of access across the bike lane for people who are visually impaired. In response, Victoria implemented a pedestrian controlled crossing to access the bus stop (Figure 17).

While the interaction between cycling facilities and bus stops was not explicitly mentioned through the public engagement process, stakeholders and respondents did express a desire for better separation between motor vehicles and cyclists, as well as for more integration between transit and cycling. This integration would imply having more cycling routes connect with major transit stations and routes, which may increase the presence of cycling facilities interacting with bus stops.

Figure 15: Protected Bike Lane and Far Side Bus Stop

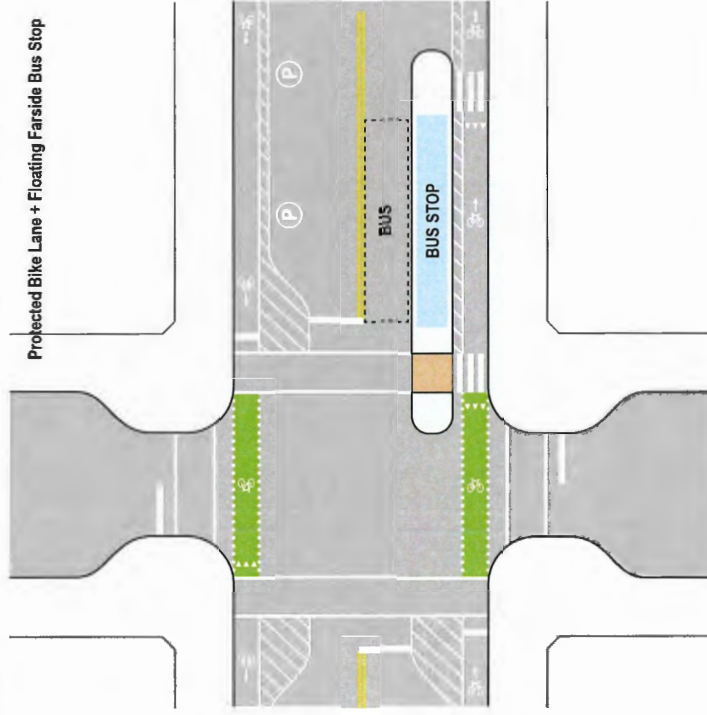


Issues and Challenges with Current Designs

On-street cycling facilities where cyclists share the same space with buses can be uncomfortable and would not be considered safe for all ages and abilities (see Figure 14 above), especially along transit corridors with curbside bus stops. At these locations, buses need to stop within the cycling lane, requiring cyclists to either stop and wait or to pass the bus in the travel lane.

The increased interactions between people cycling and transit vehicles can have a negative impact on transit operations due to the “leap-frogging” effect where cyclists pass the stopped bus when boarding and alighting, and then must be passed again by the bus between bus stops. There is also an elevated risk of collision when cyclists are passing a stopped bus. Off-street cycling facilities (Figure 15) offer separation and protection for cyclists from buses and vehicles but can create additional conflicts between cyclists and pedestrians where pedestrians need to cross the off-street cycling facility to access the bus stop.

Figure 16: Protected Bike Lane and Floating Far Side Bus Stop



- **Transit or Bus Islands:** When the cycling lane is routed behind the bus stop, there is an opportunity to create a transit or bus island. The bus island should be large enough in both width and length to comfortably allow passengers to queue and wait, as well as to accommodate users with mobility devices. Other considerations when designing bus islands include daily bus ridership, the number of routes serving the bus stop, combined headways, and peak-hour crowding.
- **Pedestrian and Cyclist Conflicts:** Potential conflicts between pedestrians and cyclists as a result of bypassing the cycling lane behind transit stops can be mitigated by providing sufficient space on the bus islands, clearly marking the cycling lane crossing with pavement treatments and signage and improving sightlines around transit stops. For floating bus stops, a raised crossing between the sidewalk and bus island also helps to provide a consistent crossing for pedestrians and slow down the speed of approaching cyclists.
- **Off-Street Cycling Facilities:** Where off-street cycling facilities would bypass behind the transit stop, physical measures may be used to delineate space between pedestrians and cyclists. This can range from bollards to plantings and may require a wider right-of-way. Different surface design treatments and textures may be used to communicate the shared use of the spaces.

Considerations and Recommended Approaches for Richmond

- **Street Characteristics:** A variety of design interventions can be implemented to mitigate potential conflicts between cyclists, pedestrians and transit vehicles. Where the existing right-of-way is constrained, consider having the cycling lane at the same grade as the sidewalk, with the cycling lane going behind the bus stop (Figure 15). Where there is available right-of-way, consider using a floating bus stop separated from the sidewalk by a street level cycling lane (Figure 16). This design approach provides user separation around transit stops to simplify operations and minimize conflicts. This treatment is recommended on corridors with high transit volumes and cyclists where “leap-frogging” behaviour may occur.

Figure 17: Pandora Ave Intersection (Source: Google Maps)



Further Guidance for Richmond

As a result of the B.C. Human Rights Tribunal ruling, it is expected that best practice design regarding these facilities will evolve. When designing facilities, it is important to engage with a range of stakeholders who may have mobility challenges, and to work towards a facility type that may address concerns. In the meantime, further guidance on multi-modal integration may be found in:

- [Transportation Association of Canada \(TAC\), Geometric Design Guide for Canadian Roads, Chapter 5 – Bicycle Integrated Design \(2019\)](#)
- [Government of B.C., Active Transportation Design Guide, Section H.1 – Multi-Modal Integration \(2019\)](#)
- [Government of B.C., Updated Recommendation to B.C. Active Transportation Design Guide Chapter H.1 \(2021\)](#)

CNCL - 408

New Standard: Facility Transitions (Directional Cycling Lanes to Multi-Use Pathway)

Facility transitions occur when one type of cycling facility transitions to, or intersects with, another type of facility. These transitions may include:

- Uni-directional cycling lanes on either side of the street to a bi-directional cycling lane on one side of the street
- Uni-directional cycling lanes on either side of the street to a shared cycling lane (e.g., multi-use path) on one side of the street
- Bi-directional cycling lane on one side of the street to bi-directional cycling lane on the other side of the street (or shared cycling lane on one-side of the street to shared cycling lane on the other side of the street)

As these transitions all require the shifting of one or more cycling movements to the opposing side of the street, they must be planned to align with an intersection or mid-block crossing.

Cycling facilities are often built over time, section by section, depending on the timelines of other capital projects and budget. As facilities are built out, design best practices and local policy evolve. Street characteristics (such as motor vehicle volumes, speed, and parking needs) can evolve as well, altering the most appropriate cycling facility. It is important to ensure that the transitions between different types of cycling facilities are safe, clear to riders and offer a seamless connection.

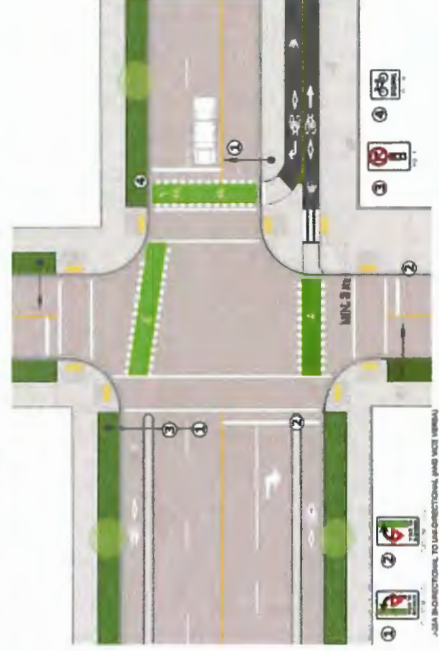
Current Status in Richmond

While the OCP provides policy direction to match the type of route to road classification, it does not prescribe guidance for transitions between facility types. Similarly, the EDS does not offer any specific design recommendations for these transition areas.

Issues and Challenges with Current Facilities

Transitioning between different cycling facility types requires special consideration to ensure a safe and intuitive transition for cyclists. Sightlines should be maintained and the right-of-way should be clearly communicated to all road users.

Figure 18: Bike Facility Transition, Uni-Directional to Bi-Directional (Source: B.C. Active Transportation Design Guide)



Considerations and Recommended Approaches for Richmond

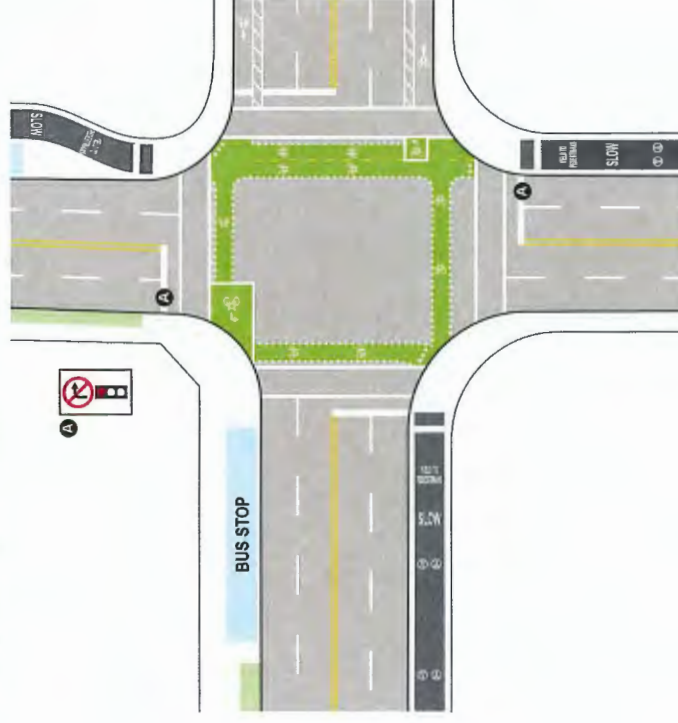
- **Facility Types:** The types of facilities that transition or intersect will determine where and the type of crossing that is required. Facility types that are ending should taper to provide a seamless and direct crossing to the new facility.
- **Intersection Characteristics:** The available right-of-way, lane configuration, and changes in motor vehicle travel patterns will determine the types of cycling facilities, as well as the design of transition facilities at intersections.
- **Selecting a Transition Point:** When transitioning to a lower order cycling facility, it is recommended that existing protection for cyclists and facility specific treatments be carried through the intersection before transitioning to the lower order cycling facility on the other side. As an additional safety precaution for cyclists and pedestrians, it may be desirable for transitions to occur in advance of larger and more constrained intersections, locating the transition at more minor intersections or at controlled mid-block crossings.
- **Wayfinding:** It is important to clearly communicate the right-of-way and ensure that signage and pavement markings are visible and clear to follow.
- **Design Elements:** Transitions should require minimal shift in the travel direction for cyclists with a maximum recommended taper of 3:1. Bike boxes, two-stage turn boxes, and/or protected corners can be installed to help transition between facilities by providing a protected space for cyclists to stop during a two-stage turning manoeuvre (see Figure 19). These spaces do require prohibiting right-turns from vehicles during a red light in cases where queuing cyclists are positioned in conflict with turning movements. Other measures for reducing interactions between cyclists and vehicles include bicycle signal heads and a protected cyclist signal phase. These measures may reduce intersection capacity and throughput but could be warranted for intersections with high cyclist volumes or right-turning movements.

Further Guidance for Richmond

There are certain standards and design documents that may provide further guidance to the City of Richmond for intersections with MUP crossings, including:

- [Government of B.C., Active Transportation Design Guide, Section G.4 – On-Street Bikeway Crossings \(2019\)](#)
- [U.K. Department of Transport, Local Transport Note 1/20 Cycle Infrastructure Design, Section 9 – Transitions Between Carriageways, Cycle Lanes and Cycle Tracks \(2020\)](#)
- [York Region, Pedestrian and Cycling Planning & Design Guidelines, Section 5.2.3 Facility Transitions \(2018\)](#)
- [City of Minneapolis, Street Design Guide, 3.7E, Two-way Bikeway Transitions \(2021\)](#)

Figure 19: Bike Facility Transition, Uni-Directional to Multi-Use Path



H Comparison of Metro Vancouver Bike Parking Requirements

CNCL - 410

Use	RICHMOND		COQUITLAM		NORTH VANCOUVER CITY		VANCOUVER		NEW WESTMINSTER	
	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2
Town Housing	1.25 spaces per dwelling unit	0.2 spaces per dwelling unit	1.25 spaces per dwelling unit	6 spaces for each building entrance Exception: townhouse buildings without concealed parking are required to have 6 spaces located at a common amenity area	0-19 units: no requirement 20-59 units: 6 spaces 60 or more units: 6 spaces per every 60 units or part thereof	1.5 spaces per unit	A minimum of 1.5 spaces for every dwelling unit under 65 m ² . A minimum of 2.5 spaces for every dwelling unit over 65 m ² and under 105 m ² . A minimum of 3 spaces for every dwelling unit over 105 m ²	A minimum of 2 spaces for any development containing at least 20 dwelling units, and one additional space for every additional 20 dwelling units.	1.25 spaces per dwelling unit	6 spaces for developments with 20 dwelling units or more
Apartment Housing										
Mixed Commercial/Residential Uses										
General and Convenience Retail	0.27 spaces per each 100.0 m ² of gross leasable floor area	0.4 spaces per each 100.0 m ² of gross leasable floor area greater than 100.0 m ²			6 spaces per 1,000 m ² Gross Floor Area	1 space per 250 m ² Gross Floor Area	A minimum of one space for each 340 square metres of gross floor area.	A minimum of 6 spaces for any development containing a minimum of 1,000 square metres of gross floor area.	1 space for each 750 sq. m of net floor area	6 spaces for any building with 1,000 sq. m of net floor area
Restaurant									Not required	3 spaces for each 500 sq. m of net floor area
Office			4 spaces plus 0.1 space per 100 m ² of gross floor area	6 spaces for each building entrance			A minimum of one space for each 170 square metres of gross floor area	A minimum of 6 spaces for any development containing a minimum of 2,000 square metres of gross floor area		

Note: The City of New Westminster bylaw is limited to the above uses. Hence, it is not included in subsequent tables.

Use	RICHMOND		COQUITLAM		NORTH VANCOUVER CITY		VANCOUVER	
	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2
Private Club								
Religious Assembly	0.27 spaces per each 100.0 m ² of gross leasable floor area greater than 100.0 m ²	0.78 spaces per each 100.0 m ² of gross leasable floor area greater than 100.0 m ²						A minimum of 6 spaces.
Indoor Recreation							A minimum of 1 space for each 500 square metres of floor area used for assembly purposes.	A minimum of 6 spaces for any portion of each 1,500 square metres of floor area used for assembly purposes
Civic				6 spaces for each building entrance for any building with 1000 m ² or more of gross floor area	6 spaces per 1,000 m ² Gross Floor Area	1 space per 250 m ² Gross Floor Area		
Assembly				6 spaces for each building entrance for any building with 1000 m ² or more of gross floor area	6 spaces per 500 m ² Gross Floor Area	1 space per 250 m ² Gross Floor Area		
Education - Elementary School	1 space for each 3 staff members	2 spaces for each 10 students		1 space for every 20 students of school capacity			A minimum of 1 space for every 17 employees and for secondary schools, universities or colleges, 0.4 space for every 10 students on a maximum attendance period	A minimum of 0.6 space for every 10 students on a maximum attendance period except that elementary schools shall provide a minimum of 1 space for every 20 students
Education - Secondary School	1 space for each 3 staff members	3 spaces for each 10 students						
University Education	1 space for each 4 staff members; plus 1 space for each 10 students	1 space for each 10 students						
Institutional				6 spaces for each building entrance for any building with 1000 m ² or more of gross floor area				

Use	RICHMOND		COQUITLAM		NORTH VANCOUVER CITY		VANCOUVER	
	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2	Class 1	Class 2
Light Industrial					6 spaces per 1,000 m ² Gross Floor Area	1 space per 250 m ² of Gross Floor Area		
General and Heavy Industrial				3 spaces for each building entrance for any building with 1000 m ² or more of gross floor area	6 spaces for any development containing a minimum of 1,000 m ² Gross Floor Area	1 space per 2,500 m ² of Gross Floor Area		
Hotel	0.27 spaces per each 100.0 m ² of gross of leasable floor area greater than 100.0 m ²	0.27 spaces per each 100.0 m ² of gross of leasable floor area greater than 100.0 m ²	1 space for every 30 sleeping units or dwelling units	6 spaces for each building entrance			A minimum of 1 space for every 30 dwelling, housekeeping or sleeping units, or any combination thereof.	A minimum of 6 spaces for any development containing a minimum of 75 dwelling, housekeeping or sleeping units, or any combination thereof
Spectator Entertainment								A minimum of 6 spaces for any portion of each 300 person seating capacity
Major Health Service							A minimum of 1 space for every 17 employees on a maximum work shift.	A minimum of 6 spaces at each public entrance
Community Care Facility, Major			0.05 space per unit of: Licensed Residential Care; Assisted Living, Registered; or Supportive Housing	6 spaces for each building entrance			A minimum of 1 space for every 100 beds.	

I Micromobility Review Memo (July 2020)

CNCL - 414

To City of Richmond

Memo

Cc

From Steer

Date 23 July 2020

Project Richmond Cycling Network Plan Update

Project No. 23743801

Review of Shared Electric and Human-powered Micromobility Device Accommodations and Regulations

Introduction

Regional guidance regarding the deployment of electric and human-powered micromobility devices has recently been put forward for municipalities in Metro Vancouver. *Shared Micromobility Guidelines* were released by TransLink in July 2019 to inform the procurement and licencing of micromobility services, increasing regional coordination. In addition, the Ministry of Transportation and Infrastructure included a section on new mobility integration in the *British Columbia Active Transportation Design Guide* released in June 2019.

This memo synthesizes key information from both guidelines relevant to the establishment of an electric kick scooter (e-scooter) pilot/program in the City of Richmond. While an awareness of the latest thinking in the region is important for informing initial program design, constant innovation in the micromobility industry makes adherence to best practices for program regulation, management and evaluation an ongoing pursuit. Hence, relevant commentary is also provided where current thinking and best practices from international experiences contradict or expand on existing regional guidelines. This review concludes with a summary of key recommendations for Richmond, detailing key actions toward the six areas presented in TransLink's *Shared Micromobility Guidelines*:

1. Data and Data Sharing
2. Payments and Price Structures
3. System Planning and Design
4. Right of Way (ROW) Management
5. System Operations
6. Permit Structure and Conditions

TransLink Shared Micromobility Guidelines (2019)

The Shared Micromobility Guidelines provide a general framework and common set of considerations for planning, management and operations of shared micromobility devices. This guide classifies recommendations into five key opportunities for permitting shared micromobility:

1. A **Legislative Framework** to provide consistency across municipalities and standardize procedures
2. **Uniform Data Standards** to facilitate compliance costs and non-compliance enforcement
3. **Interoperability** to enable seamless travel across municipalities and improve user experience
4. Increased transportation options to **build Transportation System Resilience and Sustainability**
5. **Performance-based Permit Conditions** to provide flexible permit conditions to operators

1.0 Data and Data Sharing

Provision of real-time and historical data should be required from operators **as a condition of operation** and **subject to validation** by an accredited firm to ensure that data security best practices are upheld. Permit applications should **stipulate penalties for non-compliance** and a mechanism for enforcement.

Current Practices: Historical data should be shared at least monthly with secure API access.

As uniform data standards are not yet agreed upon, the Washington DC District Department of Transportation (DDOT) data format provides a suitable reporting format for the interim to ensure that data can be analysed for both short-term and long-term planning needs. The following format is recommended by the guidelines:

- | | | |
|-----------------|-------------------|-------------------|
| • Summary Table | • Trip Table | • Event Table |
| i. Operator | i. Identification | i. Identification |
| ii. Date | ii. Date | ii. Date |
| iii. Trips | iii. Location | iii. Location |
| iv. Devices | | |
| v. Reports | | |
| vi. Maintenance | | |

For **real-time, read-only data**, the General Bike Share Feed Specification (GBFS) is recommended for use as this is emerging as a common standard among shared micromobility operators/regulators. Consumers and the municipality should have **access to a real-time GBFS stream** for locating devices that are not in use.

Additional Opportunities:

GBFS data may also include vehicle **battery charge level, last trip end time, servicing and/or sanitation.**

Operators should be required to **maintain an archive of historical trip data, held exclusively within Canada** without the need for transfer between other countries. Operators must also be required to demonstrate ongoing compliance with Canadian and provincial privacy laws.

2.0 Payments and Pricing Structure

Guidelines are needed to ensure fees paid by users can be clearly understood, set and collected in a fair and transparent manner. Common payment platforms for services are still only gradually emerging, and operators should demonstrate interest and evidence of **interoperability capabilities** with TransLink Compass Payment System and/or a MaaS (Mobility as a Service) payment platform when these become available.

Proposed payment systems, service options and price structures should be **inclusive to low-income users**, offering a **cash/non-credit card method of payment**. Consideration should be given to how potentially higher costs of cash handling are likely to be spread across all users.

Permit applications should encourage product and service innovation including:

- lowering existing barriers to access by making use of existing consumer devices,
- support for payment systems and technologies that increase convenience of payment and lower transactions costs for users, and
- rewards and incentives to increase feeder trips to transit.

Payment security procedures and processes should be compliant with the Payment Card Industry Data Security Standard (PCI DSS) and demonstrate consumer protections to ensure fees paid are tracked and not lost to fraud.

3.0 System Planning and Design

The guidelines provide many useful recommendations for ensuring the proposed micromobility solution successfully fills the targeted gap in regional or local transportation needs. These include **outlining long-term fleet objectives**, with a **clear plan and performance metrics** for service expansion over time and achieving Metro Vancouver urban transportation and sustainability goals. They also outline considerations for ensuring equitable distribution and access to devices, low-income initiatives, support for other languages, and accessibility features for persons with disabilities.

***Current Practices:** Plans should enable flexible collaboration between service providers and different City departments (e.g., planning, communications, public works) to solve problems as they arise.*

Parameters should be established for the **minimum and maximum fleet size** on opening day and scaled as the project progresses and achieves performance and ridership targets. Operators should also outline device technical specifications, demonstrating compliance with existing regulations and supplementary technology for improving the service (e.g., GPS and wireless capabilities, speed regulator and vehicle display).

***Current Practices:** Operating area should be clearly defined and considered when establishing fleet size parameters to ensure density of vehicles is sufficient to be usable for riders. Geofencing can permit different speed limit restrictions within specific zones or contexts to minimize conflicts with other users.*

A parking concept should be provided detailing compliance with existing bylaws and regulatory exemptions and agreements with private landholders that would be required to operate under the proposed concept.

***Current Practices:** Consideration should be given to the need for formalized parking in high-use areas including transit station/exchanges, retail and tourist destinations, parks, recreation, and public facilities. A mechanism for introducing additional formalized parking zones should be considered in the planning phase to mitigate non-compliance as areas of higher than anticipated parking demand emerge through operations.*

The **rental fee structure** should be clearly outlined including:

- starting fee and costs per unit of time
- proposed notification process and timeline for changing fees
- plan for communicating fees to the user
- any proposed volume or membership discounts

It is recommended that operators be **required to outline a safety and education program as a condition of their permit to operate**. Key details of this program provided in the application should include the delivery method, proposed provider, program content, cost recovery mechanism, and reporting measures.

Additional Opportunities:

Education programs may also be managed by the City and in coordination with broader safety campaigns, funded in part by a fee charged to operators.

A **staffing plan** should be included as part of the permit process. Key considerations include detailing day-to-day management and 24-hour contacts, organizational hierarchy and persons employed within the local and non-local workforce, and proposed staff and contractor skills training.

4.0 Right of Way (ROW) Management

In many places around the world, insufficient regulation of dockless shared micromobility devices are negatively affecting **public perception of these devices**, potentially harming future opportunities to implement new technologies. Achieving public buy-in requires effective management of these devices within the public ROW. The permit process presents an opportunity to:

- identify desirable user behaviours, including the parking of devices
- require operators to promote responsible behaviours to users in an understandable manner
- influence operators to reward desirable behaviours and penalize undesirable behaviours
- commit operators to proactively manage parked devices to limit safety risks and nuisance impacts

Additional Opportunities:

Early and meaningful engagement on system design and operating principles is critical to gaining **community and stakeholder support**.

Hence, a proactive ROW management strategy should be established detailing the parking needs for the proposed operating model (e.g., physical stations and/or geofenced hubs) and the **proposed areas to park and store devices** within the ROW.

Continued access and storage of devices in the ROW should be conditional on ongoing compliance with a responsible parking concept. Municipalities can improve ROW management compliance by granting an initial 'level of access' to the ROW and ensuring subsequent **increases in 'level of access' are conditional on ongoing ROW management**.

5.0 System Operations

Safety is an essential component of any operations plan including the provision of helmets that meet existing safety standards and BC helmet laws and **periodic maintenance** to ensure all devices are in working order.

Current Practices: Service providers should be required to provide maintenance records to the City.

Programs are likely to require plans for **recharging and rebalancing** as part of ongoing operations. Key considerations include the entity responsible for the rebalancing, thresholds for triggering a rebalancing, user incentives to undertake rebalancing, and timelines for completion.

Municipalities should consider how systems will facilitate and monitor compliance including:

- incentives and penalties for good and bad parking behaviour, together with a **system of graduated fines**
- displaying device ID number and company contact information on each unit
- outlining a **complaint management system** process for responding to complaints
- **time based targets** for responding
- a tracking and reporting process to demonstrate compliance with agreed measures and targets

Additional Opportunities:

The emergence of companies like **Sweep** has shown opportunities for cities to outsource monitoring to manage and respond to citations, relocation requests, impoundments, and to maintain an infraction dataset to understand which vendors or which areas are most problematic.

As part of any application to operate, municipalities should **require a performance bond/bank guarantee** from operators for protection from a system failure or operator withdrawal from the market.

6.0 Permit Structure and Conditions

In the absence of a long-term regulatory framework for shared micromobility, municipalities should aim to achieve a **standardized permit process and conditions**. This process should adopt standardized and defined terminology and clearly delineate:

- permit timelines and eligible organizations
- municipal recommended and mandatory requirements in application process
- any specific permit conditions

Key Performance indicators (KPIs) are an essential tool for monitoring compliance with permit conditions and penalizing operators who fail to meet minimum requirements. Potential considerations include a 'data completeness of accuracy' requirement and percentage availability of real-time data over a given period.

Desired permit length is a key consideration for any permit process. Most micromobility permit regimes are short-term in North American cities (1-2 years) and there is an emerging consensus that shared dockless devices are less attractive for long term partnerships due to their desire to capture short-term market share and revenues. Once this time period has been established, permit fees should be set by the municipality to ensure full cost recovery of set up, administration, compliance, and enforcement costs.

British Columbia Active Transportation Design Guide

Developed based on national and international best practices, the Design Guide presents active transportation facilities not currently allowed under existing federal, provincial or local laws.

Setting the Context

Guiding principles of the Design Guide envisioned active transportation networks and facilities that are **safe and stress free, context sensitive, cohesive and direct, attractive and intuitive, and inclusive**. The Design Guide was developed based on the following considerations for inclusive mobility:

- **Equitable** – the fair and appropriate distribution of impacts (benefits and costs)
- **Inclusive** – the transportation system should be inclusive to everyone, ensuring people of all socio-economic, cultural and demographic backgrounds have access to active transportation
- **Age-Friendly** – designing a system that is welcoming of all ages and their unique travel needs
- **Accessible** – using universal design principles to accommodate people of all ages and abilities
- **Safe** – providing adequate infrastructure and increasing safety in numbers of active transportation users

Multi-Use Facilities

Travel speed and willingness to make stops varies considerably for the wide variety of users of multi-use pathways. Hence, it is important to equally consider all users in the planning and design of multi-use pathways to ensure no single user group is given priority over another.

Amenities + Integration

The Active Transportation Design Guide describes **e-scooters** as single occupant vehicles with an integrated battery. Presently, B.C. does not permit the use of e-scooters (and similar small, one-person electric vehicles such as hoverboards, motorized skateboards, and self balancing electric unicycles) on public roadways or sidewalks. Municipalities can, however, enact by-laws to permit the operation of these vehicles where the B.C. Motor Vehicle Act does not apply, including **trails or pathways**.

Additional Opportunities:
Specific age and speed restrictions are common in other jurisdictions

Current Practices: The maximum speed of e-scooters is typically regulated to 24.9 km/h (15 mph) in shared systems. Using onboard GPS systems and geofencing technology, some programs enforce additional speed restrictions in specific locations. In the City of Calgary, a system-wide maximum speed of 20 km/h has been further reduced to 15 km/h in areas where increased conflicts were reported in the first phase of the pilot.

Without proper policies to direct how e-scooters should be used, some users end up on sidewalks where they present a **high risk to pedestrians** given their operating speeds. These speeds are well within the bounds of typical cycling speeds. Hence, e-scooters are **well-suited for operation within designated cycling facilities**. Given these operating speeds and the potential safety issues, many jurisdictions are encouraging or requiring the use of helmets for users of e-scooters.

Additional Opportunities:

While often imposed by jurisdictional regulations, **helmet requirements impose additional operational challenges** related to user education and enforcement and additional challenges and costs associated with loss, damage and theft/vandalism. Importantly, requirements for sanitation and/or provision of helmet liners will also increase operational costs.

Conflicts with other modes are likely to arise when proper parking accommodations are not made for e-scooters and other dockless small vehicles. To manage ROW space municipalities should consider:

- **fleet size caps**, limiting overcrowding in public areas with infrequently used vehicles
- stipulating **timely response to parking complaints** in service agreements (typically 2 hours)
- **user education** on the operator website, mobile app, and vehicles themselves
- designating shared **small vehicle parking zones** with geo-fenced or marked boundaries
- **fees and/or incentives** to ensure users are leaving vehicles in these designated spaces

Overregulation of small vehicle parking areas may reduce the ability of these systems to provide point-to-point connectivity and limit their convenience. **Blanket parking restrictions are discouraged.**

Dockless small vehicle parking areas should be:

- installed by the municipality for **use by all dockless services** (with costs offset through operator fees)
- clearly and **consistently signed or marked** on the pavement
- **highly visible** to device users and other roadway users

Small vehicle parking should not be permitted on sidewalks less than 2 metres wide or block curb let-downs, driveways, or street furniture. Instead, parking is recommended to be situated in the following areas:

- on wide sidewalks where a 2-metre-wide traffic zone for sidewalk users and access to existing street furniture and parking metres can be maintained
- within plazas and wider pathways in unobtrusive areas
- on raised curb extensions/bulb-outs
- in repurposed curbside parking spaces where clearly demarcated from adjacent motor vehicle parking
- on private property with permission from the property owner
- on-street in residential areas, wherever motor vehicles can legally park
- in designated areas in select public parks

Implementation Recommendations

Permit Design and Objectives

In many areas, operators are responsible for delivering on the vision of the municipality and achieving the desired outcomes highlighted in the guidelines from TransLink and the Ministry of Transportation and Infrastructure. Designing micromobility systems that achieve high standards of safety, accessibility, responsiveness, and equity come at a cost to the private operators. To counterbalance motivations for profit, these desired outcomes can be incentivized and enforced through performance-based permit conditions.

A flexible system of permit conditions achieves, monitors and enforces compliance through KPIs, penalizing operators who fail to meet minimum requirements. Frequent KPIs adopted by e-scooter programs in Europe and the US include utilization rate, fleet size, compliance with restricted access areas, maintenance and equipment standards, educational outreach, data integrity and availability, data protection, as well as parking and distribution compliance.

Municipalities are responsible for ensuring that project objectives are codified into actions and KPIs at the procurement and licensing stage, setting parameters to successfully manage micromobility systems. To assist the City of Richmond in determining the correct balance of incentives and regulations, key focus areas for permit design and measures implemented by other municipalities are summarized below.

Permit Structure and Conditions

While standardized operating conditions are important for attracting regional service providers and integrating shared mobility options, the constant innovation in the micromobility industry makes short, flexible pilot programs an appealing approach to introducing new mobility options. Many cities are embarking on flexible pilot programs where conditions can be rewritten, and permits restructured on an annual or bi-annual basis. In this rapidly changing market, municipalities should require a performance bond/bank guarantee from operators for protection from a system failure or operator withdrawal from the area. Municipalities should also ensure permit terms are enforceable and require that providers remain in good standing, allowing for indemnification in the case of service agreement violations.

Key Actions

- Determine the desired length of the permit (most service agreements are 1-2 years in North America)
- Set permit fees to ensure full recovery of set up, administration, compliance and enforcement costs

Data and Data Sharing

Consistent access to complete and accurate data is essential for program evaluation and monitoring success. Historical data enables the municipality to ensure operators are compliant with program requirements such as adherence to parking requirements. Data may also inform other policies and program changes. For instance, temporal data on pick-up and drop-off activities may be used to inform better flexible curbside management policies and planning for end of trip facilities (e.g., formalized parking, charging infrastructure). Real-time data should also be made available, allowing users to quickly locate devices. Currently, DDOT and GBFS data formats are common standards for historical and real-time data respectively. Third parties such as parking compliance companies can also add another layer of data to inform program management.

Key Actions

- Stipulate that historical data should be shared at least monthly with secure API access **(KPI)**
- Require operators to provide real-time, read-only data on device locations and information **(KPI)**
- Consider additional data needs to successfully manage the pilot

System Planning and Design

Successful system plans have a clear understanding of the operating area, long-term fleet objectives, staffing requirements, needs of vulnerable populations, and plans for equitable distribution and access to devices. When designing a pilot, operating areas should be large enough to service enough journeys but not so large that the density of shared e-scooters provided is too low to be usable for riders.

Fleet size should also be commensurate to the operating area to limit the overcrowding of some public areas with idle devices. In the City of Chicago, this issue has been mitigated by a fleet cap and reduced operating hours (5am to 10pm). The definition of “fleet size” varies across operators and systems. Specific direction should be provided as to whether e-scooters that are currently being repaired are included in the total allowed fleet. Table 1 summarizes existing fleet restrictions used in similar-sized municipalities to Richmond. Alternatively, operators prefer dynamic fleet caps based on performance metrics such as rides per vehicle per day. In such cases, fleet sizes can be adjusted based on changes to average utilization. During the pandemic, this system has allowed some cities like Santa Monica to reduce fleet size caps.

Table 1: Fleet size restrictions enforced in comparable municipalities

City	Population	Fleet Size Restrictions
Durham, NC	274,291	Cap on vehicles, ~600 e-scooters and 1,200 bikes/e-bikes
Fort Lauderdale, FL	182,595	~500 per operator
Santa Monica, CA	91,411	City-wide cap of 3,250 devices (2,500 e-scooters and 740 e-bikes) – 750 per operator

Geo-fencing enables cities to restrict scooter usage to the permitted operating areas and limit parking to designated locations, in addition to setting different speed restrictions to fit varying contexts within the operating area (including no-go zones where scooter power is turned off). Such restrictions may be necessary to minimize conflicts with other users, reduce street clutter, and maintain desirable public spaces. However, experiences from San Diego, Los Angeles, Fort Collins, Denver, and Portland found that there are limitations to GPS precision. For example, vehicles parked alongside a geofenced area may turn into false positives, with riders unable to lock or unlock vehicles. This may be resolved by stipulating a buffer zone (e.g., 50m) to set back parking locations from boundaries. Generally, smartphone-based GPS systems are accurate to approximately +/-5m, diminishing indoors, near large buildings or trees, and a due to weather events.¹

Key Actions

- Define initial operating area and fleet size parameters
- Stipulate that any planned expansions beyond the initial fleet size or operating area should be contingent on achieving and maintaining KPIs
- Consider limitations on speed, operating hours or service areas for devices (enforceable via geo-fencing)

Right of Way (ROW) Management

Achieving public buy-in requires effective management of e-scooters within the public ROW, in addition to early engagement and communications plans for both the system planning and operational phases. The permit process presents an opportunity to commit operators to proactively manage undesirable user behaviours and parked devices, rather than narrowing the scope so much that it makes it too difficult for an operator to provide service. A proactive ROW management strategy is essential but can be successfully delivered in various arrangements. The B.C. Active Transportation Design Guide advocates for municipalities to establish small vehicle parking zones, while parking plans may also be primarily operator driven when clear

¹ GPS Accuracy, U.S. Air Force. <https://www.gps.gov/systems/gps/performance/accuracy/>

guidance is provided by the municipality. Regardless, continued access and storage of devices in the ROW should be conditional on ongoing compliance with responsible ROW management.

One of the primary factors in the City of Montreal's decision not to renew their e-scooter pilot in 2020 was poor compliance with parking requirements after it was found that devices were parked improperly 80% of the time.² However, operators also noted that the 410 parking zones within the city were insufficient and were not conveniently located. Widespread and convenient parking is essential to achieving compliance.

Key Actions

- Establish a proactive ROW management strategy detailing the parking needs for the proposed operating model and areas to park and store devices within the ROW
- Commit operators to proactively manage parked devices and undesirable user behaviours
- Consider contracting a third-party to assist with parking compliance and to report on infractions

System Operations

A hands-on service agreement should be constructed to promote and monitor operator compliance and pressure operators in the case of poor performance. This is facilitated through devising clear expectations regarding periodic maintenance, establishing a complaint management system, setting timelines for responding to needs for rebalancing and recharging, and requiring periodic reporting on measures and targets provided to the city.

Without proper policies to direct how e-scooters should be used, some users end up on sidewalks where they present a high risk to pedestrians given their operating speeds. E-scooter speeds have been reduced to 10 mph (16 km/h) in Washington, DC while Paris (France) imposes limits of 8 km/h in dense pedestrian areas. While speeds may be reduced, service providers are partnering with the City of San Jose to develop innovative methods to prevent e-scooters from riding on sidewalks including Bluetooth beacons, cameras and educational outreach.³ Many jurisdictions are encouraging or requiring the use of helmets for users of e-scooters, while most providers prohibit riders under the age of 18 in their user agreements. Spin and Bird also offer programs to subsidize the costs of a helmet for riders.

Distribution of devices is likely to be unequal in the absence of rebalancing requirements. Moreover, maintaining access for underserved communities requires active intervention from the city. This may also be achieved through incentives. In Los Angeles, operators were offered the opportunity to increase their fleet size from 3,000 to 5,000 units by serving the disadvantaged communities in San Fernando Valley.

Key Actions

- Stipulate timely responses to parking complaints in service agreements (typically 2 hours) **(KPI)**
- Require service providers to conduct periodic maintenance and share records with the city **(KPI)**
- Consider additional safety measures such as reducing device speeds, mandating age and helmet requirements, and providing a safety and education program
- Establish prompt requirements for rebalancing devices with consideration for safeguarding access for disadvantaged communities **(KPI)**

² *Règlement relatif aux VNILSSA*, City of Montreal. https://ville.montreal.qc.ca/documents/Adi_Public/CE/CE_DA_ORDI_2020-02-19_08h30_Presentation_Reglement_relatif_aux_vehicules_non_immatricule_en_libre-service_sans_ancrage.pdf

³ *Sidewalk Riding Prohibition Technology*, City of San Jose. <https://www.sanjoseca.gov/your-government/departments-offices/transportation/micro-mobility/sidewalk-riding-prohibition-technology>

Payments and Pricing Structure

Payment methods and pricing structures may restrict access to these new micromobility options for lower income groups. Instead, payment systems should increase convenience and maintain lower transaction costs for users to minimize access barriers. These systems should also be inclusive to low-income users who may not have access to credit or a smart phone device by offering an unbanked or cash method of payment. However, as the City of Chicago learned through consultation with stakeholders, users may still have difficulty accessing these programs from some providers and more prescriptive and rigorous requirements may be necessary.⁴ For instance, the municipality may mandate that all operators offer a text-to-ride option (payment via SMS) or cash payment locations, similar to what has been offered by Bird and Lime in Portland, OR. Finally, payment options and rental fee structures should be clearly communicated, with all options presented on the operator's website and app.

Key Actions

- Stipulate that unbanked methods of payment be accessible for low-income users
- Require service operators to report on usage of low-income payment options (KPI)
- Consider defining eligibility criteria for low-income users or prescribing low-income payment systems

System Sustainability

Ensuring that e-scooters contribute to a sustainable transportation system is key to long-term deployment of these technologies in cities. A research study by Hollingsworth *et al* 2019⁵ highlighted that the major environmental costs of these schemes concerns the impacts associated with daily overnight collection and materials and manufacturing burdens.

Several cities are currently identifying ways to reduce the environmental impacts of e-scooter operations by:

- Developing sustainability guidance within the RFP (e.g., City of San Francisco's Sustainability guidelines and requirements⁶) to support best practices on battery requirements, energy usage and efficiency, life-cycle requirements, zero waste goals, etc.
- Developing KPIs and requiring companies to track overall environmental footprint, reporting on redistribution, charging and maintenance activities and energy source and use
- Improving e-scooter collection practices, modifying the requirement that all devices be picked up every night (e.g. City of San Francisco and Chicago) or limiting collection to those with low battery
- Expanding investments in bike, e-scooter and pedestrian facilities to support travel behaviors shifts from car-based trips to micromobility modes

⁴ E-Scooter Pilot Evaluation, City of Chicago. https://www.chicago.gov/content/dam/city/depts/cdot/Misc/EScooters/E-Scooter_Pilot_Evaluation_2.17.20.pdf

⁵ Are e-scooters polluters? The environmental impacts of shared dockless electric scooters. <https://iopscience.iop.org/article/10.1088/1748-9326/ab2da8>

⁶ Powered Scooter Share Permit Program: Appendix 4 Data Reporting Guidelines and Requirements, San Francisco Municipal Transportation Agency. https://www.sfmta.com/sites/default/files/reports-and-documents/2019/07/appendix_4_-_data_reporting_guidelines_and_requirements.pdf

Control Information

Prepared by	Prepared for
Steer Suite 1030 – 999 W Hastings Street Vancouver, BC V6C 2W2 Canada +1 (604) 629 2610 www.steergroup.com	City of Richmond 6911 No. 3 Road Richmond, BC V6Y 2C1 Canada
Steer project/proposal number	Client contract/project number
23743801	6897532
Author/originator	Reviewer/approver
G. Fitzgerald	G. England
Other contributors	Distribution
A. Kosch (Steer) R. Doran (Steer) A. Safari (Steer) S. Bagg (Steer) P. Sun (Binnie)	Client: City of Richmond Project Team Steer: Internal Project Team
Version control/issue number	Date
Draft Cycling Network Update v1.0	March 22, 2022
Draft Cycling Network Update v2.0	May 5, 2022
Draft Cycling Network Update v3.0	May 19, 2022
Cycling Network Plan Update v4.0	May 27, 2022

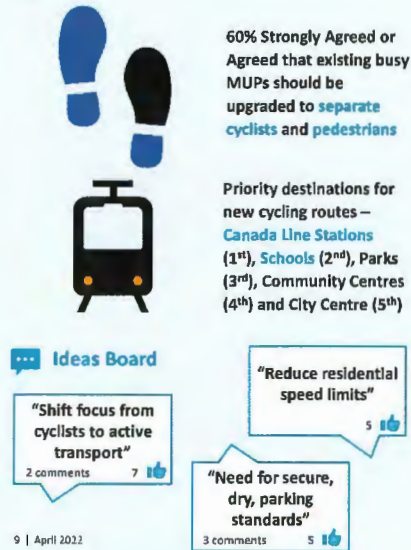


steer

steergroup.com

Summary of Phase 2 Engagement Results

Phase 2 Engagement - Overview

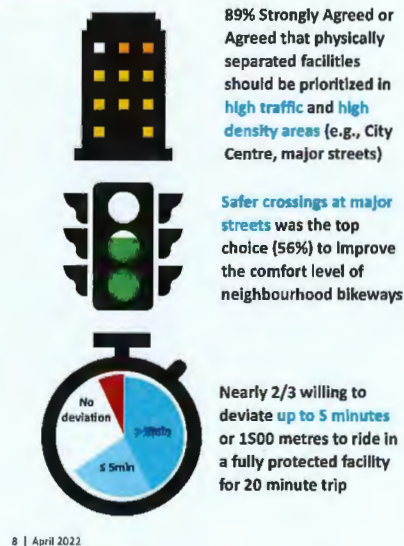


Mapping Tool



steer

Phase 2 Engagement



2 km of Protected Bike Lanes

4 km of Unprotected Bike Lanes

6 km of Neighbourhood Bikeways

1 km of Multi-Use Pathway

36% ranked 2 km of protected bike lanes as their first priority. 47% ranks 1 km of MUPs as their last priority.

Adding new protected bike lanes and completing existing gaps were somewhat preferred to other network improvements

2 Build New Routes

1 Complete Existing Gaps

3 Add Protection to Existing Routes

4 Upgrade Intersections on Existing Routes

43% ranked complete gaps in the existing cycling network as their top priority

steer

Short-Term Priorities – Funding Status

Project Location	Description	Funded?	Notes
Alderbridge Way west of No. 4 Road	Complete gap in multi-use path	No	Private property impacts Potential Implementation: 2025-2026
Westminster Hwy and No. 5 Road	Separate eastbound bike lane from the right turn lane approaching the intersection	Yes	2022 Capital Budget Status: In design Potential Implementation: 2024
Garden City Road (Cook Road to Citation Drive)	Add green paint treatment for cyclists crossing right turn lane for Citation Drive	Yes	Minor upgrade that can be accommodated in approved budgets Potential Implementation: 2023
Westminster Hwy at SB Hwy 99 On-Ramp	Add green paint treatment for cyclists crossing on-ramp)	No	Dependent on MoTI
Saunders Road and No. 3 Road	Widen off-street pathway on Woodward's-Saunders Neighbourhood Bikeway	Yes	2021 Capital Budget Status: In design Potential Implementation: 2023
Odlin Road and Shell Road	Provide new cycling connection between cul-de-sac and Shell Road	No	Dependent on MoTI
Alderbridge Way and Shell Road	Upgrade busy, wide intersection to connect bi-directional MUP facilities	No	Proposed for 2024 Capital Budget Potential Implementation: 2026
Lucas Road and No. 3 Road	Improvements to off-set intersection on Crosstown Neighbourhood Bikeway	No	Proposed for 2023 Capital Budget Potential Implementation: 2024
Lynas Lane and Westminster Hwy	Upgrades to support cyclist turning movements (e.g., bike boxes)	Yes	2021 Capital Budget Status: In design Potential Implementation: 2024
Williams Road at No. 3 Road	Separate bike lanes from the right turn lane in both directions approaching the intersection	Partial	Westbound: secured via development Status: In construction Eastbound: future Capital Budget Potential Implementation: 2023
Minoru Gate and Granville Avenue	Improvements to connect cyclists from Moffatt Road to travel westbound on Granville Avenue	No	Future Capital Budget Potential Implementation: 2025-2026
Bamberton Drive and Steveston Hwy	New pedestrian signal to connect Midtown Neighbourhood Bikeway and Steveston Highway MUP	No	Proposed for 2023 Capital Budget Potential Implementation: 2024
McCutcheon Place and Schaefer Gate at Francis Road	Improvements to off-set intersection on Midtown Neighbourhood Bikeway	Yes	2022 Capital Budget Status: In Design Potential Implementation: 2024
Mortfield Gate and Steveston Hwy	Upgrade existing intersection with cyclist push buttons and green paint	Yes	2019 Capital Budget Status: In design Potential Implementation: 2023
Saunders Road and No. 3 Road	Upgrade to pedestrian signal on Woodward's-Saunders Neighbourhood Bikeway	Yes	2021 Capital Budget Status: In design Potential Implementation: 2023
Shell Road (Alderbridge Way to River Road)	Extend existing MUP north of Highway 99 to River Road	Partial	Design: 2020 Capital Budget Construction: Proposed for 2024 Capital Budget Status: In design Potential Implementation: 2025-2026
Sexsmith Road and Brown Road (Beckwith Road to Browngate Road)	Alternative route to access Bridgeport Station and the Canada Line Bridge (to Vancouver)	Yes	2022 Capital Budget Status: In design Potential Implementation: 2024

Short-Term Priorities – Funding Status

Project Location	Description	Funded?	Notes
Charles Street (Existing MUP to Van Horne Way)	Improves connections between Sexsmith Road-Brown Road and nearby routes	No	Future Capital Budget Potential Implementation: 2025-2026
Browngate Road (Hazelbridge Way to No. 3 Road)	Improves connections between Sexsmith Road-Brown Road and nearby routes	Yes	2021 Capital Budget Status: In design Potential Implementation: 2024
Gilbert Road (Elmbridge Way to Granville Avenue)	Extend bike route with connections to Minoru Park, Richmond General Hospital and Brighthouse Elementary	Partial	Design: 2020 Capital Budget Construction: Proposed for 2025 Capital Budget Status: In design Potential Implementation: 2025-2026
Lansdowne Road (Pearson Way to Gilbert Road)	Completes network gap, extending connections to the Middle Arm Greenway	Yes	2021 Capital Budget Status: In design Potential Implementation: 2023
Lucas Road – Bowcock Road – Dayton Avenue	Completes east-west Crosstown Neighbourhood Bikeway	No	Proposed for 2023 Capital Budget Potential Implementation: 2024
Westminster Hwy (Lynas Lane to No. 2 Road)	Safer connection southbound from the No. 2 Road Bridge to Granville Avenue via Lynas Lane	Yes	2021 Capital Budget Status: In design Potential Implementation: 2024
Moffatt Road – Deagle Road – Bamberton Drive	Short-term north-south Midtown Neighbourhood Bikeway	Partial	Steveston Hwy-Francis Rd: complete Francis Rd-Granville Ave: future capital budget Potential Implementation: 2025-2026
River Road (McCallan Road to Middle Arm Greenway)	Extending paved segments of the Middle Arm Greenway to the Railway Greenway	Yes	2022 Capital Budget Status: In Design Potential Implementation: 2024
Steveston Hwy (Railway Avenue to Shell Road)	Direct east-west connection between Ironwood and Steveston, and recreational routes	Partial	Phase 1 Shell Road-Mortfield Gate: 2019 Capital Budget Phase 2 Mortfield Gate-No. 2 Road: 2020 Capital Budget Phase 3 No. 2 Road-Railway Ave: <ul style="list-style-type: none"> Design: 2020 Capital Budget Construction: Proposed for 2023 Capital Budget Status for all Phases: In Design Potential Implementation: <ul style="list-style-type: none"> Phase 1: 2023 Phase 2: 2023 Phase 3: 2024
Westminster Hwy (Fraserside Gate to Smith Cres)	Priority upgrade of shared road facilities identified in Phase 1 engagement	Yes	2020 Capital Budget Status: Construction to commence summer 2022
Garden City Road (Francis Road-Steveston Hwy)	Complete gaps in the existing MUP south of Francis Road	Yes	2022 Capital Budget Status: In design Potential Implementation: 2024
No. 2 Road (Williams Road to Steveston Hwy)	New northern extension of No. 2 Road MUP as a key route in the cycling network	Yes	2022 Capital Budget Status: In design Potential Implementation: 2024

Executive Summary
City of Richmond
Cycling Network Plan Update
2022



CNCL - 430





Executive Summary
Table of Contents

—	Introduction	1
—	Existing Cycling Network	2
—	Evaluation Process	2
—	Approach to Cycling Improvements	3
—	Future Cycling Network Priorities	4
—	Cycling Policies, Programs and Initiatives	6



Introduction

The City of Richmond's Official Community Plan (OCP) identifies the need to reduce vehicle trips by 34% between 2008 and 2041 to achieve local mobility, air quality and liveability goals. The Community Energy & Emissions Plan 2050 (CEEP 2050), adopted in February 2022, accelerates OCP targets to increase cycling mode share from 1% in 2008 to 10% by 2030.

This update to the Cycling Network Plan (CNP) will help the City respond to its policy objectives by identifying what the future cycling network will look like in 15 years and a phased implementation strategy to achieve it.

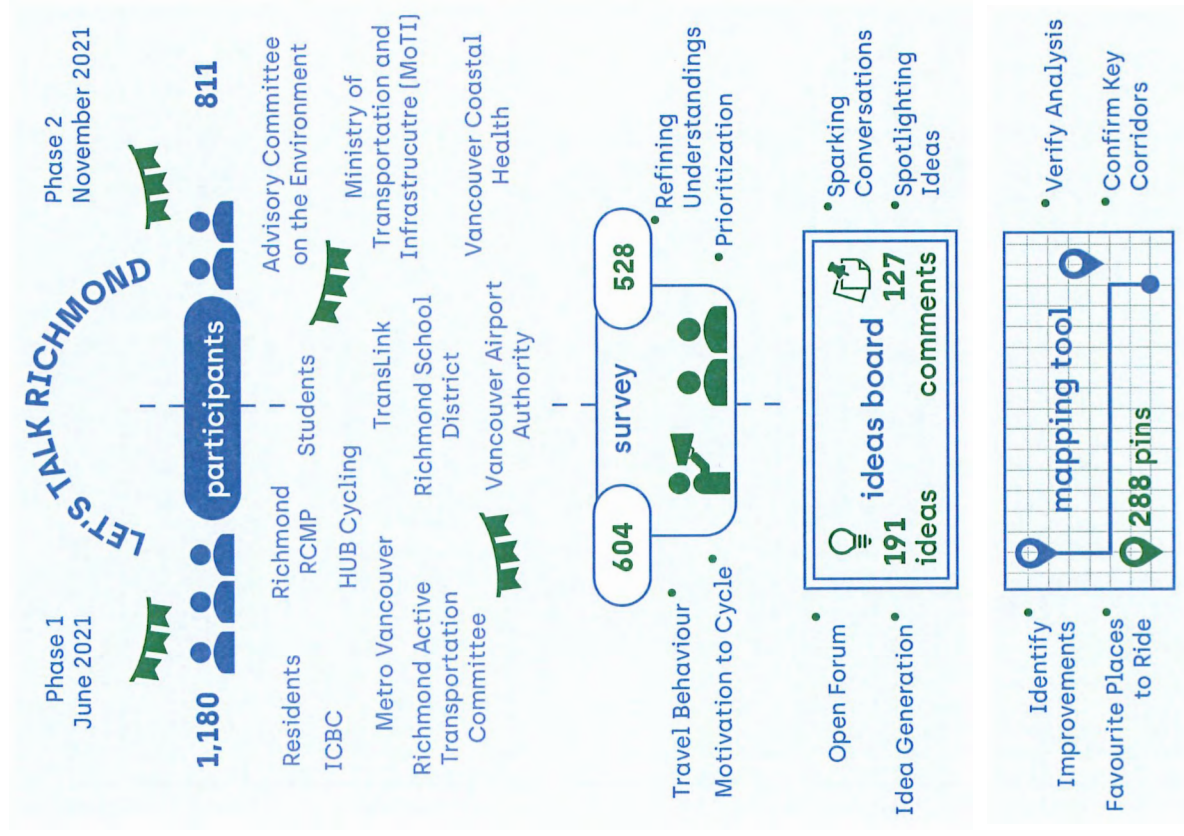
Project Phases

The development of the CNP was divided into three phases to **explore** the existing conditions, **evaluate** and update the future cycling network plan, and **execute** a final Cycling Network Plan by prioritizing investments through an implementation strategy.

A multi-phase approach to engagement was used to be more responsive to community feedback and to better address regional, local and site-specific considerations at the prioritization and implementation phase.

Phase 1 engagement focused on gathering public and stakeholder input on existing conditions and recommendations for future improvements. Phase 2 engagement targeted three major objectives:

- » Validating findings from the route-level evaluation
- » Refining feedback heard during Phase 1 engagement
- » Understanding how stakeholders and the public prioritize between different improvements and connections at the implementation stage



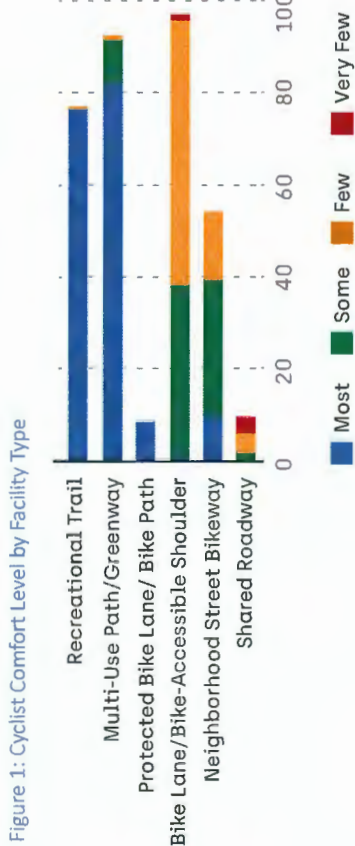
Existing Cycling Network

The current cycling network is composed of a mix of facility types covering over 330 lane kilometres. Some facility types are more common than others. In Richmond today, off-street leisure facilities like trails and paths are most common while most facilities on roads are not protected by physical barriers.

TransLink and and HUB Cycling’s 2019 Benchmarking the State of Cycling in Metro Vancouver report highlights that cyclists are most comfortable when physically separated from other modes.

While 50% of the existing cycling network in Richmond can be classified as ‘comfortable for most’ according to these criteria, the breakdown of comfort level by facility type highlights that this is primarily achieved by Recreational Trails and Multi-Use Paths/Greenways.

Most of the on-street cycling facilities are considered comfortable for some or few. This mainly reflects the shortcomings of unprotected bike lanes/bike-accessible shoulders, which may not be viewed as a safe or viable option by potential users, particularly inexperienced cyclists, youth and older adults.



Evaluation Process

Together, the Official Community Plan and City Centre Area Plan present a roadmap for the ultimate cycling network. To identify priorities for the 15-year timeline of this plan, cycling investments were evaluated to assess their potential benefits. Evaluation criteria were distilled from feedback during Phase 1 engagement.

Table 1: Evaluation Criteria

Objective	Evaluation Criteria
Community Support	Priority project/corridor identified during engagement
Safety	Improves cycling comfort by adding new cycling facility or adding separation to an existing facility High percentage of households spending 30% or more of income on housing
Social Equity	High percentage of low-income households based on Statistics Canada low-income measure High percentage of population identifying as Indigenous
Connectivity	Major Bike Route (TransLink), Regional Greenway (Metro Vancouver) or entry point for adjacent municipalities Provides a direct connection to at least one neighbourhood centre Provides a direct connection to/from East Richmond
Network Gaps	Creates or extends an east-west or north-south corridor Completes a gap in the existing cycling network or upgrades an existing shared road facility
Utility / Convenience	Improves access to activity centres, transit hubs, schools, employment centres, population centres, and parks Project is within municipal jurisdiction
Feasibility	Overlaps with planned projects in the current capital plan Likelihood of requiring further right of way expansion

Approach to Cycling Improvements

The results of engagement and the priority network evaluation provided considerable insight to projects with high potential benefits. To move forward with implementation, a series of planning principles were distilled from engagement and evaluation trends. These priorities have informed the current prioritization process and should continue to inform future decision-making regarding cycling investments in Richmond.



Safety and Comfort

- » Design for all ages and abilities, prioritizing separation from traffic whenever feasible.
- » Future proof facilities by considering the spatial requirements of both emerging and increasing walking and rolling needs.
- » Address intersection conflicts, recognizing that the intersection and the mid-block conditions both contribute to cycling safety and comfort.
- » Strive to provide a consistent facility type along a corridor. Where transitions between facility types are necessary, locate them where they are safe, clear to all users, and offer a seamless connection.



Major Routes

- » Emphasize transecting and multi-purpose routes that can serve both commuting and recreational cycling needs.
- » Improve local and regional connectivity, including connections to Hamilton, Ironwood, Steveston, and Burkeville.
- » Develop a core network that locates most residents within 800 metres of a major cycling route.
- » Establish a finer grain network in the City Centre, given the greater density of jobs and destinations, increased prevalence of high-traffic routes and higher presence of equity seeking groups.

Figure 2. Cyclists on River Parkway



Minor Routes

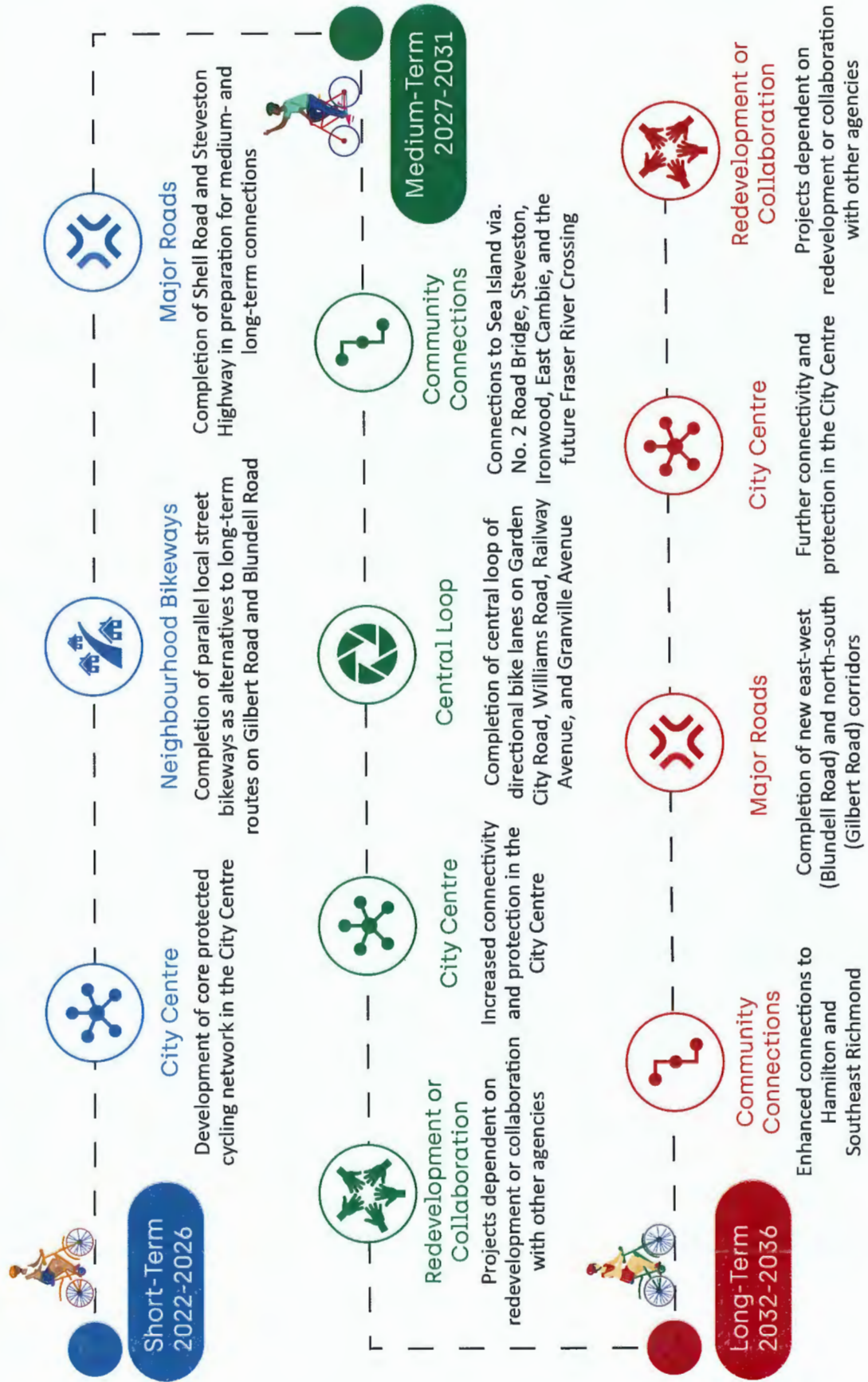
- » Prioritize new neighbourhood street bikeways to align with existing and long-term planning priorities.
- » Improve intersections with major roads where hourly traffic volumes exceed 500 vehicles in any travel direction or where local streets are "off-set" and do not directly connect at the intersection.
- » To improve cyclist visibility and wayfinding, a wider, low-cost program of upgrades to neighbourhood bikeway intersections with lower traffic volumes should be considered.



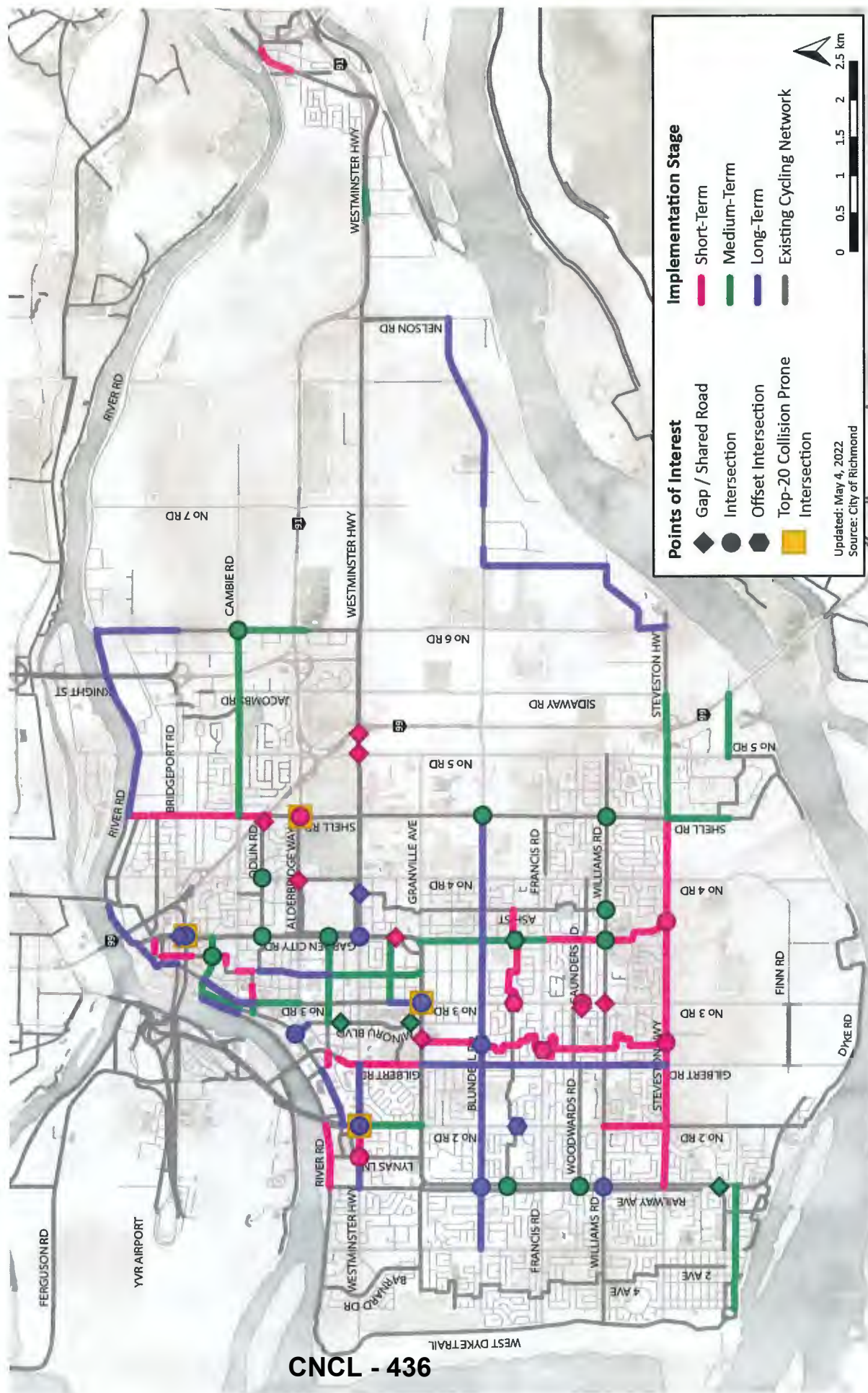
Action Planning

- » Pilot improvements as a cost effective and quick means to provide separation to existing routes. Candidate routes include Granville Avenue, Garden City Road, Westminster Highway, and Williams Road.
- » Phase fixing of shared road segments and provide connections to Canada Line stations and schools as top priorities.
- » Stewardship with considerations for maintenance and asset management once facilities are implemented (e.g., bike counters).
- » Use of street reallocation to extend limited cycling infrastructure funding and enable timely completion of new facilities.

Future Cycling Network Priorities



CNCL - 436



Policies, Programs and Initiatives

The focus areas developed in this plan reflect policy needs and challenges identified through public, stakeholder and City staff engagement, as well as elements with a strong connection to encouraging/enabling cycling behaviours that are well suited for the City of Richmond context. Some of the key recommendations include:

Bike Parking



- Minimum Bike Parking Requirements
 - » Align **residential bike parking requirements** with unit square footage or number of bedrooms to better match the number of household occupants
 - » Advocate to TransLink for more long-term secure **bike parking at transit stations**
 - » Work with stakeholders to develop and implement safe, secure and convenient bike **parking requirements at key public destinations**
- Accommodate Micromobility and Non-Standard Bike Sizes
 - » Create bike parking requirements that can accommodate a **range of micromobility devices** (e.g., cargo bikes, e-scooters and other small electric mobility devices)
 - » Ensure more bike parking spaces have access to **electrical outlets**
 - » Designate parking locations for **public shared micromobility devices**
- Bike Parking Room Design and Access
 - » Expand **flexibility around the description of bike parking room** requirements and locations where this enables larger and more optimal bike room dimensions and designs
- End of Trip Facilities
 - » Adopt requirements for **end of trip facilities** (e.g., bike maintenance facilities, showers, change rooms, and clothes lockers)

Figure 4. Secure Automated Bike Parking, Minoru Centre For Active Living



Figure 5. Cyclist on Lansdowne Road



Programs and Initiatives

- Education and Skills Training
 - » Advocate for **cycling education** to be more prominent in driver training and school curricula
 - » Support the development of a local '**bike kitchen**' for affordable access to training and parts for bicycle repairs
 - » Support and expand **multilingual options** for cycling education
- Community Events
 - » Further integrate cycling into **community-wide festivals** and encourage themed bike events to locate in the city
 - » Permit **community-led open streets** to encourage active travel and the use of the street as public space
- Marketing and Information
 - » Explore developing a **cycling brand for the city** to encourage cycling locally and foster cycling tourism
 - » Create an **Employer Outreach Program** to help local employers encourage their staff to travel by active and sustainable modes
 - » Recognize **bike friendly businesses** who offer services like rentals, discounts and bike parking to cyclists with an award program award program
- School Active Travel Planning
 - » Expand **safe routes to school initiatives** - infrastructure, education and advocacy - and measure progress and achievements
 - » Champion **local participation** in provincial programs and partnerships including the Active School Travel Pilot Program
 - » Support **education on the safety and benefits** of active travel for parents, guardians and Richmond School District staff

Lighter, Quicker, Cheaper / Pilot Projects

- Expand the use of **pilot projects** to test new ideas quickly and cheaply, demonstrate proof of concept and build community support

Wayfinding

- Establish a **bicycle wayfinding strategy** for the city that is integrated with pedestrian wayfinding and aligns with TransLink design guidance
- Support the **development of a "Tour de Richmond"** as a designated cycling route around Richmond that connects key tourism and destinations

Enhanced Safety

- Continue efforts to **reduce motor vehicle speed limits** on local streets with a focus on providing comfortable neighbourhood bike routes
- Expand **safe systems approaches** to improve road safety for pedestrians and cyclists, particularly at intersections

Equity

- Advance bike facility designs which are suitable for **all ages and abilities**
- Apply a **Gender-Based Analysis Plus (GBA+)** lens to new cycling policy and facility designs to consider impacts on all members of the community, particularly those who have been historically underrepresented in cycling
- Encourage **cash/non-credit card options** and discounted fares for public shared micromobility devices to reduce financial barriers to low-income users

Data Collection

- Consider conducting an **annual cycling survey** of residents and visitors
- Continue to install **bike counters** and explore new technologies to better track cycling activity
- Continue to require public shared micromobility device operators to **share data** as a condition of operation in the city



CNCL - 439

 **Richmond**
City of Richmond
Cycling Network Plan Update

Prepared by
steer



City of Richmond

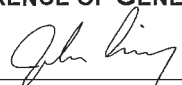

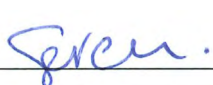
Report to Committee

To: Public Works and Transportation Committee **Date:** June 13, 2022
From: Suzanne Bycraft **File:** 02-0780-03/2022-Vol
Director, Public Works Operations 01
Re: Extension to Contract 6917Q - Public Works Lease Vehicles

Staff Recommendation

That staff be authorized to issue a change order to Purchase Order 96440 to increase the value of the current contract between the City of Richmond and Zeemac Vehicle Lease Ltd. by \$244,794, bringing the new contract value to \$700,000, and extending the contract end date to July 1, 2023.

Suzanne Bycraft
Director, Public Works Operations
(604-233-3338)

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Finance Department	<input checked="" type="checkbox"/>	
Purchasing	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO 

Staff Report

Origin

The City maintains a base complement of vehicles and equipment to support corporate operations. There are currently 473 fleet units inclusive of 405 diesel/gasoline units, 19 battery electric units, 16 plug-in hybrid electric units, 32 regular hybrid units, and 1 hydrogen fuel cell unit to service all City business areas, plus an additional 163 non-fueling assets (trailers, machine attachments, salt inserts, etc.).

Fleet Operations supports Public Works and Parks in meeting increased operational requirements associated with seasonal operating demands and capital work by supplementing its fleet with additional vehicles or equipment under lease for variable periods, typically ranging between three to nine months. During the onset of the COVID-19 pandemic and following public health orders, the City formed COVID-19 safety plans to protect its workers. As part of these safety plans, vehicle occupancy limits were capped at 50% of available seats. This strategic approach has helped to minimize the spread of COVID-19 among staff, thereby ensuring services to the community have been able to be delivered without interruption. As a result, of 37 units currently under lease, there are 15 vehicles leased in the first quarter of 2020 under Contract 6917Q that have had to be retained for considerably longer than anticipated.

There is high demand in the marketplace for these units in light of supply chain challenges. Returning these units and attempting to source from other vendors is not an option due to scarcity issues in the marketplace. Therefore, it remains prudent to extend these leases to ensure no negative impacts to service levels. This report seeks to extend the lease arrangement between the City and Zeemac Vehicle Lease Ltd. for the 15 units retained under Contract 6917Q through July 1, 2023, at which point our expectation is that there will be greater clarity surrounding requirements related to COVID-19 as it impacts vehicle occupancy limits.

This report supports Council's Strategic Plan 2018-2022 Strategy #1 A Safe and Resilient City:

Enhance and protect the safety and well-being of Richmond.

1.3 Ensure Richmond is prepared for emergencies, both human-made and natural disasters.

Analysis

Prior to administering the contract, staff sought bids and determined that Zeemac Vehicle Lease Ltd. was the only vendor able to provide all of the required vehicles, while offering the lowest market price per unit. As noted, the duration of these seasonal lease vehicles has far exceeded expectations due to vehicle occupancy limits currently at 50%. Typically lease vehicles are returned after capital and seasonal operating demands have ended.

Staff conducted an audit of the user group's requirements and determined that it is necessary to retain these units to meet demands while adhering to capacity limits. This review is ongoing with the objective of returning any units no longer deemed required at the earliest possible opportunity. Due to high demand and low availability in the rental market, there would be a

minimum three to six month delay or longer plus negative impacts to service levels and capital work if these units were to be returned and a new bid process undertaken.

To ensure user groups can meet operational and seasonal operating demands, and given that maximum spending authority under Officer and General Manager Bylaw No. 8215 has been reached for these 15 units, staff are seeking approval to issue a change order to Purchase Order 96440 to increase the value of the current contract with Zeemac Vehicle Lease Ltd. by \$244,794, bringing the new contract value to \$700,000 as outlined in Table 1. This will also extend the end date of the contract to July 1, 2023.

Table 1: Purchase Order Totals – Current Costs vs. Estimated

Vendor	Purchase Order	Current Contract Value (April 1, 2019 – June 30, 2022)	Monthly Charges (15 Units)	Value Increase (12 months)	Contingency	Estimated Contract Value (To July 1, 2023)
Zeemac Vehicle Lease Ltd.	96440	\$455,206	\$18,954.75	\$227,457	\$17,337	\$700,000

Financial Impact

Costs for vehicles and equipment required to support capital construction projects are included as part of approved capital project budget allocations. Lease costs are charged to Fleet Operations' budget and billed quarterly to the various departmental projects they support.

Conclusion

Due to the uncertainty and complexity of COVID-19 restrictions, Public Works sections were required to retain lease vehicles for longer than anticipated. These vehicles must be retained to adhere to safety plans for capacity restrictions, meet departmental needs, and effectively maintain service levels.

It is recommended that staff be authorized to issue a change order to Purchase Order 96440 to increase the value of the current contract between the City of Richmond and Zeemac Vehicle Lease Ltd. by \$244,794, bringing the new contract value to \$700,000, and extend the end date of the contract to July 1, 2023. Staff will continue to monitor vehicle needs associated with COVID-19 safety plans and return any vehicles deemed no longer required, if and when possible.



Brandon Olson
Acting Manager, Fleet Operations
(604-244-1252)



City of Richmond

Report to Committee

To: Parks, Recreation and Cultural Services
Committee

From: Marie Fenwick
Director, Arts, Culture and Heritage Services

Re: 2021 Richmond Film Office Year in Review

Date: June 15, 2022

File: 08-4150-09-01/2022-
Vol 01

Staff Recommendation

That the staff report titled, "2021 Richmond Film Office Year in Review," dated June 15, 2022, from the Director, Arts, Culture and Heritage Services, be received for information and circulated to motion picture industry stakeholders for their information.

Marie Fenwick

Marie Fenwick
Director, Arts, Culture and Heritage Services
(604-276-4288)

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Economic Development Finance Department	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<i>Severance</i>
SENIOR STAFF REPORT REVIEW	INITIALS: <i>MF</i>	APPROVED BY CAO <i>Severance</i>

Staff Report

Origin

The City of Richmond has had a dedicated Film Office since 2007. One of the key mandates of the Richmond Film Office is to provide a “one-stop shop” resource for film productions, as well as provide centralized services to Richmond businesses and residents affected by filming. In 2018, Council adopted Policy 1000–Filming on Location in Richmond which formally acknowledges the economic and social benefits of filming.

The purpose of this report is to provide an overview of the 2021 film activity in the City, as well as to advise of early indicators for 2022.

This report supports Council’s Strategic Plan 2018-2022 Strategy #7 A Supported Economic Sector:

Facilitate diversified economic growth through innovative and sustainable policies, practices and partnerships.

7.1 Demonstrate leadership through strategic partnerships, collaborations and exploring innovative and emerging economic practices and technical advancements.

7.2 Encourage a strong, diversified economic base while preserving agricultural land and maximizing the use of industrial land.

7.3 Attract businesses to locate in Richmond and support employment and training opportunities in Richmond as we grow.

This report supports Council’s endorsed 2019-2024 Richmond Arts Strategy Objective 3.3:

Broaden the economic potential and contribution of the arts.

3.3.3 Continue to create favorable conditions for the filming industry in Richmond.

This report supports Council’s endorsed Resilient Economy Strategy Actions 5.6.2.2:

Continue to support film and television work in Richmond.

Background

The Richmond Film Office oversees the production of and facilitates filming activities in Richmond. The office processes filming applications, provides permits for filming activity on City-owned properties, and assists with location scouting within the City. Staff facilitate all City services required for filming and coordinates invoicing for those services. The most common services include policing, staff liaisons, location rentals and use of city streets.

A core initiative of the Richmond Film Office is to liaise with motion picture industry and community stakeholders on film-related matters in order to promote the growth of Richmond’s film sector. The key objective of these efforts is to attract production crews to shoot on location

in Richmond on both public and private property. In recent years, the film office has also worked to help attract and facilitate the opening of film studio facilities in Richmond.

COVID-19 Update

The motion picture industry, like many sectors in British Columbia, continues to pivot as provincial, federal, and international guidelines regarding COVID-19 shift. The key priority being the safety and well being of cast, crew, and the communities in which filming activity takes place. Despite the challenges of the pandemic, the Provincial Film Commission reported that 2021 saw an increased number of higher value productions choosing British Columbia for filming. Creative B.C. attributes this success to British Columbia being one of the safest jurisdictions in which to film during the pandemic due to the professionalism and experience of local crews and industry stakeholders.

2021 Filming Activity

2021 was a notable year for filming activity in Richmond, with a significant increase in revenue and an increase in film days and number of permits issued by the Film Office from previous years.

2021 Filming Revenue

Table 1: Richmond Film Office Total Service and Location Charges 2017-2021

Year	2017	2018	2019	2020	2021
Total Service and Location Charges Processed	\$391,725	\$239,101	\$492,342	\$573,956	\$635,202

The Richmond Film Office processed \$635,202 in service and location charges in 2021, an increase of 11% per cent from 2020. The breakdown of revenue was as follows:

- \$356,807 in location rental fees;
- \$47,108 in street use and parking fees;
- \$132,908 in various cost recoveries (e.g., staff time cost recovery, fire hydrant permits, special effects permits);
- \$32,005 to the Richmond RCMP Detachment; and
- \$66,374 for administration fees.

As per Provincial guidelines, the City charges on a cost recovery basis for the majority of services, however location rentals are billed at market rate.

Film revenue collected by the City in 2021 is higher than other years for a variety of reasons including:

- Productions that have leased local film studio facilities generally prefer to film in locations in Richmond;
- Productions such as “*Pachinko*” Season 1, conducted extensive filming at the City’s heritage sites during the duration of their season;
- A high value production under the working title “*Bonfire*” rented out a section of a large City owned back lot for a period of six months which resulted in revenue to Real Estate Services and a high number of prep/wrap days; and
- Productions are requesting larger footprints for longer durations, in order to be able to abide by COVID-19 motion picture industry guidelines.

Along with ongoing filming activity, staff focused on strategic initiatives in 2021 which will benefit the film industry in the future. These include:

- Working with MBS Equipment Company Canada to facilitate the processes required to gain final occupancy of a building for use as a film studio facility;
- Participating in Creative B.C.’s Municipal Film Advisory Committee, and working closely with industry stakeholders to develop plans, implement processes, and provide feedback on the motion picture industry’s COVID-19 return to work materials; and
- Participating in the Community Affairs Committee, a group of municipal, provincial, union and studio executives who meet regularly to address issues and best practices regarding the motion picture industry.

2021 Film Days

Table 2: Richmond Film Activity 2017-2021

Year	2017	2018	2019	2020	2021
Shoot Days	205	211	238	128	140
Prep/Wrap/Hold Days	253	209	256	377	373
Total Days of Filming Activity	458	420	494	505	513

Within Richmond, there are many non-City owned locations used for filming, including Steveston Harbour Authority, Metro Vancouver, Vancouver International Airport, and the Gulf of Georgia Cannery. These locations and other private property owners are not obligated to report revenue or filming days to the City. As a courtesy, film production companies generally alert the Richmond Film Office regarding filming to ensure compliance with bylaws, to avoid any traffic or other conflicts in the area and so that the filming can be included in City records. In 2021, there were 453 days of filming activity managed by staff on City-owned property, five days of filming activity on Metro Vancouver property, five days of filming activity at the Gulf of

Georgia Cannery, 24 days of filming activity at Vancouver International Airport, and 26 days of filming activity at Steveston Harbour Authority.

Despite having a comparable number of shoot days to previous years, the industry is seeing a trend in a higher number of prep/wrap days. This increase can be attributed to a number of factors including:

- Productions following strict COVID-19 guidelines which require additional time and larger footprints in order to ensure a safe working environment;
- Productions no longer being able to film in close proximity with each other or film at the same location(s) back to back, requiring the need to work with Film Offices to spread out filming activity throughout various locations within the municipality; and
- With the increase in higher value productions choosing to film in British Columbia, prep/wrap periods are more extensive due to the intricate sets and the scope of work required.

2021 Film Studio Facilities

Richmond is currently home to six film studio facilities. The stability of the motion picture industry in Richmond throughout the COVID-19 pandemic is partially attributed to the development of these facilities. Demand for film studio facilities has been increasing for a number of years in the region. This demand has been further amplified with productions preferring to film at a studio facility when possible in order to ensure a safe and controlled work environment.

In 2021, MBS Equipment Company Canada (MBS) converted a leased warehouse in the South Arm area into a film studio facility. MBS Equipment Company Canada is part of the MBS Group, the largest studio based production services equipment and support company in the world. In North America, MBS Group owns eight studios, manages 12 leased properties, and provides production services to an additional 31 properties. It is projected that the production that is currently occupying the facilities will provide regular employment for an average of 250 cast and crew.

2021 Filming History

The productions that filmed in Richmond for 2021 included:

- **Motion Pictures:** *Bonfire*, *Fresh*, *Chien Blanc*, and *The Mother*;
- **Documentaries:** *Crowned Athletes*;
- **Short Films:** *It Came to Pass in the Town of Oswiecim*, *Flying*, and *Dragon Fruit*;
- **Television Movies:** *Heatwave*, and *Zoey's Extraordinary Christmas*;
- **Television Series:** *Home Before Dark*-Season 2; *Zoey's Extraordinary Playlist*-Season 2; *Superman & Lois*-Season 1 & 2; *Big Trick Energy*-Season 1; *Pachinko*-Season 1; *The Great Canadian Baking Show*-Season 5; *Yellowjackets*-Season 1; *DC Legends of*

Tomorrow-Season 7; *Nancy Drew*-Season 3; *Seeing Canada*-Season 3; and *The Good Doctor*-Season 5;

- **Television Pilots:** *Dead Boy Detectives*;
- **Commercials:** *Coast Capital*, and *Shaw TV*; and
- **Marketing Campaigns & Commercial Photoshoots:** *MPPIA Thank You Public Service Announcement*, *Tourism Richmond*, *FORM Swim*, and *Worksafe BC Courier Industry Videos*.

Early Indicators for 2022

Due to a resurgence in COVID-19 case numbers in late 2021 and restrictions as a result of the Omicron variant, there was a dip in filming activity in British Columbia during the first quarter of 2022. This decrease in activity was fleeting, and while projections for 2022 remain cautious, it is expected that filming activity in the region will remain steady. As of May 2022 the Film Office has issued 30 film location agreements. In order to accommodate as many productions as possible, with the least amount of impact to residents and other industries, staff consider film applications very carefully and work closely with productions to consider a variety of locations within the City.

As the international, federal, and provincial responses to the COVID-19 pandemic shift, the motion picture industry continues to pivot, with productions choosing to film in regions that are safe, stable, and cost effective. It is expected that filming activity in British Columbia will remain steady in 2022. Staff will monitor the situation and continue to liaise closely with the industry.

Economic Benefits of Filming

Each year the Motion Picture Association – Canada (MPA-Canada) releases economic impact studies for at least one production filmed in British Columbia. A report on the impact of the Metro Vancouver filmed production “*Superman & Lois*” Season 1, which filmed between 2020-2021 was recently released. The report highlights that the production:

- Contributed a total of \$137 million to British Columbia’s GDP;
- Spent \$95 million in British Columbia
 - 42 per cent spent on local goods and services (such as costumes, catering, automobile rentals & more);
 - 58 per cent spent on local crew & other labour;
- Stimulated 1,220 full-time equivalent jobs through production in the province; and
- Supported 1,280 community businesses.

These reports provide a good example of the impact one production can have on the local economy. This particular report is especially fitting, as “*Superman & Lois*” Season 1, not only filmed on location in Richmond (and other municipalities) but also worked out of two film studio facilities located within the City.

MPA-Canada also collects local spending data from all of their global studio members, highlighting the impact of the motion picture industry on communities across Canada. In 2020,

MPA Studios spent more than \$1.14 billion on goods and services, and supported 27,350 businesses in British Columbia. In the Richmond community alone, MPA Studios supported more than 1,000 businesses with over \$13 million in spending on production-related goods and services (such as costumes, catering, automobile rentals and more). While MPA Studio data for 2021 has not yet been released, it is expected that the impacts the motion picture industry has on the local economy will continue to remain positive and strong. The MPA member studios include Disney, Warner Bros., Sony Pictures, Paramount, Netflix, and NBCUniversal.

According to Creative B.C.'s 2020-2021 Impact Report, British Columbia continues to be the largest motion picture hub in Canada and third largest in North America, with an estimated 350 productions in the region. Despite the five month pause due to the global pandemic in 2020, these productions contributed \$1.83 billion Total Gross Domestic Product (GDP) in value added to British Columbia's economy. Total GDP includes pay and profits resulting from the industry's activities and is now included as part of Creative B.C.'s new measurement mechanism for government and industry. Furthermore, insights from the Impact Report show that there are between 60,000 to 70,000 British Columbian "workers" in the motion picture industry. As the industry is largely comprised of gig or freelance workers, this type of work remains difficult to measure however, Creative B.C. data indicates that this equates to 28,018 total full-time equivalent jobs when traditional approaches to "hours worked" are used as a measurement tool. In Richmond, beyond the revenue generated by the City and public properties, filming continues to contribute significant direct and indirect revenue to local businesses and land owners.

British Columbia has over 120 sound stages representing over 2.8 million square feet of purpose built stages and warehouse conversions. Productions are actively seeking warehouse spaces and converting them into film studio facilities. As of 2021, there are six film studio facilities in Richmond, four are operated by stage management companies and two are operated by studio production companies.

The film sector continues to be a major employer in British Columbia and in Richmond. A media release published by the Vancouver Economic Commission in October 2021 reported that "since 2012, the motion picture industry has collectively invested \$26 billion into the provincial economy, \$14.4 billion of which have been paid directly as wages to British Columbians". The release further states that the film "industry acted as an economic lifeline during the pandemic". In Richmond, it is estimated that there were over \$17 million in wages earned by residents employed in 2020. The 2021 wage totals are yet to be released, however film production unions are anticipating that 2021 wage totals will be higher as a result of increased filming activity as the industry recovers from the temporary setback presented by the COVID-19 pandemic.

Industry Initiatives

As filming activity continues to increase in Richmond, staff are working closely with stakeholders at Creative B.C., motion picture industry representatives, and neighbouring municipalities on a variety of initiatives.

In early 2021, staff were approached by the Motion Picture Community Initiative of British Columbia (MPCI B.C.) regarding a marketing proposal to acknowledge and thank various sector partners and the community for their support towards the film industry's return during the

COVID-19 pandemic. The initiative encompassed a public service announcement video titled “*A Very BC Production*”, which featured Honourable Melanie Mark – Minister of Tourism, Art, Culture and Sport and highlighted the support the film industry has received from frontline workers, small business owners, residents, local governments, and production cast and crews. As a popular film location with a high number of small businesses, MPCIB.C. worked with staff to feature Steveston Village in the section of the video that acknowledges the support received from small business owners who have opened their doors to film crews. The video was very well received by film industry partners and the community, and includes a shot of the iconic Hepworth Block.

The City of Richmond was also invited by the Motion Picture Production Industry Association of British Columbia to participate in a town hall at the sixth annual Creative Industries Week. The virtual session comprised of representatives from production, business, and local government to discuss the local impacts of the global pandemic on the motion picture industry. As one of two film offices invited to speak at the session, staff were able to share how the City of Richmond was able to mobilize and adjust internal processes in order to support the film sector’s safe return to work in 2020.

Financial Impact

None.

Conclusion

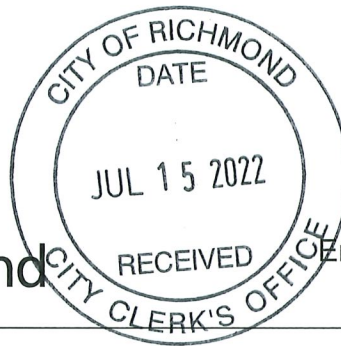
The Richmond Film Office brought in more revenue and cost recoveries in 2021 than in any previous year. This increase in service and location fees processed can be attributed to multiple factors, including the establishment of additional film studio facilities in Richmond and a trend of higher value productions choosing British Columbia for their filming. Staff are committed to working with stakeholders to establish and execute strategic initiatives and adjust existing services in order to enable the motion picture industry’s recovery and growth during and beyond COVID-19. The film sector continues to be an important economic industry in the City. The financial impact through employment and fees for locations is significant and beneficial to the City, local businesses and its residents.



Samir Modhwadia
Film and Major Events Liaison
(604-247-4607)



City of
Richmond



TO: MAYOR & EACH
COUNCILLOR
FROM: CITY CLERK'S OFFICE

Memorandum

Engineering and Public Works Division
Community Services Division

To: Mayor and Councillors

Date: July 14, 2022

From: Martin Younis, B. Eng., M. Eng.
Manager, Capital Buildings Project Development

File: 06-2052-25-SCCR1/Vol 01

Egan Davis
Manager, Parks Operations

**Re: Steveston Community Centre and Branch Library Replacement –
Tree Management Plan**

The purpose of this memorandum is to advise of the Tree Management Plan for the Steveston Community Centre and Branch Library Replacement Project, which includes information on the necessary tree removals, tree relocations and associated tree compensations at the project site.

Building construction enabling works require tree removals, which are anticipated to commence in Fall 2022. The enabling works for this project includes access road realignment and ground preparation for the new community centre, as indicated on Attachment 1.

Trees directly impacted by the building footprint and realigned access road will need to be removed or relocated. The remaining tree removals required for plaza construction, surface parking and demolition of the existing community centre will be completed at a later date, to be determined as the new community centre construction progresses.

City staff and the project arborist surveyed 112 trees located within the construction site and surrounding area. As a result, staff have identified that of the number of trees surveyed:

- 45 trees will be preserved and protected for retention on the site. Prior to construction, tree protection fencing will be placed around the trees that are to be retained and will be monitored during construction.
- 55 trees directly impacted by the project will be removed and compensated by planting 165 new trees on the site or at another City location. The 3 to 1 replacement ratio will result in a net gain of 110 new trees.
- 12 trees are recommended for transplanting within the park as the size and vitality are suitable for relocation.

PHOTOCOPIED

CNCL JUL 15 2022
451

& DISTRIBUTED

July 14, 2022


- 2 -

Staff are also investigating feasibility options to incorporate salvaged timber into playground features, public art, or milled into lumber and developed into furniture pieces for the project.

On-site tree removal notices and information signage will be posted at all removal locations at least 2 weeks in advance. Neighbouring residents and the public will be notified of the work through multiple communication platforms including social media posts and highlighted on the virtual Capital Projects Open House.

Wildlife assessments, including bird nesting surveys will also be completed by an independent Qualified Environmental Professional (QEP) and reviewed by the City's Environmental staff prior to tree removals.

Should you have any questions with regards to this project, please direct them to the undersigned.



Martin Younis, B. Eng., M. Eng.
Manager, Capital Buildings Project Development
(604-204-8501)



Egan Davis
Manager, Parks Operations
(604-244-1210)

MY:ek

Att. 1: Tree Management Plan

pc: SMT
Jim V. Young, P. Eng., Director, Facilities and Project Development
Todd Gross, Director, Parks Services
Elizabeth Ayers, Director, Recreation and Sport Services
Mile Racic, LEED Green Assoc., Senior Project Manager
Jared Kuzik, B.Sc., PMP, LEED Green Assoc., Project Manager
Chad Paulin, Manager, Environment, Sustainability

ATTACHMENT 1 TREE MANAGEMENT PLAN STEVESTON COMMUNITY CENTRE AND BRANCH LIBRARY

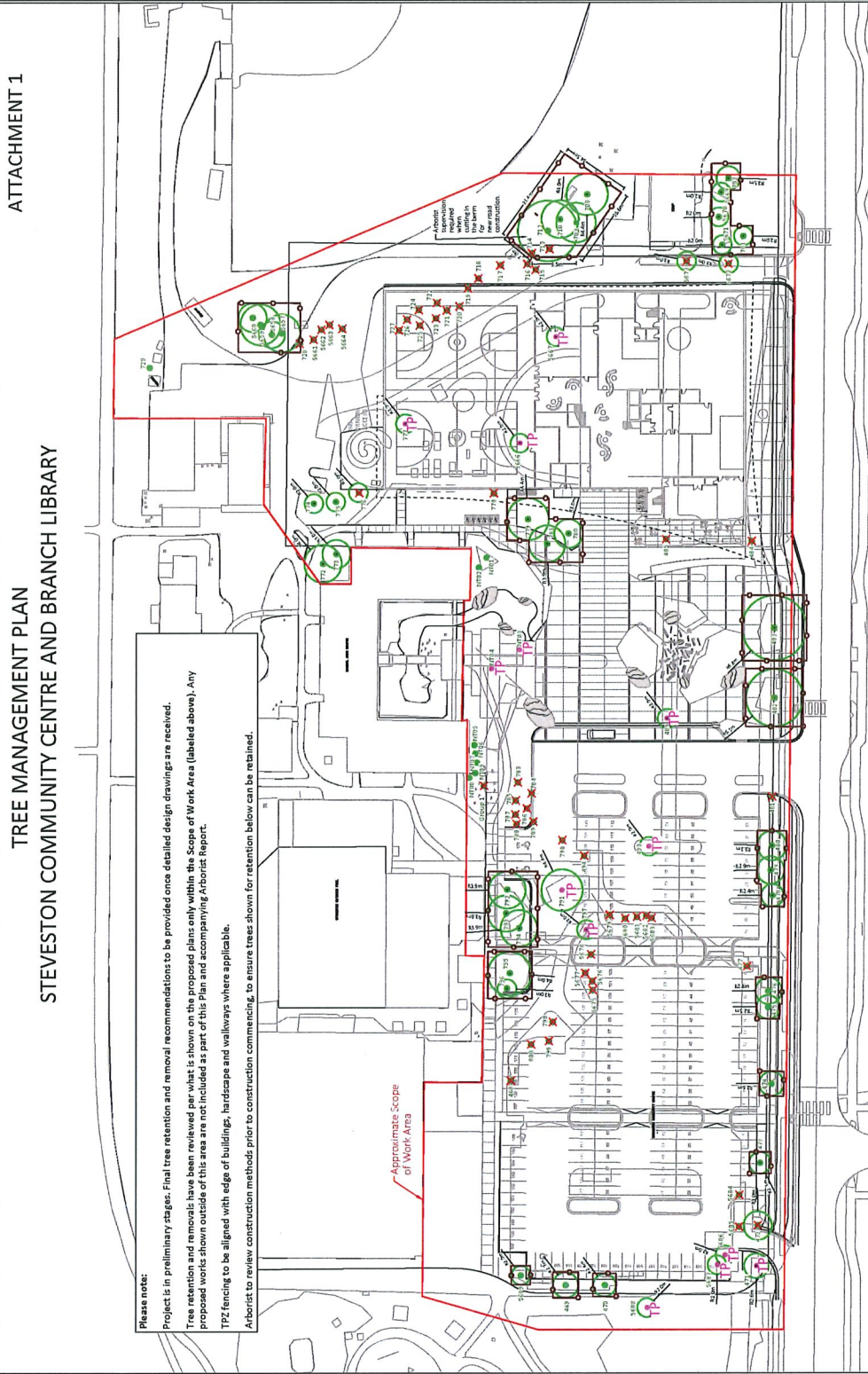
- LEGEND**
- CRITICAL ROOT ZONE
 - TREE PROTECTION FENCING
 - SURVEYED TREE TO BE RETAINED
 - SURVEYED TREE TO BE REMOVED
 - SURVEYED TREE TO BE TRANSPLANTED
 - PROPOSED TREE TO BE PLANTED BY THE CITY OF RICHMOND

- NOTES**
- The location of un-surveyed trees on this plan is approximate. Their locations were confirmed by a Registered BC Land Surveyor.
 - All tree protection fencing must be built to the relevant municipal bylaw and must be set back from the outer edge of the stem of the tree.
 - The tree protection zone shown is a graphical representation of the critical root zone. The tree protection zone is the outer edge of the stem of the tree. The tree protection zone is the graphical tree protection circle to accommodate the survey point being in the center of the tree.
 - Any construction activities or grade changes within the Root Protection Zone must be approved by the project arborist.
 - This plan is based on a topographic map and is not certified as to the accuracy of the location of features or dimensions that are shown on this plan. Please refer to the original survey plan and engineering plans.

- REFERENCE DRAWINGS**
- Base plans provided by the City of Richmond.

Drawing No: 001
Date: 2022/07/14
Drawn by: MS/DBE
Page Size: TABLOID 11"x17"

Page #
1 of 1



Please note:
Project is in preliminary stages. Final tree retention and removal recommendations to be provided once detailed design drawings are received.
Tree retention and removals have been reviewed per what is shown on the proposed plans only within the Scope of Work Area (labeled above). Any proposed works shown outside of this area are not included as part of this Plan and accompanying Arborist Report.
TPZ fencing to be aligned with edge of buildings, hardscape and walkways where applicable.
Arborist to review construction methods prior to construction commencing, to ensure trees shown for retention below can be retained.

DIAMOND HEAD

3558 COMMERCIAL STREET
VANCOUVER BC V6N 4E8
1 604 731 4086

Drawing title: Preliminary Tree Management Plan
Project address: Steveston Community Centre
Client: City of Richmond



City of Richmond

Report to Committee

To: General Purposes Committee

Date: June 30, 2022

From: Jim V. Young, P. Eng.
Director, Facilities and Project Development

File: 06-2052-25-SCCR1/Vol 01

Elizabeth Ayers
Director, Recreation and Sports Services

Re: Steveston Community Centre and Branch Library – Form and Character Design

Staff Recommendation

That the form and character design for the Steveston Community Centre and Branch Library as outlined in the report titled, "Steveston Community Centre and Branch Library – Form and Character Design," dated June 30, 2022 from the Director, Facilities and Project Development and the Director, Recreation and Sport Services be approved.

Jim V. Young, P. Eng.
Director, Facilities and Project Development
(604-247-4610)

Elizabeth Ayers
Director, Recreation and Sport Services
(604-247-4669)

Att. 2

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Library Services	<input checked="" type="checkbox"/>	
Parks Services	<input checked="" type="checkbox"/>	
Development Applications	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

On December 12, 2016, Council identified the Steveston Community Centre and Branch Library as a priority Phase 2 Major Facilities project for 2016-2026. Since then, Council has made a number of key decisions which include the approval of the program totaling 60,350 sq. ft., the site location at the southeast quadrant of the park, parking and the building concept form as well as the \$90 million capital budget and the \$5 million construction escalation contingency.

The purpose of this report is to present the proposed form and character design of the Steveston Community Centre and Branch Library for Council endorsement. The approval of this key stage will allow staff to continue to detailed design as well as enabling works and site preparation for construction of the new facility.

This report supports Council's Strategic Plan 2018-2022 Strategy #3 One Community Together:

Vibrant and diverse arts and cultural activities and opportunities for community engagement and connection.

3.1 Foster community resiliency, neighborhood identity, sense of belonging, and intercultural harmony.

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.

4.1 Robust, affordable, and accessible sport, recreation, wellness and social programs for people of all ages and abilities.

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

4.3 Encourage wellness and connection to nature through a network of open spaces.

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.

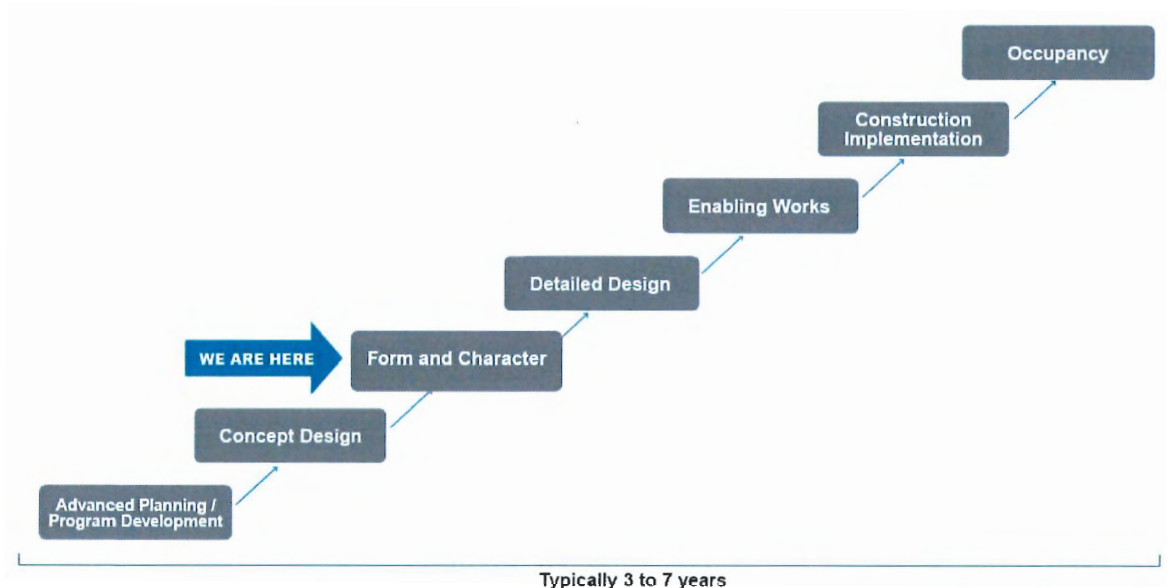
8.1 Increased opportunities for public engagement.

Background

The building design form with a 36,000 sq. ft. building footprint was determined and approved by Council, to be a three-storey facility plus one level of underground parking, which provides a balanced approach where program synergies are realized, impacts on green space and trees are minimized, and views and connections to the park are achieved from many of the program spaces.

The project has now reached the final steps in the Form and Character stage, which is the third stage of a multi-stage process in the delivery of a major facility project, as illustrated in Figure 1 below. Form and character refers to the general shape, volume, materials and general colour scheme of the building. Completion of form and character is an iterative and involved process that brings the exterior design to a point where detailed design of the facility can proceed.

Figure 1: Delivery Stages of a Major Facility Project



Analysis

The Form and Character design stage was an iterative process that included a Design Charrette and a variety of public engagement opportunities. The Design Charrette was implemented in April 2022 and was an inclusive, consensus-based session that informed potential design themes for the form and character of the facility. The Design Charrette along with subsequent discussions included City and Library staff, members of the Steveston Community Society and Richmond Public Library Board, as well as members of the architect and construction manager firms. Following the Design Charrette, the architects refined the character design and developed renderings of key views of the building for presentation to the public.

Recommended Character Design

The character of the new building is a culmination of the Design Charrette, public engagement, guiding principles for the project, and inspiration from various buildings and landmarks around the Steveston area. All of these elements were cohesively incorporated together, within the Council approved budget and program, to form the facility's exterior design.

Key inspirations for the proposed character design were:

- the project guiding principles – to be innovative, sustainable, inclusive, a model of wellness, synergistic, connected, and reflective;
- Steveston's unique cultural and historical identity; and
- synergies with surrounding buildings.

Key reflecting elements of the character design included:

- the platforms and docks at the Steveston waterfront;
- the canopies and fascia trims from the Steveston Interurban Tram Building;
- the traditional Japanese curved roof form of the Martial Arts Centre; and
- materiality and patterns from the surrounding industrial buildings.

The proposed character design builds on earlier engagement and feedback from the public and stakeholders, and considers the surrounding park environment and Steveston Village context. The new facility will serve the community into the future supporting the physical, wellness, life-long learning, and creative needs of those who live, work and play in Steveston and surrounding neighbourhoods (refer to Attachment 1).

Public Engagement Process

Fundamental to the character design process was implementation of an extensive public engagement program to confirm that the proposed form and character of the building aligns with the current and future needs of the community. Engagement opportunities were promoted extensively through direct mail, distribution of a news release, posters at community facilities, newspaper advertisements, social media, and outreach to key stakeholders.

Engagement opportunities were implemented from May 18 – June 7, 2022 and included 4 open houses, display boards on site at the Steveston Community Centre and Branch library, and a Let's Talk Richmond survey. The engagement opportunities were well received with the completion of 254 Let's Talk Richmond surveys and over 1,000 visitors at the in-person engagement opportunities.

The community expressed overwhelming support for the proposed character design as indicated on the Let's Talk Richmond survey responses:

- 83% of respondents agree or strongly agree that the proposed building character design reflects the Guiding Principle “Be Inclusive” and reflects the community as a whole.
- 80% of respondents agree or strongly agree that the proposed building character design reflects the Guiding Principle “Be Reflective” and the spirit of Steveston. It will inspire current and future generations to explore and use the facility.
- 79% of respondents agree or strongly agree that the proposed building character design is complementary to the existing facilities at the Steveston Community Park site.
- 80% of respondents agree or strongly agree that the proposed building character design provides a sense of connection between the building and the areas around it such as the plaza, park, and walking paths.
- 83% of respondents agree or strongly agree that the proposed building character design encourages them to want to explore the building and discover what is inside.

Overall support for the proposed character design was expressed by the community with comments including the following:

“The architecture design of this building is very fitting to Steveston. Very nice.”

“This appears to be a very well thought out project. I love that the environment is being strongly considered.”

Some of the feedback received through the Let's Talk Richmond surveys and in-person opportunities are best addressed at the detailed design stage. Examples of those comments include requests for art display space and sound mitigation between program areas.

The proposed character design is supported by both the Steveston Community Society and Richmond Public Library Board.

Advisory Design Panel (ADP)

Overall, the ADP was very supportive of the proposed facility design and were complimentary of the accessibility strategy and universal design principles seamlessly integrated throughout the project. There were a number of questions throughout the meeting that were answered by members of the project team. The questions and comments will be taken into consideration during the detailed design phase.

The proposed character design and budget currently reflect completing the facility to the City's Council adopted Sustainable High Performance Building Policy for all new City buildings to meet a standard of LEED (Leadership in Energy and Environmental Design) Gold Certification.

Should Council approve the character design outlined in this report, staff will proceed with detailed design development including consideration of ADP recommendations regarding the proposed facility form and character. It is anticipated that minor adjustments to the drawings presented in Attachments 1 and 2 will be made as the detailed design proceeds to ensure the project remains on budget and meets operational and stakeholder needs.

Tree Management and Communications Plan

City staff and the project arborist surveyed 112 trees located within the construction site and surrounding area. As a result, staff have confirmed that the number of trees anticipated to be impacted by the new facility is in the range of 60 - 70. The exact number of trees will be developed in tandem with the landscape design in the detailed design phase. The comprehensive tree management plan includes:

- complete inventory, condition assessment and retention value of all the trees that will likely be impacted by the new building and on site parking;
- strategy for the removal, retention or relocation of specific trees;
- protection plan for retained trees during construction; and
- maintenance and monitoring program to ensure the continued health of the trees.

Building construction enabling works are anticipated to commence in Fall 2022. Part of the enabling works is removal or relocation of trees directly impacted by the building footprint and realigned access road. The remaining tree removals or relocations required for plaza construction and demolition of the existing community centre will be completed at a later date, to be determined as the new community centre construction progresses.

A Certified Arborist Tree Management Report identified that of the 112 trees surveyed:

- 45 trees will be preserved and protected for retention on the site. Prior to construction, tree protection fencing will be placed around the trees that are to be retained and will be monitored during construction.
- A total of 67 trees will be removed or relocated as follows:
 - 55 trees are located in the construction zone and will be removed
 - 12 trees are recommended for transplanting within the park as the size and vitality are suitable for relocation

Trees impacted by the building footprint and construction enabling works will be removed. For every tree removed and not transplanted, 3 new trees will be planted. The 55 trees removed will be compensated by planting 165 new trees on the site or at another City location. Staff are also investigating feasibility options to incorporate salvaged timber into playground features, public art, or milled into lumber and developed into furniture pieces for the project. A Tree Management Communication Plan has been developed and includes on-site tree removal notices and information signage that will be posted at all removal locations at least 2 weeks prior to commencing the work.

Project Cost

Ongoing construction manager pre-construction services include cost estimates, material procurement, site logistics, and overall project schedule determination. For an added degree of cost certainty, the construction manager reviewed the form and character design and confirmed alignment with the project budget.

Financial Impact

None.

Conclusion

Public feedback received through the public engagement opportunities overwhelmingly indicate support for the proposed form and character design of the Steveston Community Centre and Branch Library. The proposed form and character design is also supported by the Steveston Community Society Board, the Richmond Public Library Board and the City's Advisory Design Panel. Council approval of the recommended building form and character design is required in order to complete the Form and Character stage and progress to the Detailed Design stage. Enabling works required for site preparatory works to facilitate the construction of the new centre are expected to start by early Fall 2022. The new facility will serve the community into the future supporting the physical, wellness, life-long learning, and creative needs of those who live, work and play in Steveston and surrounding neighbourhoods.



Martin Younis, B. Eng., M. Eng.
Manager,
Capital Buildings Project Development
(604-204-8501)

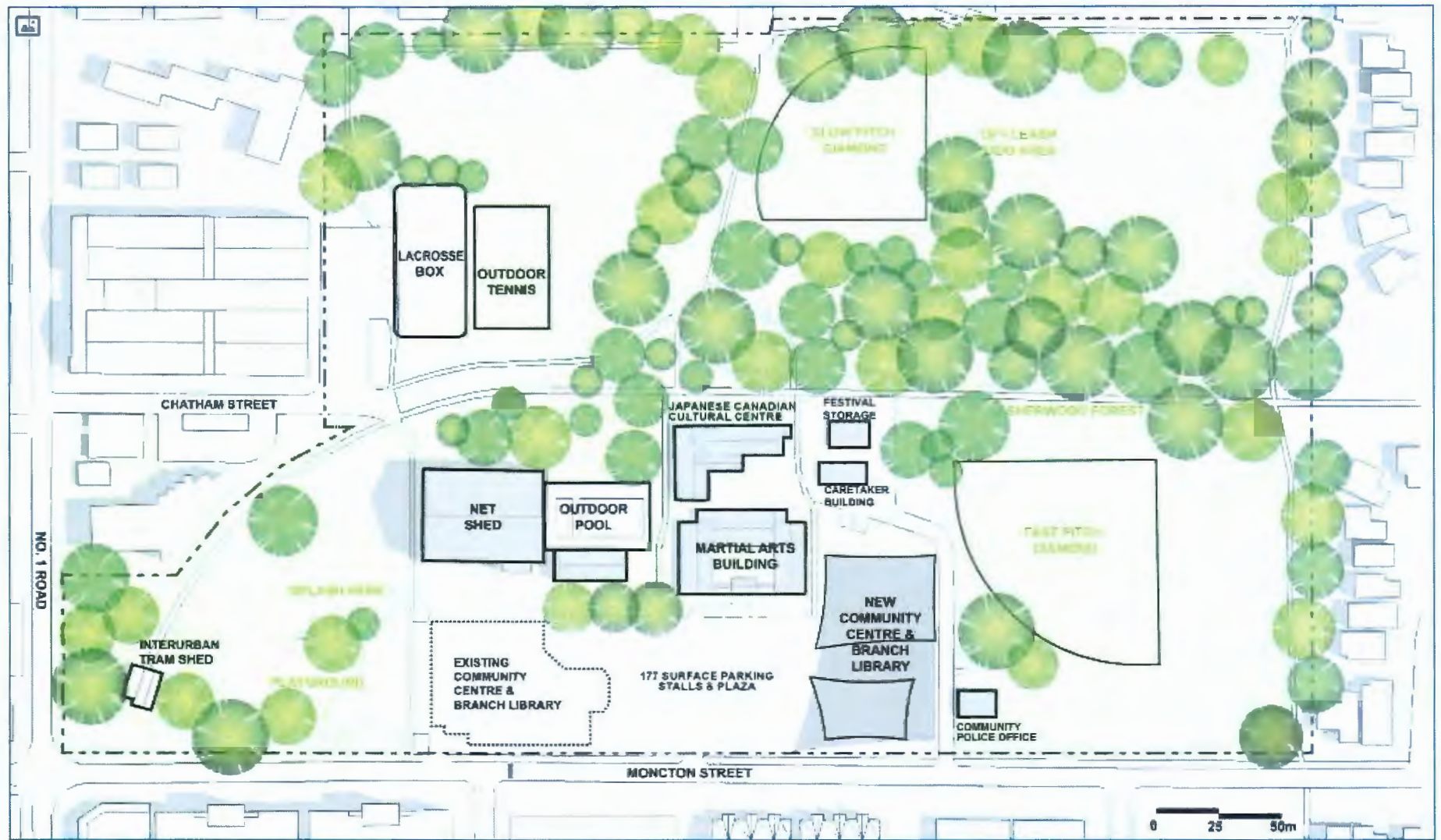


Mandeep Bains
Manager,
Community Services Planning and Projects
(604-247-4479)

MY:ek

- Att. 1: Steveston Community Centre and Branch Library Site Plan
2: Steveston Community Centre and Branch Library – Perspective Renderings

Steveston Community Centre and Branch Library – Site Plan



Steveston Community Centre and Branch Library – Perspective Renderings



PROJECT
Steveston Community Centre and Branch Library

CLIENT
City of Richmond

DATE
June 30, 2022

DRAWING TITLE
Front View of the Facility



PROJECT
Steveston Community Centre and Branch Library

CLIENT
City of Richmond

DATE
June 30, 2022

DRAWING TITLE
View from Moncton Street

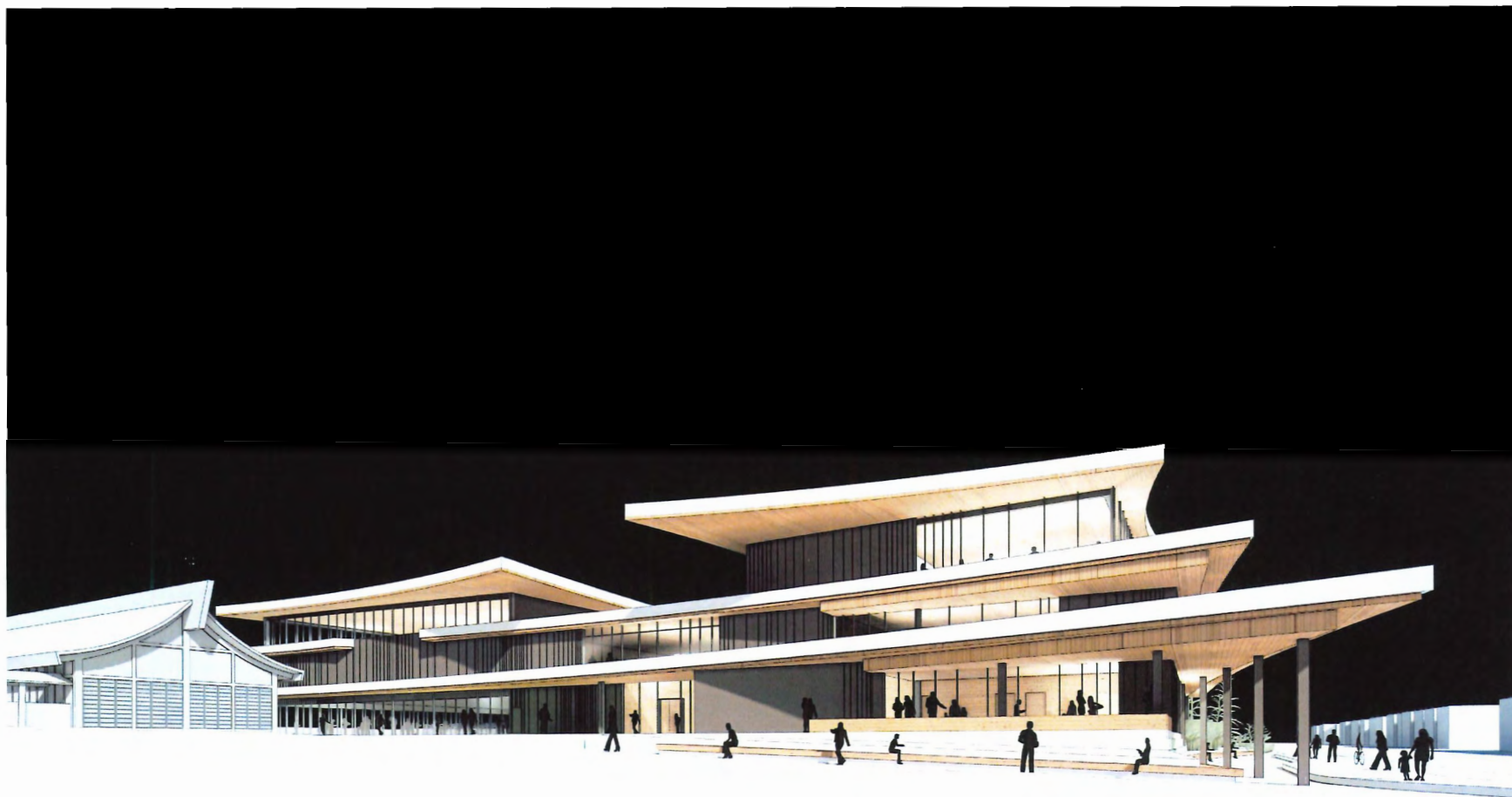


PROJECT
Steveston Community Centre and Branch Library

CLIENT
City of Richmond

DATE
June 30, 2022

DRAWING TITLE
View from Baseball Diamond Park



PROJECT
Steveston Community Centre and Branch Library

CLIENT
City of Richmond

DATE
June 30, 2022

DRAWING TITLE
Night Perspective

Motion: Carol Day

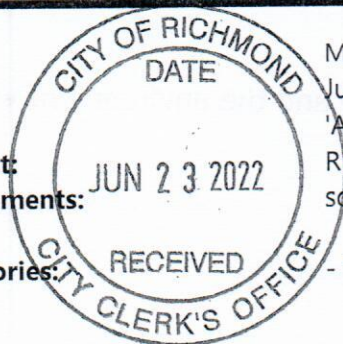
Write to the Federal Government , Minister of Environment and our Local Members of Parliament to ask them to ban marine scrubber in Canadian waters.

Rational The Port of Vancouver has enacted a 3-phase ban of scrubbers in its jurisdiction for ships that travel in our waters but we need to move faster to protect all Canadian waters. Scrubbers use alkaline water (often Sea water) to transfer harmful air pollutants such as Sulphur oxides into wash water which is dumped into coastal waters. The dumping of this waste water is a threat to aquatic organisms and causes dead zones. The chemicals accumulates up the food chain to larger marine animals and can work itself into the human food chain.

Nemes,Adrian

TO: MAYOR & EACH
COUNCILLOR
FROM: CITY CLERK'S OFFICE

From: Mayor and Councillors
Sent: June 17, 2022 9:03 AM
To: 'Anna Barford'; Mayor and Councillors
Subject: RE: Motion at UBCM Protecting BC Coasts From Acidic Wastewater Dumping
Attachments: scrubbers_infographic.pdf; 2022 06 17 letter for Richmond from Stand.Earth.pdf
Categories: - TO: MAYOR & EACH COUNCILLOR / FROM: CITY CLERK'S OFFICE



Good Morning,

Thank you for your email and letter. Please note that copies will be provided to the Mayor and each Councillor. In addition, your comments will be received by Peter Russell, Director, Energy and Sustainability, and Jason Kita, Director, Intergovernmental Relations and Corporate and Strategic Planning.

Sincerely,

Matt O'Halloran | Manager, Legislative Services
City of Richmond | 6911 No.3 Road, Richmond, BC V6Y 2C1
Phone: 604-276-4098 | Fax: 604-278-5139
Email: mohalloran@richmond.ca



From: Anna Barford <anna@stand.earth>
Sent: June 17, 2022 8:15 AM
To: Mayor and Councillors <MayorandCouncillors@richmond.ca>
Subject: Motion at UBCM Protecting BC Coasts From Acidic Wastewater Dumping

City of Richmond Security Warning: This email was sent from an external source outside the City. Please do not click or open attachments unless you recognize the source of this email and the content is safe.

Good Morning,

Attached please find a letter for the Mayor and Council.

We are writing today as Stand.Earth to bring your attention to an important resolution that will be coming before UBCM to address acidic wastewater discharge in all waters off BC.

Thank you for your official consideration of our letter. Please do not hesitate to reach out to myself if I can be of assistance.

Many thanks,

Anna Barford | she/her
Canada Shipping Campaigner O: +1 604-757-7029
CNCL - 467

PHOTOCOPIED

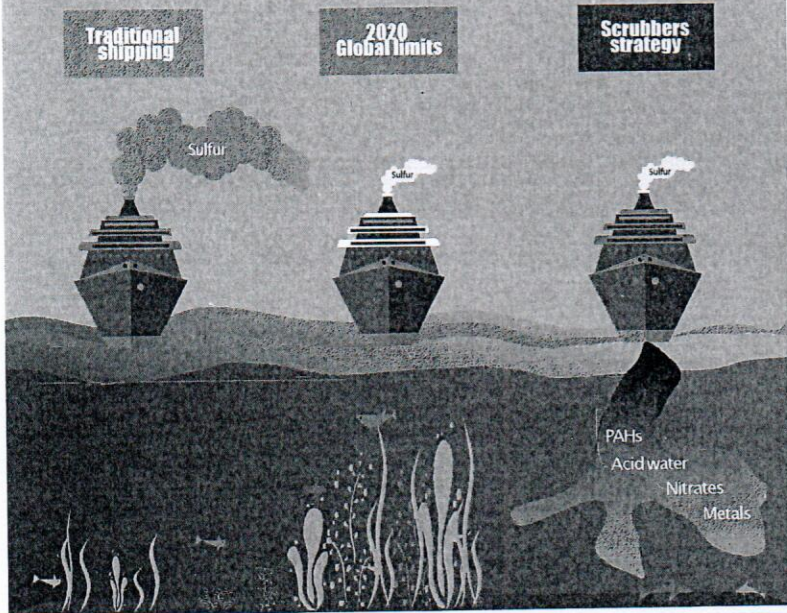
JUN 23 2022

& DISTRIBUTED

We Need to Move Faster on the Ban of Marine Scrubbers in the Port of Vancouver and Across Canada

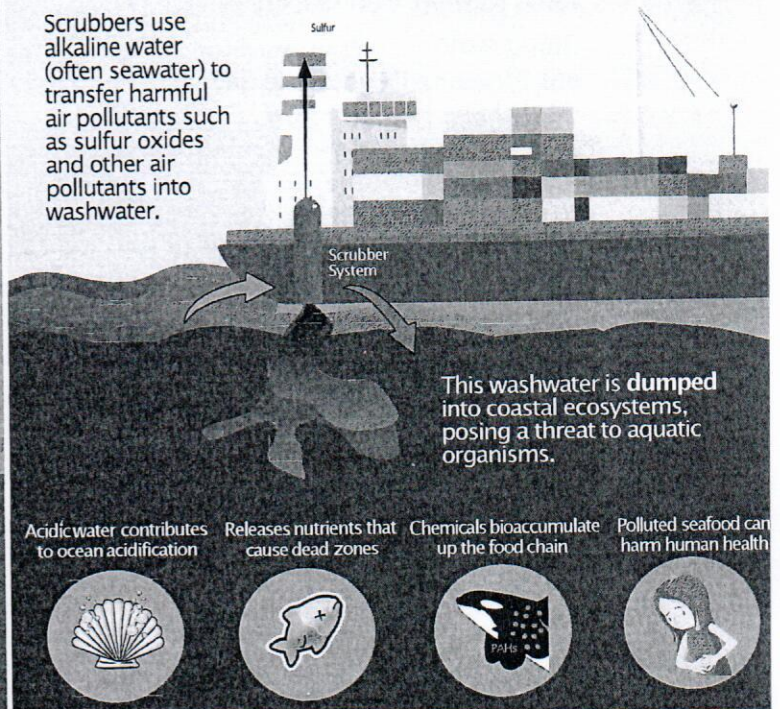
WHAT ARE MARINE SCRUBBERS?

Marine Scrubbers were created as a **loophole** for ships to avoid switching to cleaner fuels in response to more strict 2020 sulfur emission guidelines.



WHY ARE SCRUBBERS BAD?

Scrubbers use alkaline water (often seawater) to transfer harmful air pollutants such as sulfur oxides and other air pollutants into washwater.



WHAT IS BEING DONE LOCALLY?

The Port of Vancouver has enacted a 3 phase ban of scrubbers in its jurisdiction:



Phase 1: No scrubber discharge when ships are anchored in the Port

Phase 2: No scrubber discharge in all Port of Vancouver regulated waters



Phase 3: Ban on scrubbers in all Port of Vancouver regulated waters

March 1, 2022

TBD

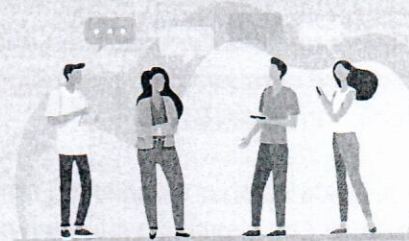
TBD

Currently, ships can still dump scrubber washwater while moving in and out of port. We need to move faster to a full scrubber ban.

We also need **Canada-wide** legislation banning scrubber use to protect all Canadian waters.

WHAT CAN YOU DO?

1. Get Talking



Spreading awareness about the issue helps to put more pressure on local and federal governments to **ban scrubbers now**.

2. Put Pressure on Government



@Transport_gc

Write an e-mail to your local MP or tweet Transport Canada.

#banscrubbers #nodumping



Ocean Leaders

STAND.earth

GRAPHIC ATTRIBUTION





The Vancouver Fraser Port Authority is demonstrating regional leadership in preventing acidic wastewater dumping and is phasing in a requirement simply for ships to burn cleaner fuels. They join the Port of Seattle, Quebec's Port Sept-Iles, The State of California and ports around the world in taking steps to prevent the use of scrubbers and mandate a transition to cleaner fuels.

The resolution before UBCM is critical to bring this issue to the table with levels of government that have jurisdiction over territorial waters and can protect the Salish and Great Bear Seas. The unanimous vote at LMLGA to pass this resolution for consideration at UBCM is a clear signal that local elected leaders care about the health of coastal waters, and are concerned about the future of coastal communities if acidic dumping isn't addressed. We are so grateful for this clarity and signal of care from elected leaders from Hope to Pemberton, and are counting on your continued support.

We urge you to support the motion "Protecting B.C.'s Coasts From Acidic Wastewater Dumping" at the upcoming UBCM convention in September.

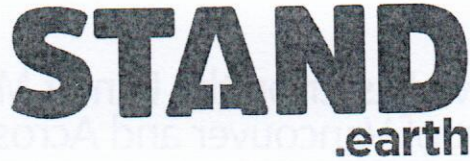
Thank you for your consideration of our letter. Please do not hesitate to reach out at anna@stand.earth.

Sincerely,

Anna Barford
Canada Shipping Campaigner
Stand.earth
Vancouver, BC

STAND.earth

Stand.earth challenges corporations and governments to treat people and the environment with respect, because our lives depend on it.



Anna Barford
Stand.earth
5307 Victoria Drive, Suite 347
Vancouver, BC, V5P 3V6
anna@stand.earth

17 June 2022

Mayor and Council
City of Richmond

6911 No. 3 Road
Richmond, BC, Canada
V6Y 2C1
Sent via: email

Re: Motion at UBCM Protecting BC Coasts From Acidic Washwater Dumping being brought forward by Vancouver

We are writing today as Stand.Earth to bring your attention to an important resolution that will be coming before UBCM, having passed unanimously at LMLGA, to address acidic wastewater discharge in all waters off BC.

It is well established that ocean acidification has devastating effects on marine life, aquaculture, and coastal communities dependent on a thriving ocean. In recent years a new device has been taken up in record numbers that is dumping catastrophic volumes of acidic wastewater directly into the ocean from vessels.

In order to mitigate sulphur air pollution from burning heavy oil, the maritime shipping industry employs exhaust gas cleaning systems (scrubbers) instead of simply switching to lower sulphur fuels which are already available on the market. Scrubbers result in a solution of concentrated acidic sulphates, metals, and other toxins that are dumped directly into the ocean while the ship is in operation.

Cruise and cargo vessel traffic in Canadian jurisdiction annually discharge tens of millions tonnes of this acidic washwater directly into the coastal waters of BC. The International Council for the Exploration of the Seas has found that scrubber washwater has lethal and sub-lethal effects on plankton, a critical component of marine ecosystems.



**Building Regulation Bylaw No. 7230,
Amendment Bylaw No. 10365
(Energy Step Code requirements)**

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

1. *Building Regulation Bylaw No. 7230*, as amended, is further amended by replacing the table in Section 10.1.1 with the following table:

<i>Buildings subject to Part 9 of the Building Code</i>			
Building Type	Building permit application filed on or after September 1, 2018	Building permit application filed on or after December 15, 2020	Building permit application filed on or after July 1, 2022
Townhomes and apartments	Step 3	Step 3 OR Step 2 for buildings that implement a low carbon building energy system .	Step 5 OR Step 4 for buildings that comply with the building envelope performance requirement using absolute metrics OR Step 3 for buildings that comply with the building envelope performance requirement using absolute metrics , and that implement a low carbon building energy system .
Single family, duplex and other dwelling units	Step 1		

<i>Buildings subject to Part 3 of the Building Code</i>			
Building Type	Building permit application filed on or after September 1, 2018	Building permit application filed on or after December 15, 2020	Building permit application filed on or after July 1, 2022
Hotels and Motels	n.a.	Step 3 OR Step 2 for buildings that implement a low carbon building energy system.	Step 3 OR Step 2 for buildings that implement a low carbon building energy system.
Other Group C Residential occupancies greater than 6 stories or non-combustible construction (not including hotel and motel occupancies)	Step 3 OR Step 2 for buildings that implement a low carbon building energy system.		Step 3 OR Step 2 for buildings that implement a low carbon building energy system.
Other Group C Residential occupancies 6 stories or less and combustible construction (not including hotel and motel occupancies)	Step 3		Step 4 OR Step 3 for buildings that implement a low carbon building energy system.
Group D Business and personal services occupancies or Group E mercantile occupancies	Step 2		Step 3 OR Step 2 for buildings that implement a low carbon building energy system.

2. *Building Regulation Bylaw No. 7230*, as amended, is further amended at Section 16.1 by adding the following definitions in alphabetical order:

ABSOLUTE METRICS

means:

- a) the thermal energy demand intensity listed under the "Performance Requirement of Building Envelope" column of Table 9.36.6.3.A in the British Columbia Building Code, or
- b) the thermal energy demand intensity requirement calculated using the formula in Sentence 4 of Section 9.36.6.3 in the British Columbia Building Code.

BUILDING ENERGY USE

means the total modelled annual energy requirements of an occupied building, including space heating, cooling, hot water heating, ventilation, appliances and electrical plug loads.

**BUILDING ENVELOPE
PERFORMANCE REQUIREMENT**

means the requirements listed under the "Performance Requirement of Building Envelope" column of Table 9.36.6.3.A in the British Columbia Building Code.

3. *Building Regulation Bylaw No. 7230*, as amended, is further amended at Section 16.1 by removing the definition of "Low Carbon Building Energy System" and replacing it with:

**LOW CARBON BUILDING
ENERGY SYSTEM**

means:

- a) for buildings subject to Part 3 of the Building Code, a building's space heating, cooling and domestic hot water heating mechanical system that is supplied energy through:
 - (i) a connection to a district energy utility system owned by the City or a corporate subsidiary of the City; or
 - (ii) on-site energy supply equipment designed to meet a minimum 70% of each of the building's A) annual heating demand, B) annual cooling demand, and C) domestic hot water energy demand, from a renewable energy source, approved by the City's General Manager of Engineering and Public Works. Applicable renewable energy source technologies include, but are not limited to, air and ground source heat pump systems, waste heat recovery systems, solar collectors, or other systems as approved by the City's General Manager of Engineering and Public Works. The building's energy system must be designed and constructed such that it is ready to connect to a future district energy utility system owned by the City or a corporate subsidiary of the City. For sites outside district energy utility service areas and the City Centre Area (as defined in Bylaw No. 9000, Official Community Plan), the City's General Manager of Engineering and Public Works may exempt the building's energy system from the requirement to be ready to connect to a future district energy utility system.
- b) for buildings subject to Part 9 of the Building Code, annual GHG emissions from building energy use, per metre of conditioned floor space, of no more than the amount defined below:

	Submission date of complete Building Permit Application	
	On or after December 15, 2020, and before July 1, 2022	On or after July 1, 2022
Part 9 Residential buildings	1200 kg CO ₂ e per dwelling unit per year OR no more than 6 kg CO ₂ e per spare meter of conditioned floor space per year	440 kg CO ₂ e per dwelling unit per year OR no more than 2.5 kg CO ₂ e per spare meter of conditioned floor space per year, <u>and</u> no more than 800 kg CO ₂ e per dwelling unit per year

4. This Bylaw may be cited as “**Building Regulation Bylaw No. 7230, Amendment Bylaw No. 10365**”.

FIRST READING

SECOND READING



THIRD READING

ADOPTED

JUN 13 2022

JUL 11 2022

JUL 11 2022

CITY OF RICHMOND
APPROVED by

APPROVED by Manager or Solicitor


MAYOR

CORPORATE OFFICER



**Consolidated 5 Year Financial Plan (2022-2026) Bylaw No. 10327,
Amendment Bylaw No. 10381**

The Council of the City of Richmond enacts as follows:

1. Schedule "A", Schedule "B", and Schedule "C" of the Consolidated 5 Year Financial Plan (2022-2026) Bylaw No. 10327, are deleted and replaced with Schedule "A", Schedule "B", and Schedule "C" attached to and forming part of this amendment bylaw.
2. This Bylaw is cited as "**Consolidated 5 Year Financial Plan (2022-2026) Bylaw No. 10327, Amendment Bylaw No. 10381**".

FIRST READING

JUL 11 2022

SECOND READING

JUL 11 2022

THIRD READING

JUL 11 2022

ADOPTED

CITY OF RICHMOND
APPROVED for content by originating dept. MS
APPROVED for legality by Solicitor ACI

MAYOR

CORPORATE OFFICER

SCHEDULE A:

CITY OF RICHMOND
CONSOLIDATED 5 YEAR FINANCIAL PLAN (2022-2026)
AMENDED REVENUE AND EXPENSES
(In \$000's)

	2022	2023	2024	2025	2026
	Amended	Amended	Amended	Amended	Amended
	Budget	Plan	Plan	Plan	Plan
Revenue:					
Taxation and Levies	268,044	281,090	294,869	306,579	318,350
Utility Fees	124,417	128,053	134,252	141,335	149,022
Sales of Services	45,531	46,180	47,552	48,868	49,963
Other Revenue	14,629	14,773	16,236	17,422	18,389
Payments In Lieu Of Taxes	14,650	15,105	15,558	16,024	16,505
Gaming Revenue	14,500	14,500	14,500	14,500	14,500
Investment Income	13,165	12,767	12,507	12,208	11,869
Licenses And Permits	11,358	11,591	11,818	12,049	12,285
Provincial and Federal Grants	11,292	10,097	10,191	10,340	10,491
Developer Contributed Assets	54,782	54,782	54,782	54,782	54,782
Development Cost Charges	17,749	19,641	22,259	15,083	13,091
Other Capital Funding Sources	16,380	17,779	21,365	19,575	14,125
	606,497	626,358	655,889	668,765	683,372
Expenses:					
Community Safety	137,198	137,593	141,686	145,853	150,194
Engineering and Public Works	81,488	81,166	82,302	83,534	84,796
Community Services	71,855	68,110	69,725	71,346	73,012
Finance and Corporate Services	27,002	25,706	26,400	27,096	27,813
Planning and Development Services	25,882	25,871	26,381	26,946	27,526
Fiscal	22,733	21,057	22,579	24,226	25,336
Corporate Administration	10,966	10,897	11,216	11,537	11,867
Legal and Legislative Services	5,305	4,163	4,296	4,429	4,566
Debt Interest	1,677	5,517	4,679	3,840	3,840
Utility Budget					
Water Utility	49,606	51,150	54,137	57,564	61,291
Sanitary Sewer Utility	41,404	42,969	45,782	49,030	52,571
Sanitation and Recycling	23,676	22,889	23,371	23,864	24,367
Richmond Olympic Oval Corporation	16,290	16,770	17,142	17,424	17,650
Richmond Public Library	11,130	11,099	11,363	11,634	11,913
	526,212	524,957	541,059	558,323	576,742
Annual Surplus	80,285	101,401	114,830	110,442	106,630

SCHEDULE A (CONT'D):

**CITY OF RICHMOND
CONSOLIDATED 5 YEAR FINANCIAL PLAN (2022-2026)
AMENDED TRANSFERS
(In \$000's)**

	2022	2023	2024	2025	2026
	Amended	Amended	Amended	Amended	Amended
	Budget	Plan	Plan	Plan	Plan
Transfers:					
Debt Principal	5,570	9,550	9,877	3,948	4,047
Transfer To Reserves	78,319	80,638	83,449	84,708	87,773
Transfer To (From) Surplus	(10,219)	542	4,630	13,878	14,343
Capital Expenditures - Current Year	109,573	106,482	144,544	130,463	114,453
Capital Expenditures - Prior Years	237,364	104,168	67,577	38,486	19,300
Capital Expenditures - Developer	54,782	54,782	54,782	54,782	54,782
Contributed Assets					
Capital Expenditures - Richmond Public Library	1,217	742	742	742	742
Capital Expenditures - Richmond Olympic Oval Corporation	4,072	1,408	1,531	1,459	1,724
Capital Funding	(305,353)	(256,911)	(252,302)	(218,024)	(190,534)
Proceeds from Borrowing	(95,040)	-	-	-	-
Transfers/Amortization offset:	80,285	101,401	114,830	110,442	106,630
Balanced Budget	\$-	\$-	\$-	\$-	\$-
Tax Increase	3.86%	3.88%	3.92%	2.99%	2.87%

SCHEDULE B:

CITY OF RICHMOND
CONSOLIDATED 5 YEAR FINANCIAL PLAN (2022-2026)
AMENDED 5 YEAR CAPITAL PLAN FUNDING SOURCES (2022-2026)
(In \$000's)

	2022 Amended	2023	2024	2025	2026
DCC Reserves					
Drainage DCC	-	990	990	-	-
Park Development DCC	1,845	2,977	1,599	1,693	1,872
Park Land Acquisition DCC	6,457	5,964	5,964	3,762	3,762
Roads DCC	9,446	9,710	11,060	8,910	7,457
Sanitary DCC	-	-	1,436	103	-
Water DCC	-	-	1,210	616	-
Total DCC	\$17,748	\$19,641	\$22,259	\$15,084	\$13,091
Statutory Reserves					
Affordable Housing	925	925	925	925	925
Capital Building and Infrastructure	18,070	16,715	18,080	18,160	17,500
Capital Reserve	10,833	10,140	14,998	14,670	13,179
Child Care	260	260	260	260	260
Drainage Improvement	13,410	15,281	41,905	33,374	30,650
Equipment Replacement	5,399	4,718	3,467	3,510	3,095
Public Art Program	200	150	150	150	150
Sanitary Sewer	5,463	5,910	5,650	9,307	5,790
Waterfront Improvement	150	-	-	-	-
Watermain Replacement	9,190	9,024	9,301	9,217	9,649
Total Statutory Reserves	\$63,900	\$63,123	\$94,736	\$89,573	\$81,198
Other Sources					
Enterprise Fund	720	550	550	550	205
Grant and Developer Contribution	13,480	14,879	18,465	16,675	11,225
Other Sources	11,534	6,061	6,076	6,091	6,487
Sewer Levy	260	207	272	375	33
Solid Waste and Recycling	450	300	300	300	300
Water Levy	1,481	1,721	1,886	1,815	1,914
Total Other Sources	\$27,925	\$23,718	\$27,549	\$25,806	\$20,164
Total Capital Program	\$109,573	\$106,482	\$144,544	\$130,463	\$114,453

SCHEDULE C:

**CITY OF RICHMOND
CONSOLIDATED 5 YEAR FINANCIAL PLAN (2022-2026)
AMENDED STATEMENT OF POLICIES AND OBJECTIVES**

Revenue Proportions By Funding Source

Property taxes are the largest portion of revenue for any municipality. Taxes provide a stable and consistent source of revenue for many services that are difficult or undesirable to fund on a user-pay basis. These include services such as community safety, general government, libraries and park maintenance.

Objective:

- Maintain revenue proportion from property taxes at current level or lower

Policies:

- Tax increases will be at CPI + 1% for transfers to reserves
- Annually, review and increase user fee levels by consumer price index (CPI).
- Any increase in alternative revenues and economic development beyond all financial strategy targets can be utilized for increased levels of service or to reduce the tax rate.

Table 1 shows the proportion of total revenue proposed to be raised from each funding source in 2022.

Table 1:

Funding Source	% of Total Revenue
Property Taxes	51.8%
User Fees	24.0%
Sales of Services	8.8%
Payments in Lieu of Taxes	2.8%
Gaming Revenue	2.8%
Investment Income	2.5%
Licenses and Permits	2.2%
Provincial and Federal Grants	2.2%
Other	2.9%
Total Operating and Utility Funding Sources	100.0%

SCHEDULE C (CONT'D):

**CITY OF RICHMOND
CONSOLIDATED 5 YEAR FINANCIAL PLAN (2022-2026)
AMENDED STATEMENT OF POLICIES AND OBJECTIVES**

Distribution of Property Taxes

Table 2 provides the 2022 distribution of property tax revenue among the property classes.

Objective:

- Maintain the City's business to residential tax ratio in the middle in comparison to other municipalities. This will ensure that the City will remain competitive with other municipalities in attracting and retaining businesses.

Policies:

- Regularly review and compare the City's tax ratio between residential property owners and business property owners relative to other municipalities in Metro Vancouver.

Table 2: (Based on the 2022 Revised Roll figures)

Property Class	% of Tax Burden
Residential (1)	57.09%
Business (6)	32.93%
Light Industry (5)	7.96%
Others (2,3,4,8 & 9)	2.02%
Total	100.00%

Permissive Tax Exemptions**Objective:**

- Council passes the annual permissive exemption bylaw to exempt certain properties from property tax in accordance with guidelines set out by Council Policy and the *Community Charter*. There is no legal obligation to grant exemptions.
- Permissive exemptions are evaluated with consideration to minimizing the tax burden to be shifted to the general taxpayer.

Policy:

- Exemptions are reviewed on an annual basis and are granted to those organizations meeting the requirements as set out under Council Policy 3561 and Sections 220 and 224 of the *Community Charter*.



City of Richmond

Bylaw 9292

Richmond Zoning Bylaw 8500 Amendment Bylaw 9292 (RZ 15-691744) 7220 Railway Avenue

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

1. The Zoning Map of the City of Richmond, which accompanies and forms part of Richmond Zoning Bylaw 8500, is amended by repealing the existing zoning designation of the following area and by designating it **"COMPACT SINGLE DETACHED (RC2)"**.

P.I.D. 004-506-472

Lot 215 Section 13 Block 4 North Range 7 West New Westminster District Plan 40948

2. This Bylaw may be cited as **"Richmond Zoning Bylaw 8500, Amendment Bylaw 9292"**.

FIRST READING

A PUBLIC HEARING WAS HELD ON

SECOND READING

THIRD READING

OTHER REQUIREMENTS SATISFIED

ADOPTED

OCT 26 2015

NOV 16 2015 SEP 07 2021

NOV 16 2015

~~NOV 16 2015~~ SEP 07 2021

JUL 19 2022

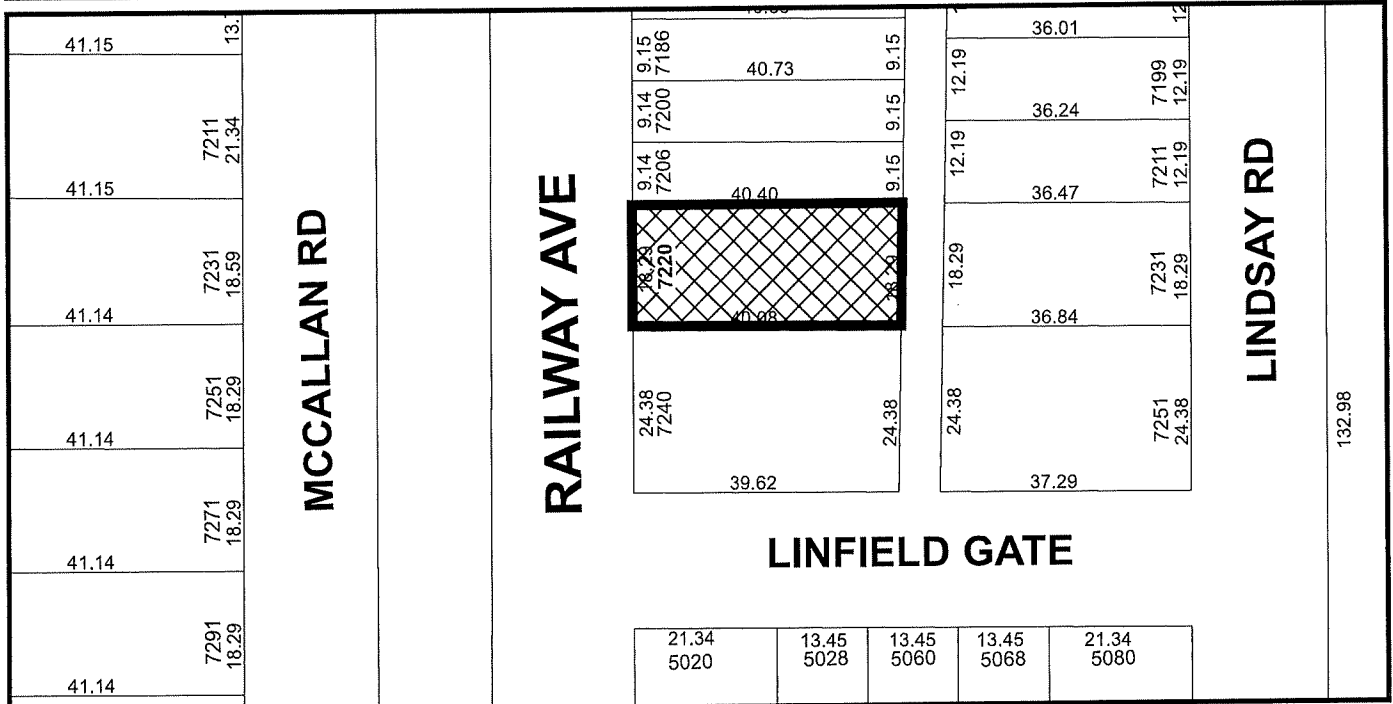
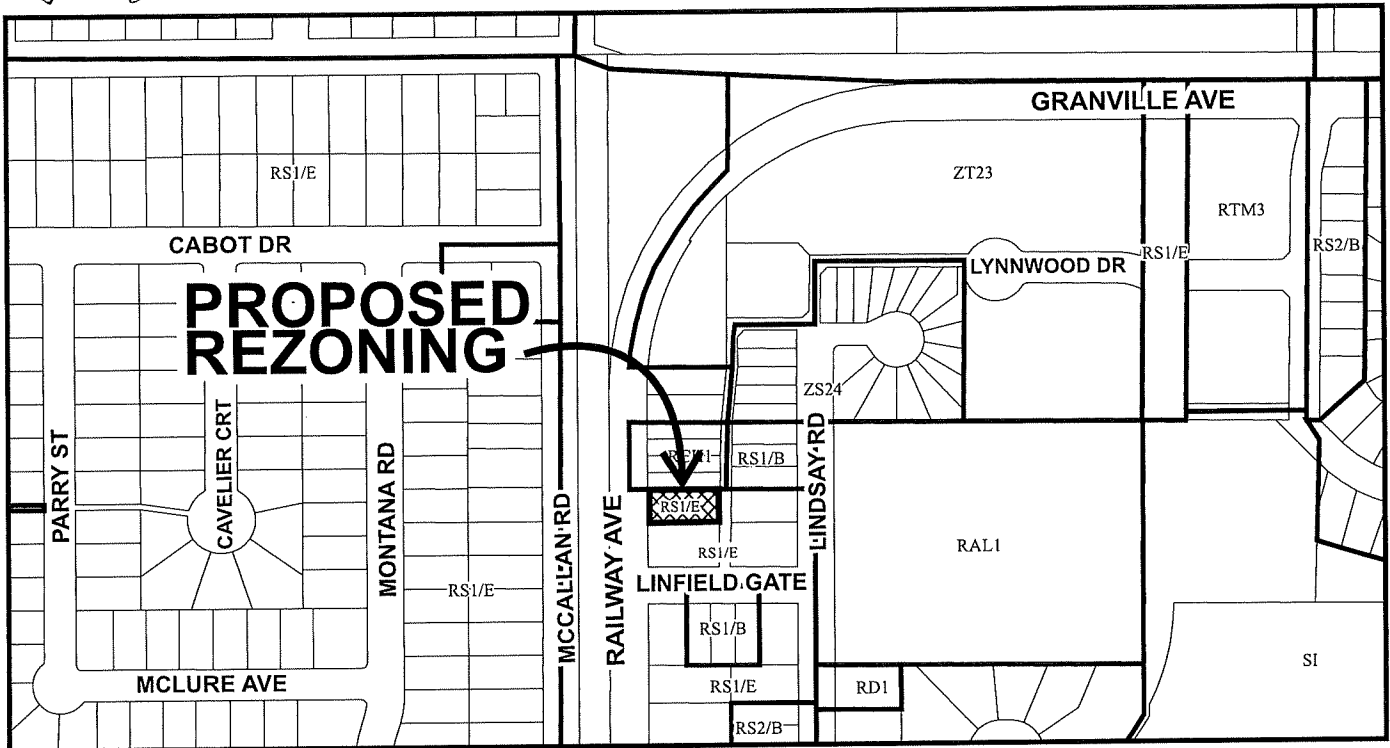


MAYOR

CORPORATE OFFICER



City of Richmond



RZ 15-691744

CNCL - 484

Original Date: 02/10/15

Revision Date: 07/05/21

Note: Dimensions are in METRES



**Richmond Zoning Bylaw 8500
Amendment Bylaw 9932 (RZ 17-766714)
23400, 23440, 23460 and 23500 Gates Ave.
and a Closed Portion of Gates Ave.**

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

1. Richmond Zoning Bylaw 8500, as amended, is further amended at Section 5.15 [Affordable Housing] by inserting the following into the table contained in Section 5.15.1(c) regarding Affordable Housing density bonusing provisions after the line for ZT70:

Zone	Sum Per Buildable Square Foot of Permitted Principal Building
"ZT86	\$8.50"

2. Richmond Zoning Bylaw 8500 is further amended by inserting the following into Section 17 - Site Specific Residential (Town Houses) Zones, in numerical order:

"17.86 Town Housing (ZT86) - Hamilton

17.86.1 Purpose

This **zone** provides for a mixed-use **development** consisting of stacked **town housing** and ground-oriented **town housing** with a maximum **floor area ratio** of 0.40 that may be increased to 1.0 with a **density bonus** that would be used for rezoning applications in order to help achieve the City's affordable housing and **community amenity space** objectives.

17.86.2 Permitted Uses

- **child care**
- **housing, town**

17.86.3 Secondary Uses

- **boarding and lodging**
- **home business**

17.86.4 Permitted Density

1. The maximum **floor area ratio** is 0.40 with a maximum additional 0.10 **floor area ratio** permitted provided that it is entirely used to accommodate **amenity space**.
2. Notwithstanding Section 17.86.4.1, the reference to "0.40" is increased to a higher **density** of "1.0", if at the time **Council** adopts a zoning amendment bylaw to include the **owner's lot** in the ZT86 **zone**, the **owner**:

- a) pays \$70.50 per square meter of total residential **floor area** into the **Hamilton Area Plan community amenity capital reserve**; and
- b) pays into the **affordable housing reserve** the sum specified in Section 5.15 of this bylaw.

17.86.5 Maximum Lot Coverage

- 1. The maximum **lot coverage** is 45% for **buildings**.

17.86.6 Yards & Setbacks

- 1. The minimum **setbacks** are:
 - a) 4.0 m from the **front lot line**;
 - b) 2.0 m from the east **lot line**;
 - c) 7.5 m from the west **lot line**; and
 - d) 6.0 m from the **rear lot line**.

17.86.7 Maximum Heights

- 1. The maximum **height** for **principal buildings** is 12.0 m.
- 2. The maximum **height** for **accessory buildings** and **accessory structures** is 6.0 m.

17.86.8 Subdivision Provisions/Minimum Lot Size

- 1. The minimum **lot width** is 75.0 m and minimum **lot depth** is 85.0 m.
- 2. The minimum **lot area** is 7,000 m².

17.86.9 Landscaping And Screening

- 1. **Landscaping** and **screening** shall be provided according to the provisions of Section 6.0.

17.86.10 On-Site Parking And Loading

- 1. On-site **vehicle** and bicycle parking and loading shall be provided according to the standards set out in Section 7.0 with the exception that up to 67% of the **parking spaces** may be in a **tandem arrangement**.

1.86.11.1 **Other Regulations**

1. A minimum of 75% of the **dwelling units** shall be in a stacked arrangement wherein a portion of one **dwelling unit** is located directly above another **dwelling unit** within a **building**.
2. In addition to the regulations listed above, the General Development Regulations in Section 4.0 and the Specific Use Regulations in Section 5.0 apply.”
3. The Zoning Map of the City of Richmond, which accompanies and forms part of Richmond Zoning Bylaw 8500, is amended by repealing the existing zoning designation of the following area and by designating it “Town Housing (ZT86) – Hamilton” and “School & Institutional Use (SI)”:

The area shown cross-hatched on “Schedule A attached to and forming part of Bylaw No. 9932”

4. This Bylaw may be cited as “**Richmond Zoning Bylaw 8500, Amendment Bylaw 9932**”.

FIRST READING

JUN 24 2019

A PUBLIC HEARING WAS HELD ON

JUL 15 2019

SECOND READING

JUL 15 2019

THIRD READING

JUL 15 2019

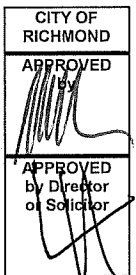
OTHER CONDITIONS SATISFIED

JUL 12 2022

MINISTRY OF TRANSPORTATION AND
INFRASTRUCTURE APPROVAL

JAN 23 2020

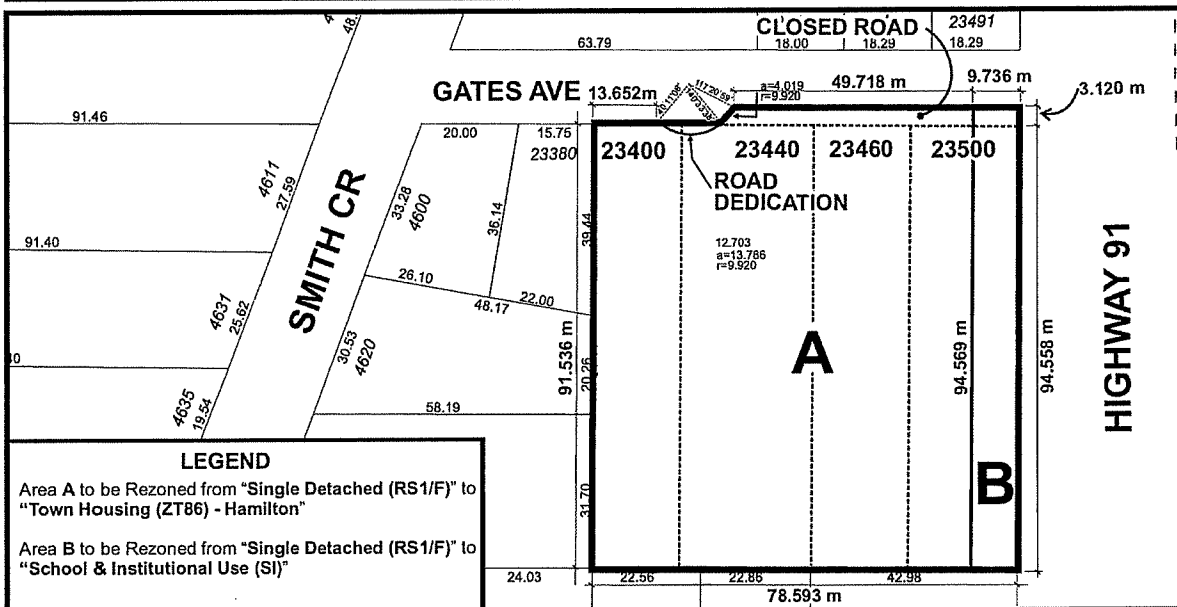
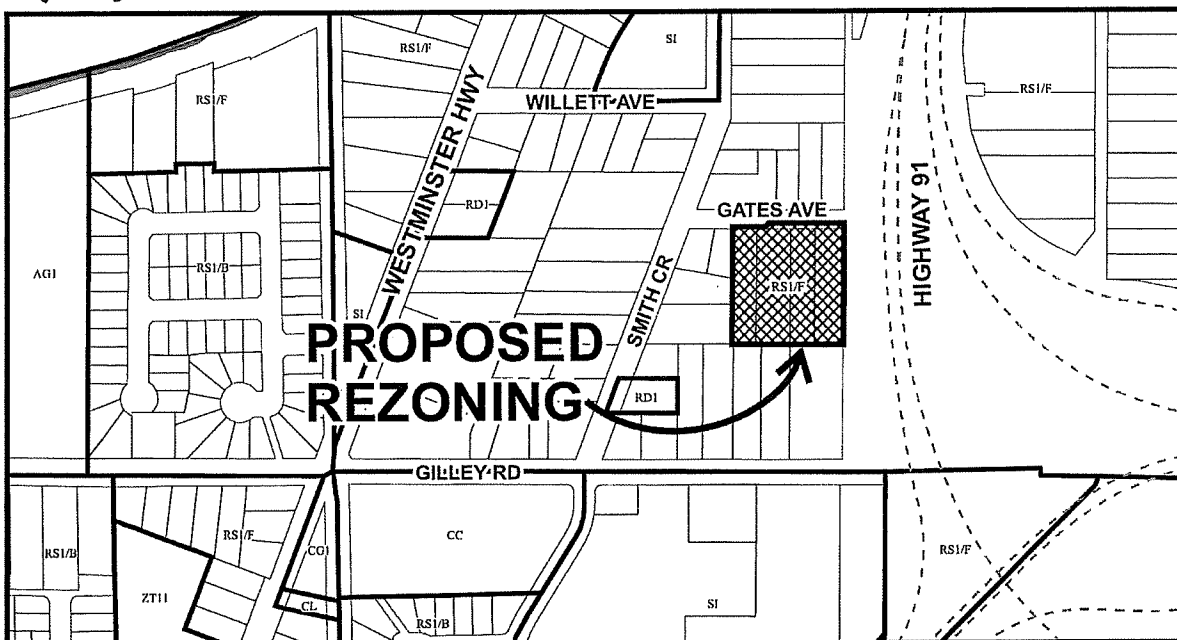
ADOPTED

_____
MAYOR_____
CORPORATE OFFICER

“Schedule A attached to and forming part of Bylaw No. 9932”



**City of
Richmond**



RZ 17-766714

Original Date: 04/06/17

Revision Date: 06/04/19

Note: Dimensions are in METRES

CNCL - 488



**Richmond Official Community Plan Bylaw 9000
Amendment Bylaw 10011 (RZ 17-766714)
23400, 23440, 23460 and 23500 Gates Avenue
and a portion of Gates Avenue**

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

1. Richmond Official Community Plan Bylaw 9000, Schedule 2.14 (Hamilton Area Plan) is amended by:
 - a) deleting the Circulation Map on page 12-5 in its entirety and replacing it with the new map in Schedule A attached to and forming part of this bylaw; and
 - b) deleting the Parks, Public Realm and Open Space Map on page 13-10 in its entirety and replacing it with the new map in Schedule B attached to and forming part of this bylaw.
2. This Bylaw may be cited as **“Richmond Official Community Plan Bylaw 9000, Amendment Bylaw 10011”**.

FIRST READING

JUN 24 2019

PUBLIC HEARING

JUL 15 2019

SECOND READING

JUL 15 2019

THIRD READING

JUL 15 2019

ADOPTED

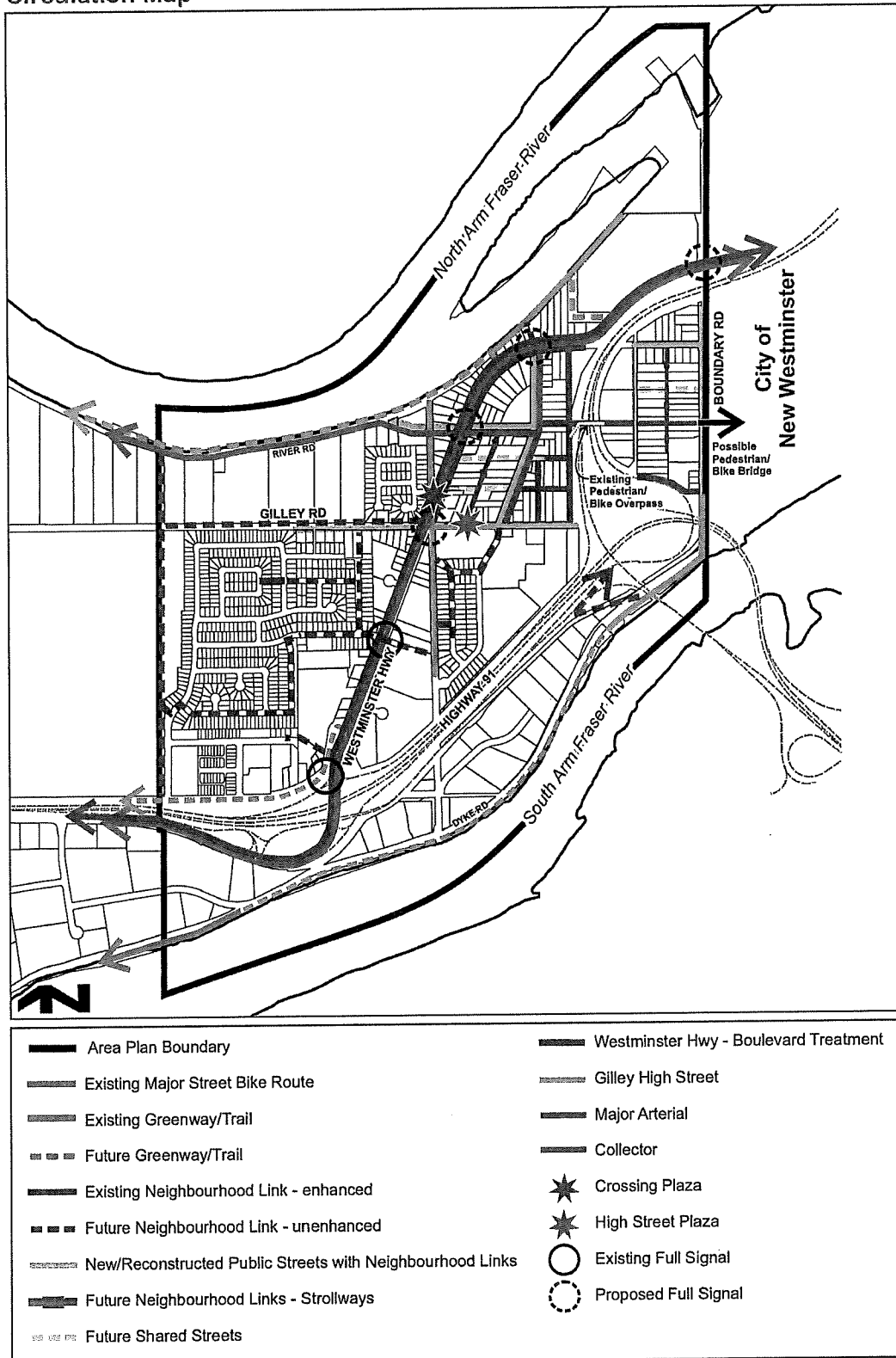


MAYOR

CORPORATE OFFICER

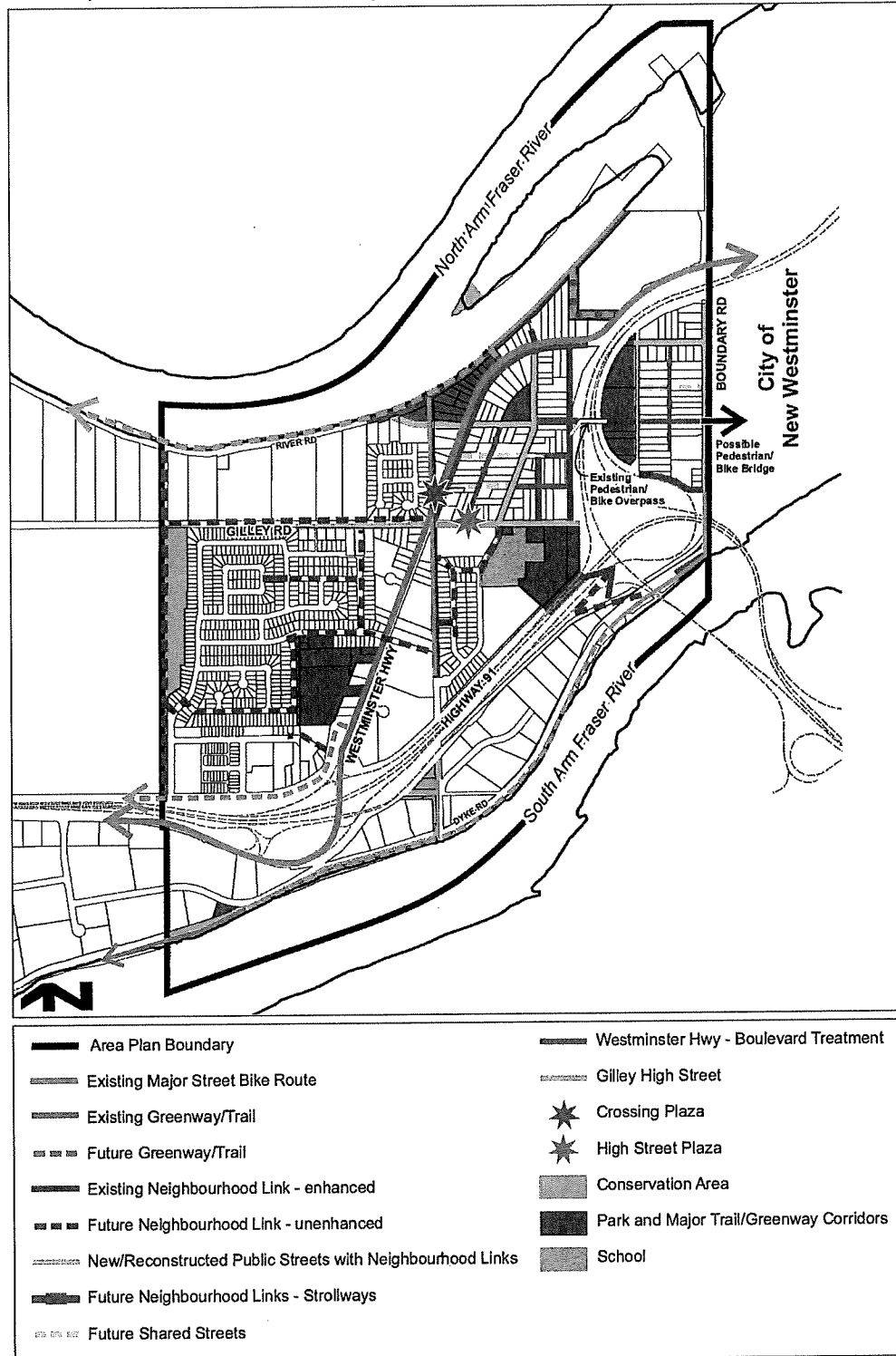
Schedule A

Circulation Map



Schedule B

Parks, Public Realm and Open Space Map





**Richmond Zoning Bylaw 8500
Amendment Bylaw 9973 (RZ 17-768134)
4226 Williams Road**

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

1. The Zoning Map of the City of Richmond, which accompanies and forms part of Richmond Zoning Bylaw 8500, is amended by repealing the existing zoning designation of the following area and by designating it **"ARTERIAL ROAD TWO-UNIT DWELLINGS (RDA)"**.

P.I.D. 003-638-146

Easterly 76 Feet Lot 463 Section 35 Block 4 North Range 7 West Being Measured Parallel to and Perpendicularly Distant 76 Feet from the Westerly Boundary New Westminster District Plan 54070

2. This Bylaw may be cited as **"Richmond Zoning Bylaw 8500, Amendment Bylaw 9973"**.

FIRST READING

A PUBLIC HEARING WAS HELD ON

SECOND READING

THIRD READING

OTHER CONDITIONS SATISFIED

ADOPTED

JAN 28 2019

JUL 19 2019

JUL 19 2019

JUL 19 2019

JUL 13 2022

CITY OF RICHMOND
APPROVED by <i>E.L.</i>
APPROVED by Director or Solicitor <i>JA</i>

MAYOR

CORPORATE OFFICER



**Richmond Zoning Bylaw 8500
Amendment Bylaw 10304 (ZT 21-938101)
2351 Simpson Road**

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

1. Richmond Zoning Bylaw 8500, as amended, is further amended at Section 12.3 [Industrial Business Park (IB1)] by inserting the following as new Section 12.3.11.12 and renumbering the remaining sections accordingly:

“12. Notwithstanding that, pursuant to Section 3.4, **residential security/operator units** are not permitted in aircraft noise sensitive areas that prohibit residential **uses**, one **residential security/operator unit** with a maximum **floor area** of 80 m² is permitted on the following **site**:

a) 2351 Simpson Road
Strata Plan LMS720”
2. This Bylaw may be cited as “**Richmond Zoning Bylaw 8500, Amendment Bylaw 10304**”.

FIRST READING

NOV 08 2021

PUBLIC HEARING

DEC 13 2021

SECOND READING

DEC 13 2021

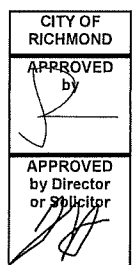
THIRD READING

DEC 13 2021

OTHER CONDITIONS SATISFIED

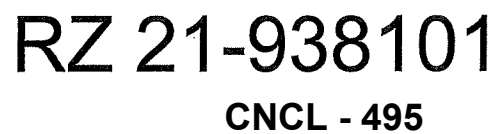
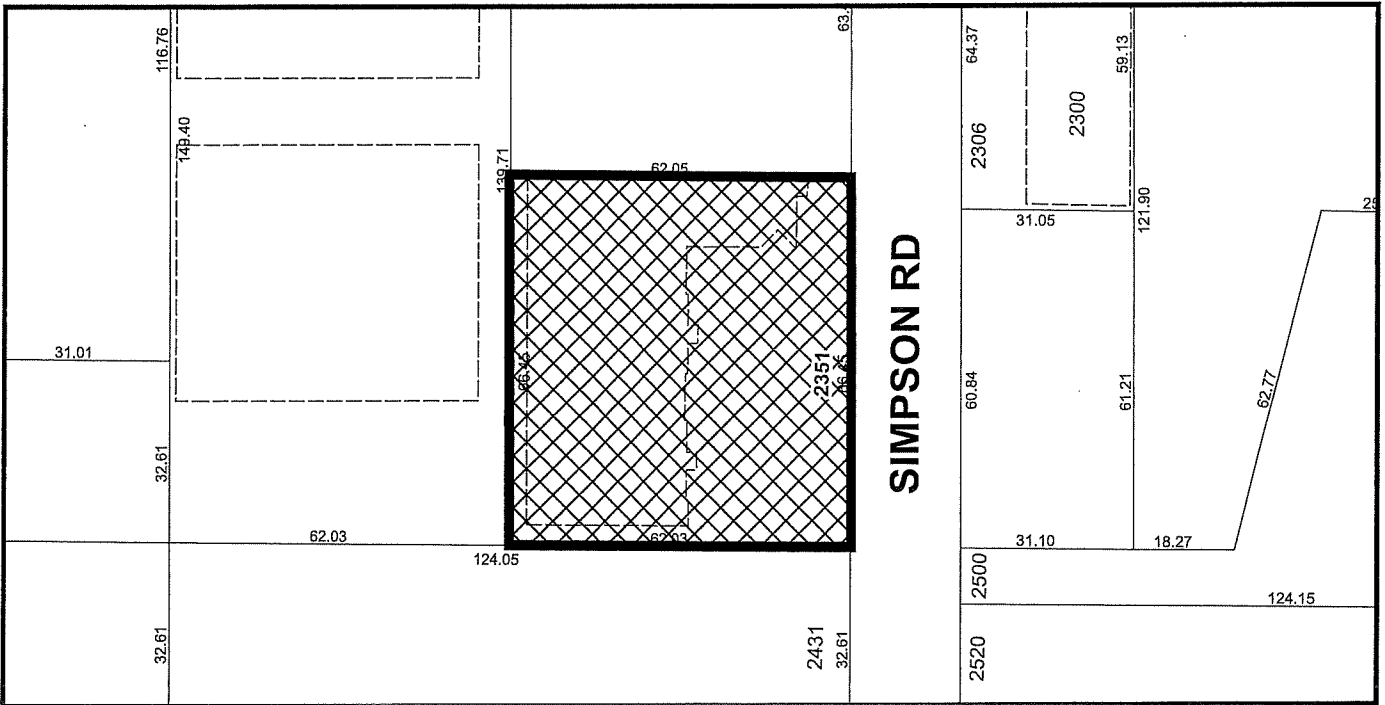
JUL 12 2022

ADOPTED



MAYOR

CORPORATE OFFICER



Note: Dimensions are in METRES



**Development Permit Panel
Wednesday, June 29, 2022**

Time: 3:30 p.m.

Place: Remote (Zoom) Meeting

Present: John Irving, General Manager, Engineering and Public Works, Acting Chair
Cecilia Achiam, General Manager, Community Safety
Peter Russell, Director, Sustainability and District Energy

The meeting was called to order at 3:30 p.m.

Minutes

It was moved and seconded

That the minutes of the meeting of the Development Permit Panel held on April 27, 2022 be adopted.

CARRIED

1. DEVELOPMENT PERMIT 21-931059

(REDMS No. 6894468)

APPLICANT: Calvin Deng

PROPERTY LOCATION: 8888 No. 6 Road

INTENT OF DEVELOPMENT PERMIT:

Permit the construction of a single detached house at 8888 No. 6 Road on a site zoned "Agriculture (AG1)" and designated as an Environmentally Sensitive Area (ESA).

Development Permit Panel

Wednesday, June 29, 2022

Applicant's Comments

Calvin Deng, property owner, introduced the application and Richard Borthwick, Senior Biologist, Madrone Environment Services Ltd., with the aid of a visual presentation (attached to and forming part of these minutes as Schedule 1) provided background information on the application, highlighting the following:

- the proposed home plate is a suitable location as it would be advantageous for the property's intended farm operations in the subject property without disturbing the Riparian Management Area (RMA);
- the proposed ESA compensation area, which includes the designated RMA on the subject property, exceeds the City's requirement;
- fencing will be installed to ensure the long-term protection of the ESA compensation area in the RMA;
- the proposed ESA compensation plan and restoration strategy would improve the ecological function and wildlife connectivity in the area; and
- the planting plan in the ESA compensation area includes removal of invasive species and replanting of native species of trees and shrubs.

Staff Comments

In reply to a query from the Panel, staff noted that the proposed ESA compensation scheme would compensate for the ESA loss due to proposed residential uses in the subject property and to restore some of the former ecological value. Staff further noted that the proposed ESA enhancement area exceeds the City's requirement and there is a net gain in habitat function.

In reply to a further query from the Panel, staff advised that (i) a Qualified Environmental Professional (QEP) will provide monitoring and annual reporting for a period of five years to ensure protection and retention of the ESA compensation area in the RMA, and (ii) there is a landscape security of \$47,665 to ensure the survival of plant materials.

Panel Discussion

In reply to a query from the Panel, Mr. Borthwick reviewed the proposed location of fencing within the Riparian Management Area (RMA) on the subject property that is part of the RMA enhancement area where landscape restoration will occur.

Development Permit Panel

Wednesday, June 29, 2022

In reply to further queries from the Panel, Mr. Borthwick and Mr. Deng acknowledged that (i) the five-meter strip of enhanced RMA along the southern section of the site will be fenced; however, the area immediately to the north up to the 15-meter RMA setback along the southern section will be seeded with grass and will not be fenced, and (ii) a three- to four-foot high split-rail fence will be installed for the five-meter strip of enhanced RMA to allow for wildlife passage and easier maintenance of the ESA enhancement area in the RMA.

Discussion ensued regarding the spacing of large trees to be planted in the ESA enhancement area in the RMA and staff were directed to ensure that clustering and spacing of trees will not impede farming and ensure their survivability.

Gallery Comments

None.

Correspondence

None.

Panel Discussion

The Panel expressed support for the application, noting (i) the proposed extensive planting plan for the ESA compensation area in the RMA, (ii) the need for maintenance of the proposed planting throughout the monitoring period to ensure their survivability, and (iii) the potential for the proposed planting to support farming activities in the subject property.

Panel Decision

It was moved and seconded

That a Development Permit be issued which would permit the construction of a single detached house at 8888 No. 6 Road on a site zoned "Agriculture (AG1)" and designated as an Environmentally Sensitive Area (ESA).

CARRIED

2. New Business

It was moved and seconded

That the Development Permit Panel meeting tentatively scheduled on Wednesday, July 13, 2022 be cancelled.

CARRIED

3.

Development Permit Panel
Wednesday, June 29, 2022

3. **Date of Next Meeting:** **July 27, 2022**

4. **Adjournment**

It was moved and seconded

That the meeting be adjourned at 4:00 p.m.

CARRIED

Certified a true and correct copy of the
Minutes of the meeting of the
Development Permit Panel of the Council
of the City of Richmond held on
Wednesday, June 29, 2022.

John Irving
Acting Chair

Rustico Agawin
Committee Clerk

8888 No 6 Rd.,
Richmond, BC
ESA DP Considerations

QEP Richard Borthwick, M.Sc., R.P.Bio



CNCL - 500

MADRONE
environmental services ltd.

Project Background

- Madrone Environmental Services Ltd. (Madrone) was retained by Mr. Calvin Deng (the client) to complete an Environmental Assessment for 8888 No. 6 Rd., in Richmond, B.C.(the Property).
- The City of Richmond (COR) requires that an Environmentally Sensitive Area (ESA) Assessment and Report be conducted to meet the ESA Development Permit (DP) Guidelines under the COR Official Community Plan (OCP) Plan Bylaw 9000., before any residential development can proceed.

House Plate Location Consideration

- The proposed Homeplate location is a suitable location.
- The location of the primary residence towards the southwest side of the parcel and the farm building towards the northwest has two main key advantages towards agricultural operations intended for the property:
 - The proposed location of the frontage road will provide access to the farm building without disturbing the RMA area.
 - No need to create additional water crossing and impacting the RMA from Number 6 Road to the Farm Building.
 - Location approved by FSAAC.
- Compensation is still required for the Homeplate



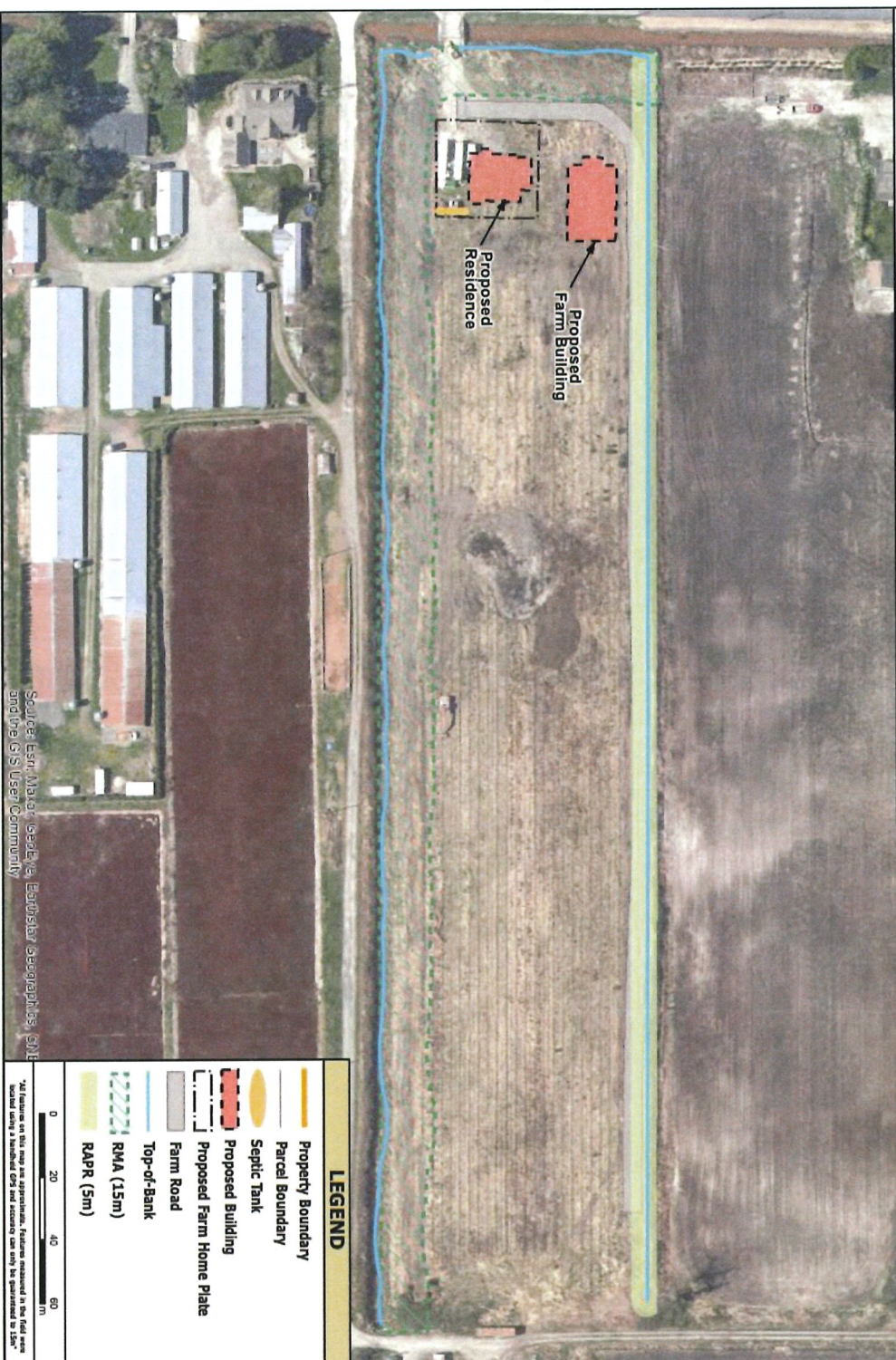
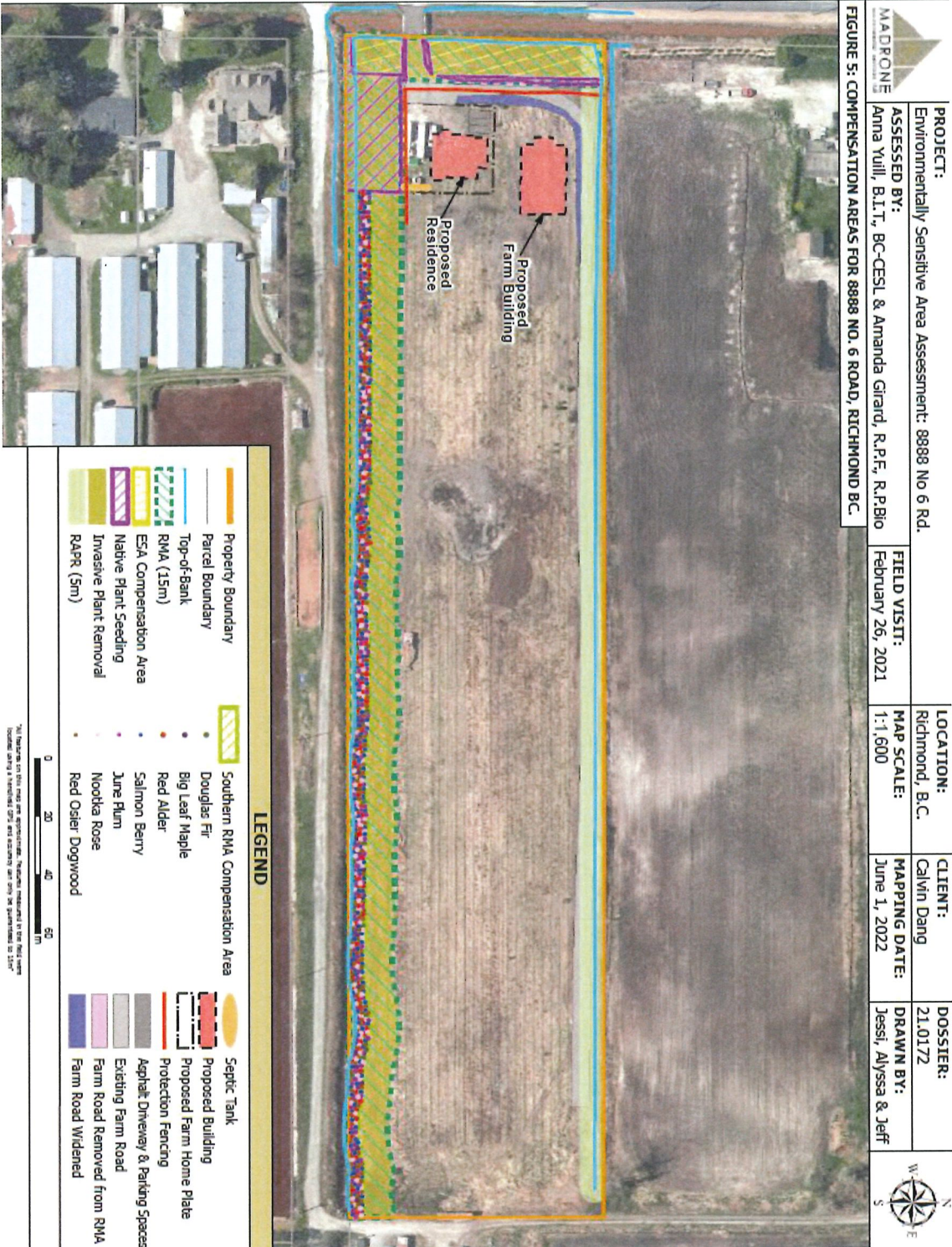
		PROJECT: Environmentally Sensitive Area Assessment: 8888 No 6 Rd.		LOCATION: Richmond, B.C.		CLIENT: Calvin Dang		DOSSIER: 21.0172			
ASSESSED BY: Anna Vuill, B.I.T., BC-CESL & Amanda Girard, R.P.E., R.P.Bio		FIELD VISIT: February 26, 2021		MAP SCALE: 1:1,600		MAPPING DATE: April 26, 2022		DRAWN BY: Jessi, Alyssa & Jeff			

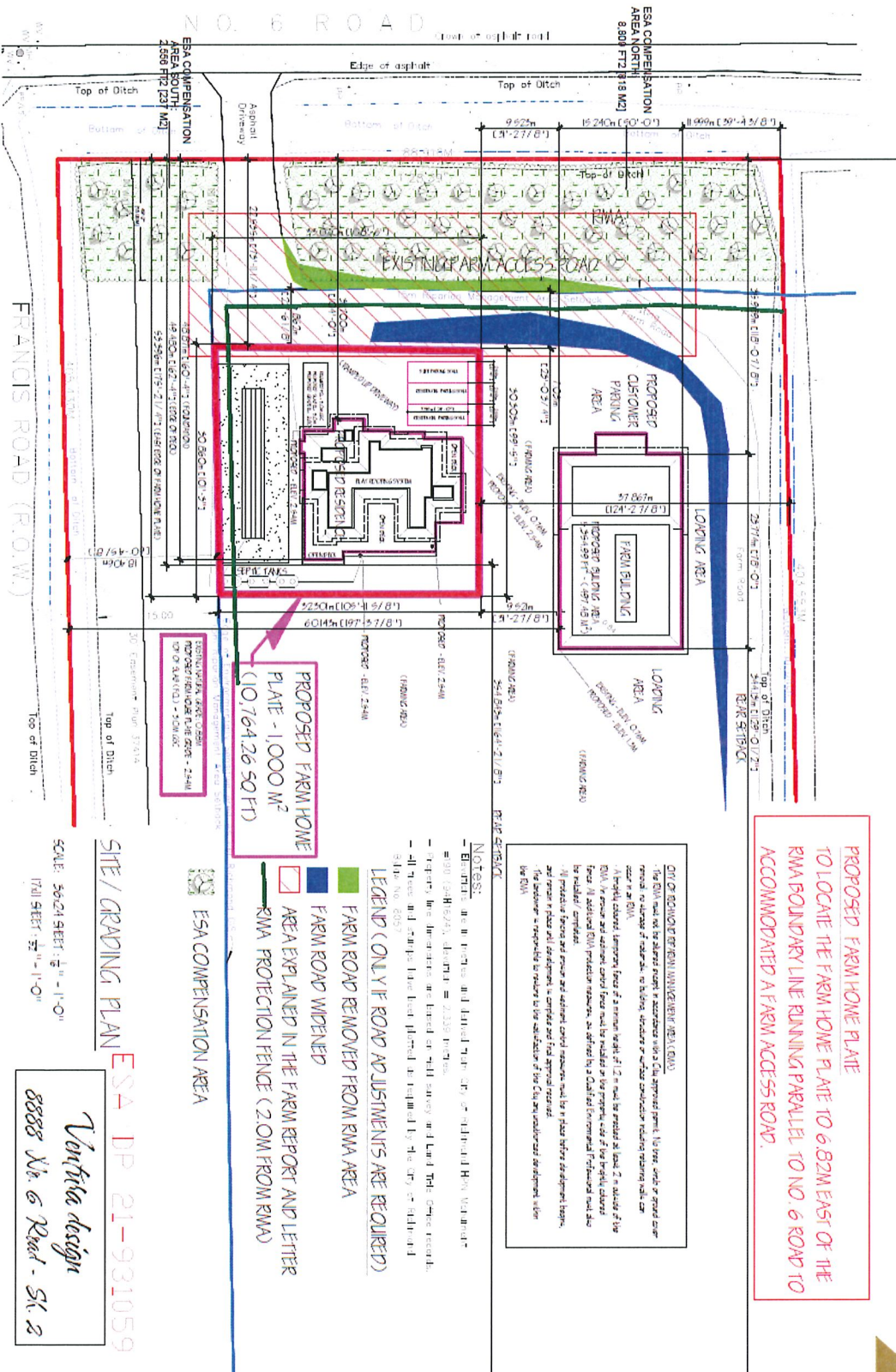
FIGURE 2 : RIPARIAN AREA ASSESSMENT AND SUBSEQUENT BUFFER ALONG WITH THE FARM HOME PLATE AND PROPOSED BUILDING LOCATIONS.



ESA Compensation

- Should address the ecosystem services on site.
- Should improve ecological connectivity.
 - Wildlife corridors and movement
- Should stabilize site and contribute to habitat, carbon storage, hydrologic cycle, and air quality.
- Compensation focuses on the riparian corridors to improve connectivity, replanting and fencing areas to maintain the compensatory works, and restoring ecological function throughout





Salmonberry



City of Richmond

Report to Council

To: Richmond City Council

Date: July 11, 2022

From: Cecilia Achiam
Chair, Development Permit Panel

File: DP 18-829286

Re: Development Permit Panel Meeting Held on May 15, 2019

Staff Recommendation

That the recommendation of the Panel to authorize the issuance of a Development Permit (DP 18-829286) for the property located at 23200 Gilley Road be endorsed and the Permit so issued.

Cecilia Achiam
Chair, Development Permit Panel
(604-276-4122)

WC/SB:blg

Panel Report

The Development Permit Panel considered the following item at its meeting held on May 15, 2019.

DP 18-829286 – ORIS DEVELOPMENTS (HAMILTON) CORP. – 23200 GILLEY ROAD
(May 15, 2019)

The Panel considered a Development Permit (DP) application to permit the construction of a four-storey, mixed-use development with a partially below-grade parkade with 2,345 m² (25,239 ft²) of commercial/retail space and 223 dwelling units on a site zoned “Residential/Limited Commercial (ZMU35) – Neighbourhood Village Centre (Hamilton)”. No variances are included in the proposal.

Applicant, Dana Westermarck, of Oris Consulting Ltd.; Architect, Bryce Rositch, of Rositch Hemphill Architects; and Landscape Architect, Michael Patterson, of P+A Landscape Architecture, provided a brief presentation, including:

- The proposed development is a continuation of the approved development across Gilley Road.
- Affordable housing units in a mix of unit types including three-bedroom units are proposed.
- The project’s energy and sustainability features include a geo-exchange heating and cooling system and a variable refrigerant flow (VRF) system.
- The U-shaped and L-shaped buildings provide a street wall along Gilley Road, reduces the impact to the properties to the south, and allows the provision of south-facing landscaped courtyards.
- Retail spaces are proposed along Gilley Road, including a large retail space in the east building, which is intended to accommodate a grocery store.
- The proposed north-south mews at mid-block is a continuation of the mews across Gilley Road, and includes surface parking, access to loading area, and an outdoor plaza area.
- The proposed architecture is vibrant and colourful.
- The south-facing courtyards allow good sunlight exposure.
- Ground floor dwelling units facing to the courtyards are provided with generous patios and have direct access to the courtyards.
- The courtyards provide play areas, covered barbeque areas, spaces for social gatherings and connectivity to on-site and off-site pedestrian circulation areas.
- The mews is intended for shared pedestrian and vehicular use and provides pedestrian connectivity to the pathway along the southern edge of the site and the community centre and elementary school to the east.
- Potential locations have been identified for Public Art.
- A number of existing trees will be retained and the number of replacement trees exceeds the City’s requirements.

In reply to a Panel query from the Panel, Bryce Rositch confirmed that a loading area is provided for the large retail space in Building A.

Staff noted that: (i) there is a Servicing Agreement associated with the project for frontage improvements along Gilley Road and Smith Drive as well as linear trail and RMA enhancements within Queens Canal adjacent to the site; (ii) 133 Basic Universal Housing (BUH) units are included in the project; (iii) the applicant has submitted acoustical reports to demonstrate that the project will meet CHMC noise standards; and (iv) 14 affordable housing units are included in the project and a housing agreement for these units has been adopted by Council.

No correspondence was submitted to the Development Permit Panel regarding the application.

In response to Panel queries, the project team noted that: (i) a raised crosswalk will be installed across Smith Drive to provide safe pedestrian connection from the proposed development to Hamilton Community Centre and Hamilton Elementary School; (ii) a median boulevard will be installed along portions of Smith Drive and no vehicular access to the mews from Smith Drive will reduce on-site vehicular circulation and enhance pedestrian safety on Smith Drive; (iii) level pedestrian access to retail spaces along Gilley Road are limited to the mid-block portion; (iv) there will be traffic disruptions during road construction; (v) the applicant had conducted two neighbourhood information and consultation sessions; (vi) the surface parking stalls on the mews is primarily intended for commercial parking during daytime; (vii) the residential units along the mews are all single level; and (viii) limited business use, e.g., an accountant's office, is allowed in the residential units.

It was noted that delineation between the mews and the public street through installing adequate signage to avoid parking complaints should be done, and staff was directed to take the matter under advisement.

The Panel expressed support for the project, noting that the project is well thought out and is a welcome addition to the area.

In addition, the Chair advised the applicant to be mindful of reported security issues in the area during pre-construction activities.

Subsequent to the meeting, the applicant advised that they will install signage on-site to clearly indicate that the on-site mews parking area is private parking for customers and guests of the development. The applicant also advised that site security measures have been put in place, including installation of construction fencing and security guard monitoring.

The Panel recommends the Permit be issued.



City of Richmond

Report to Council

To:	Richmond City Council	Date:	July 11, 2022
From:	Joe Erceg Chair, Development Permit Panel	File:	DP 17-791045 DP 18-829228
Re:	Development Permit Panel Meetings Held on December 11, 2019 and June 16, 2021		

Staff Recommendation

1. That the recommendation of the Panel to authorize the issuance of:
 - a) a Development Permit (DP 17-791045) for the property located at 6333 Cooney Road;
and
 - b) a Development Permit (DP 18-829228) for the property located at 23400, 23440, 23460
and 23500 Gates Avenue;

be endorsed and the Permits so issued.

Joe Erceg
Chair, Development Permit Panel
(604-276-4083)

SB:blg

Panel Report

The Development Permit Panel considered the following items at its meetings held on December 11, 2019 and June 16, 2021.

DP 17-791045 – 6333 COONEY ROAD LIMITED PARTNERSHIP
(FORMERLY BOLD PROPERTIES (COONEY) LIMITED PARTNERSHIP)
– 6333 COONEY ROAD
(December 11, 2019)

The Panel considered a Development Permit (DP) application to permit the construction of a high-rise building containing approximately 83 dwelling units on a site zoned “High Rise Apartment (ZHR8) Brighthouse Village”. No variances are included in the proposal.

Architect, Simon Ho, of S2 Architecture, and Landscape Architect, David Stoyko, of Connect Landscape Architecture, provided a brief presentation, including:

- An interim City lane will be constructed along the south edge of the subject site that will provide vehicular and pedestrian access to the proposed development.
- 80 percent of the 83 residential units have two or more bedrooms.
- The penthouse units are typically larger and set back further than the majority of units in the building to minimize shadowing.
- An outdoor amenity space and indoor amenity room pavilion are located on the podium roof level.
- The building is sited as close as possible to the southwest corner of the site to minimize shadowing on adjacent developments and maximize sunlight exposure to the outdoor amenity area.
- The building is fairly articulated on all sides to break up the massing.
- The parkade wall will be screened to avoid light pollution from vehicles coming out from the parkade.
- High quality materials are proposed for the building, including cementitious panel with metal trim.
- The proposed landscape design is integrated with the architecture of the building.
- Climbing plants will help mitigate the blank parkade wall on the south side of the building.
- Active and passive spaces are proposed for the outdoor amenity area including a children’s play area for different age groups.
- A green roof is proposed on top of the indoor amenity room pavilion.
- The proposed planting palette will provide seasonal interest.
- The project development team will undertake the following measures to address the neighbour’s construction-related concerns: (i) assessing and documenting existing conditions by engineers prior to construction; (ii) monitoring impacts during construction stage; (iii) assessing and documenting impacts after completion of construction; and (iv) addressing construction related impacts.

In reply to Panel queries, staff noted that: (i) there is no condition associated with the subject Development Permit application that will ensure the applicant will undertake the proposed measures to address construction-related concerns; however, staff will work with the applicant to ensure that these will be undertaken; and (ii) the applicant had provided voluntary cash contributions for the City's Affordable Housing Strategy through previous rezoning applications and will be providing an additional voluntary contribution in the amount of \$100,000.00.

Discussion ensued with regard to the proposed play equipment in the outdoor amenity area and it was noted that: (i) the proposed play equipment is not adequate for the family-oriented development; and (ii) the applicant should work with staff to review the proposed children's play area including the play equipment to be installed prior to the application moving forward for Council consideration.

Shenwei Wang, of 8288 Saba Road, addressed the Panel and queried about the type of the foundation that will be used for the subject development, expressing concern regarding: (i) the foundation of the building at 8288 Saba Road which had caused the building to tilt and damage the sidewalk; (ii) the sanitary sewer currently servicing the building at 8288 Saba Road appears to be exceeding its capacity; and (iii) potential shadowing, traffic and privacy impacts of the subject development on the neighbourhood.

In reply to the query and concerns expressed by the Shenwei Wang, Simon Ho noted that the project's geotechnical consultant will determine the appropriate foundation for the proposed development and ensure that it would not negatively impact neighbouring developments. In addition, Mr. Craig confirmed that: (i) the applicant will be required to provide geotechnical reports as part of the Building Permit process; (ii) the existing sanitary sewer will be removed and a new sanitary sewer upgraded to current City standards will be installed; (iii) the proposed development complies with the City's tower separation guidelines; (iv) the siting of the proposed building at the southeast corner of the site would minimize shadowing on adjacent developments; and (v) the project was reviewed by the City's Transportation Division with regard to the potential traffic that will be generated on the site.

Correspondence was submitted to the Panel regarding the application by the speaker Shenwei Wang, of 8288 Saba Road, and Andy Gao, of GUD Group (on behalf of the owner of 6371 Cooney Road).

Staff noted that Shenwei Wang and staff have exchanged a series of emails regarding Shenwei Wang's queries and concerns, including the process to be followed for approval of a Development Permit application.

Staff noted that Andy Gao, representing the owner of the property directly to the south of the proposed development, indicated support for the proposal.

The Panel expressed support for the application subject to: (i) the applicant working with staff to review the design of the children's play area and proposed play equipment to ensure that these are adequate for a family-oriented development; and (ii) the applicant's proposed measures to address potential construction-related impacts to neighbouring developments be included as a condition for Building Permit issuance.

In addition, the Panel noted that the family-oriented project is well designed and expressed appreciation for the applicant's additional voluntary contribution to the Affordable Housing Fund.

Subsequent to the meeting, the applicant: (i) revised the children's play area landscape design, including additional and larger equipment and increasing the variety of activities supported; and (ii) committed to completing proposed measures to address potential construction-related impacts to neighbouring developments.

The Panel recommends the Permit be issued.

DP 18-829228 – QRD (HAMILTON) LP – 23400, 23440, 23460
AND 23500 GATES AVENUE
(June 16, 2021)

The Panel considered a Development Permit (DP) application to permit the construction of 60 townhouse units on a site zoned "Town Housing - Hamilton (ZT86)". Variances are included in the proposal for reduced minimum front yard and west side yard setbacks.

Architect, Wayne Fougere, of Fougere Architecture Inc., and Landscape Architect, Travis Martin, of Van der Zalm + Associates, Inc., provided a brief presentation, including:

- A total of 60 townhouse units are proposed in six buildings, with four buildings comprised of 48 stacked units and two buildings with 12 three-storey standard townhouse units.
- 10 of the 12 three-storey townhouse units are convertible units.
- Walkways are provided along all edges of the site, including the public strollways along the west and south edges.
- The entry driveway is located at the northwest to maximize the length of the future public strollway along Gates Avenue.
- The ESA/park to the east will provide a buffer between the subject site and Highway 91.
- Building facades have a contemporary character.
- The reconfigured ESA will be enhanced and included in the proposed City park and subject to a three-year monitoring and maintenance plan.
- The existing walkway within the Highway 91A corridor along the east property line will be improved and widened.
- The east-west central open space includes, among others, a children's play area that provides a variety of play opportunities and a gathering area.
- Private outdoor porches are provided for the lower level units.
- Building mounted downward focused lighting are proposed as well as pole and bollard lighting.

Staff noted that there are three components of the Servicing Agreement associated with the project which include frontage works along Gates Avenue, the on-site public walkways and site servicing, and off-site walkway improvements to the pathway within the Highway 91A road allowance.

In addition, staff reviewed the proposed setback variances to Gates Avenue and the west side yard and noted that staff support these proposed variances as they would enhance the project and not negatively impact the public realm.

Correspondence was submitted to the Panel regarding the application by Cathy and Vic Friesen, of 23451 Gates Avenue.

Staff reviewed the concerns and questions raised by Cathy and Vic Friesen relating to details on the design of Gates Avenue, impact of proposed site servicing works to their property, the management of the proposed City park, on-street parking and traffic, and construction activities including site preparation and parking of construction vehicles.

In reply, staff noted that: (i) staff had been communicating with Cathy Friesen since the receipt of the letter; (ii) perimeter drainage will be dealt with through Building Permit; (iii) the developer had confirmed that construction vehicles will only use the subject site for on-site manoeuvring and circulation; and (iv) City staff will be required to review the project's Construction Traffic and Parking Management Plan prior to Building Permit issuance.

The Panel expressed support for the project, noting that: (i) the project is well thought out; (ii) the project's approach to the ESA is supported; and (iii) the proposed design and size of the common outdoor amenity area are appreciated.

The Panel recommends the Permit be issued.



City of Richmond

Report to Council

To: Richmond City Council

Date: July 13, 2022

From: Cecilia Achiam
Chair, Development Permit Panel

File: DP 17-768135

Re: **Development Permit Panel Meeting Held on August 11, 2021**

Staff Recommendation

That the recommendation of the Panel to authorize the issuance of a Development Permit (DP 17-768135) for the property located at 4226 Williams Road be endorsed and the Permit so issued.

Cecilia Achiam
Chair, Development Permit Panel
(604-276-4122)

SS:blg

Panel Report

The Development Permit Panel considered the following item at its meeting held on August 11, 2021.

DP 17-768135 – 4226 WILLIAMS ROAD - 1244013 BC LTD. (KHALID HASAN)
(August 11, 2021)

The Panel considered a Development Permit (DP) application to permit the construction of two duplexes at 4226 Williams Road on a site zoned “Arterial Road Two-Unit Dwellings (RDA)”. No variances are included in the proposal.

Bradley Dore of Brad Dore Residential Design, provided a brief presentation, including:

- A shared internal drive aisle is located in the middle of the two duplex buildings.
- The form and character of the duplexes fits well with the predominantly single-family neighbourhood.
- The massing between the front and rear units of each duplex building has been minimized to enhance sunlight access to adjacent properties.
- The two rear units are convertible units and the two front units are provided with aging-in-place features.
- The shadow study indicates that adjacent properties will not be impacted by shadowing.
- All duplex units will be provided with either a front or rear yard.
- A significant amount of permeable pavers is proposed for the subject development.

Staff noted that: (i) there is a Servicing Agreement associated with the project for frontage works along Williams Road; (ii) the project is required to achieve Step 3 of BC Energy Step Code; and (iii) one visitor parking stall is proposed for shared use of all duplex units.

In reply to Panel queries, staff noted that: (i) permeable pavers and concrete curb are proposed for the drive aisle; (ii) permeable pavers will be installed on the auto court, visitor parking stall and along the west and east side yards of the subject site; (iii) soffit lighting is not proposed on the east and west elevations of the duplex buildings to avoid light pollution on adjacent properties; and (iv) side yards on either side of the subject site are not accessible to the public.

Discussion then ensued regarding potential schemes to break up the massing along the west façade of the west duplex building including introducing different colour tones and investigating pushing the garage slightly inward into the auto court.

As a result of the discussion, staff was directed to work with the applicant to provide articulation to the west façade of the duplex building either through architectural detailing and/or introducing different colour schemes and materials.

The Panel expressed support for the project, noting that its proposed architecture provides a good example for future duplex developments in the City.

July 13, 2022

- 3 -

Subsequent to the meeting, in response to the Panel direction, the applicant: (i) revised the colour scheme on the west façade of the duplex building and added additional trim details around windows and building corners to add visual interest; and (ii) investigated recessing the garage but this was not possible due to the implications on vehicle parking and circulation.

The Panel recommends the Permit be issued.



City of Richmond

Report to Council

To: Richmond City Council

Date: July 11, 2022

From: John Irving
Chair, Development Permit Panel

File: DP 21-933784

Re: Development Permit Panel Meeting Held on April 27, 2022

Staff Recommendation

That the recommendation of the Panel to authorize the issuance of a Development Permit (DP 21-933784) for the property located at 10700 Cambie Road, be endorsed and the Permit so issued.

A handwritten signature in cursive script, appearing to read 'John Irving'.

John Irving
Chair, Development Permit Panel
(604-276-4140)

WC/SB:js

Panel Report

The Development Permit Panel considered the following item at its meeting held on April 27, 2022.

DP 21-933784 – DON DOCKSTEADER MOTORS LTD. – 10700 CAMBIE ROAD
(April 27, 2022)

The Panel considered a Development Permit (DP) application to permit the alteration of the exterior of the southerly building and landscaping improvements in order to facilitate a new auto dealership tenant on a site zoned “Auto-Oriented Commercial (CA)”. No variances are included in the proposal.

Architects Kori Chan and Teague Shinkewski, of Proscenium Architecture + Interiors, and Landscape Architect Mary Chan-Yip, of PMG Landscape Architects, provided a brief presentation, including:

- The project includes minor renovations of the building exterior and changes to interior building partitions to facilitate a new auto dealership tenant.
- A new exterior curtain wall is proposed to wrap around the north, east and south façades of the building, and the west façade of the building is proposed to be repainted, and a new building entry feature is proposed on the north elevation of the building.
- New commercial signage (as per the City’s Sign Bylaw and subject to sign permit requirements) will be installed on the south corner of the building façade showing the brand and colour of the new auto dealership tenant.
- Wheel stops will be installed adjacent to the new exterior curtain wall along the east elevation to provide protection to the exterior cladding of the building.
- There will be no changes to the existing site use, building massing and parking.
- There will be a small amount of additional floor area created as a result of pushing out the new exterior curtain walls to avoid conflict with existing building structures; however, the building’s existing useable floor area will remain unchanged.
- Existing features will be enhanced, such as replacing existing bicycle racks, repainting pedestrian sidewalks.
- New parapets will be installed on the rooftop as part of the curtain wall assembly and existing rooftop solar panels will be retained.
- The two existing electric vehicle (EV) charging stations on the site will be upgraded and two new EV charging stations will be added.
- Existing landscaping has been well maintained, and will be enhanced with additional shrub and tree planting along the south edge of the site fronting Highway 99.
- The existing green wall on the south façade of the building will be retained.
- The existing stamped asphalt walkway on the site will be repainted to enhance pedestrian safety and circulation.
- The outdoor surface parking in front of the dealership building will be treated with permeable pavers to enhance on-site stormwater management and provide differentiation from the surrounding asphalt area.

Staff noted the sustainability and landscaping features of the project that will be secured with a legal agreement between the City and the owner including (i) the retention of the existing photovoltaic system on the building rooftop, and (ii) upgrading of two existing EV charging stations and the addition of two new ones which will be available to customers and the public.

In addition, staff noted other significant landscaping features of the project including (i) repainting of existing pedestrian crossing, (ii) installation of permeable pavers on a portion of the parking area, (iii) planting of additional trees and shrubs along the existing landscaping along Highway 99, and (iv) retention and maintenance of the existing green wall on the southwest façade of the building fronting Highway 99 through a private agreement between a landscaping company and the auto dealership tenant.

Discussion ensued with regard to enhancing the landscaping on the green triangle area adjacent to the new entrance proposed on the north side of the building. As a result of the discussion, staff was directed to work with the applicant to investigate opportunities for installing a tree to help identify the building entrance and provide visual interest to customers of the auto dealership.

It was noted that that in view of the proposed changes to the building façade design and materials, the applicant should consider doing an energy modeling at this stage of the project to ensure compliance with the current BC Energy Step Code requirement by the City.

In reply to queries from the Panel, the applicant advised that the energy generated by the photovoltaic panels on the building rooftop is utilized by the electrical system used in the building. In addition, the applicant confirmed that the retention and use of the existing photovoltaic system will be secured with a legal agreement.

No correspondence was submitted to the Panel regarding the application.

The Panel expressed support for the project, noting that the proposed renovation of the building façades would enhance the appearance of the building and mitigate the risk of bird strikes.

Subsequent to the Panel meeting, the applicant revised the landscape design by adding a Japanese Maple tree at the building entrance, enhancing and emphasizing the location of the entry. In addition, although there is no BC Energy Step Code requirement for this building renovation, the mechanical consultant has confirmed that the design meets ASHRE 90.1 2016 as defined in the BC Building Code.

The Panel recommends the Permit be issued.



**Road Closure and Removal of Road Dedication Bylaw No. 10382
(Portion of Road Adjacent to 6831 Graybar Road)**

The Council of the City of Richmond enacts as follows:

1. The lands legally described as that part of Graybar Road dedicated by Plan LMP25578 Section 10 Block 4 North Range 4 West New Westminster District, shown outlined in bold on the Reference Plan EPP121251 prepared by Matson Peck & Topliss, with a control number of 165-394-3283, attached as Schedule A, shall be stopped up and closed to traffic, cease to be a public road and the road dedication shall be removed; and


This Bylaw is cited as “**Road Closure and Removal of Road Dedication Bylaw No. 10382
(Portion of Road Adjacent to 6831 Graybar Road)**”.

FIRST READING

SECOND READING

THIRD READING

ADOPTED

CITY OF RICHMOND
APPROVED for content by originating dept. 
APPROVED for legality by Solicitor 

MAYOR

CORPORATE OFFICER

SCHEDULE "A"

SURVEY PLAN CERTIFICATION
PROVINCE OF BRITISH COLUMBIA

PAGE 1 OF 2 PAGES

Your electronic signature is a representation that you are a British Columbia land surveyor and a subscriber under section 168.6 of the *Land Title Act*, RSBC 1996 c.250. By electronically signing this document, you are also electronically signing the attached plan under section 168.3 of the act.

James
Campbell
YSALZD

Digitally signed by James
Campbell YSALZD
Date: 2022.05.30
13:41:22 -07'00'

1. BC LAND SURVEYOR: (Name, address, phone number)

J. Stephen Campbell

Matson Peck & Topliss

Suite 320 - 11120 Horseshoe Way

Richmond

BC V7A 5H7

Ph. 604 270 9331

FILE : 19225 RC

email: campbell@mpt.bc.ca

☐ Surveyor General Certification [For Surveyor General Use Only]

2. PLAN IDENTIFICATION:

Control Number: **165-394-3283**Plan Number: **EPP121251**This original plan number assignment was done under Commission #: **712**

3. CERTIFICATION:

☒ Form 9 ☐ Explanatory Plan ☐ Form 9A

I am a British Columbia land surveyor and certify that I was present at and personally superintended this survey and that the survey and plan are correct.

The field survey was completed on: 2022 May 24 (YYYY/Month/DD) The checklist was filed under ECR#: 261168
 The plan was completed and checked on: 2022 May 30 (YYYY/Month/DD)

☒ None ☐ Strata Form S

☒ None ☐ Strata Form U1 ☐ Strata Form U1/U2
Arterial Highway ☐Remainder Parcel (Airspace) ☐4. ALTERATION: ☐

REFERENCE PLAN TO ACCOMPANY THE CITY OF RICHMOND ROAD CLOSURE AND REMOVAL OF ROAD DEDICATION BYLAW NO. 10382 OF PART OF ROAD DEDICATED ON PLAN LMP25578 SECTION 10 BLOCK 4 NORTH RANGE 4 WEST NEW WESTMINSTER DISTRICT

PLAN EPP121251

BCGS 92G.016

PURSUANT TO SECTION 120 OF THE LAND TITLE ACT
AND SECTION 40 OF THE COMMUNITY CHARTER

SCALE 1:500

10 5 0 10 20 30

ALL HORIZONTAL DISTANCES ARE IN METRES

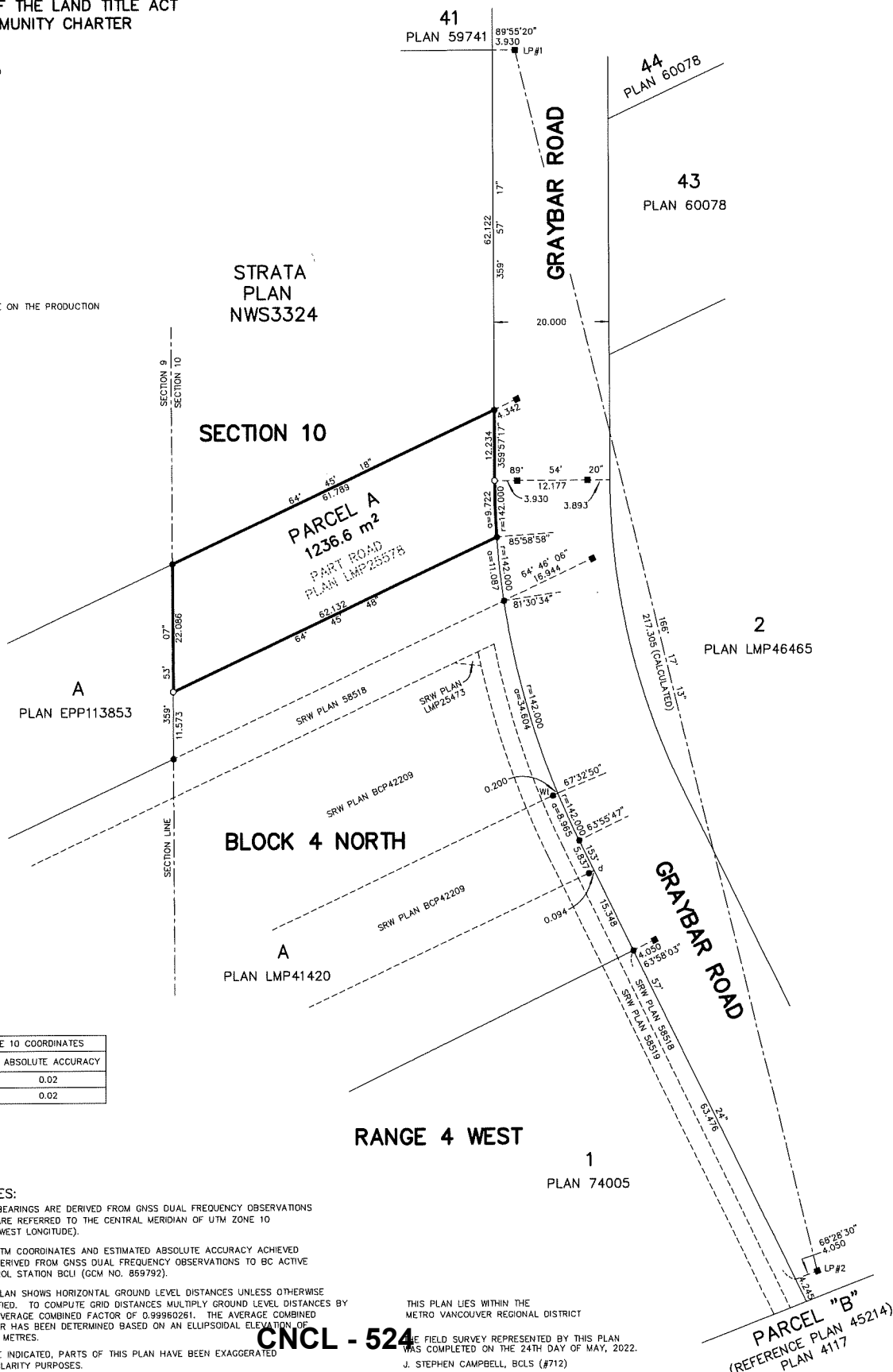
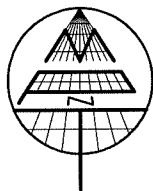
THE INTENDED PLOT SIZE OF THIS PLAN IS
432mm IN WIDTH BY 560mm IN HEIGHT (C-SIZE)
WHEN PLOTTED AT A SCALE OF 1:500.

LEGEND

- INDICATES STANDARD IRON POST FOUND
- INDICATES STANDARD IRON POST PLACED
- INDICATES LEAD PLUG FOUND
- d INDICATES DISTURBED
- LP INDICATES LEAD PLUG
- WT INDICATES WITNESS

THIS PLAN SHOWS ONE OR MORE WITNESS POSTS
WHICH ARE NOT SET ON THE TRUE CORNER(S).

OFFSET AND WITNESS POSTS AND LEAD PLUGS ARE ON THE PRODUCTION
OF PROPERTY LINES UNLESS OTHERWISE INDICATED.



NAD83(CSRS)4.0.0.BC.1.MVRD UTM ZONE 10 COORDINATES			
POINT	NORTHING	EASTING	ABSOLUTE ACCURACY
LP#1	5445865.245	500742.521	0.02
LP#2	5445654.220	500794.014	0.02

NOTES:

GRID BEARINGS ARE DERIVED FROM GNSS DUAL FREQUENCY OBSERVATIONS
AND ARE REFERRED TO THE CENTRAL MERIDIAN OF UTM ZONE 10
(123° WEST LONGITUDE).

THE UTM COORDINATES AND ESTIMATED ABSOLUTE ACCURACY ACHIEVED
ARE DERIVED FROM GNSS DUAL FREQUENCY OBSERVATIONS TO BC ACTIVE
CONTROL STATION BCL1 (GCM NO. 859792).

THE PLAN SHOWS HORIZONTAL GROUND LEVEL DISTANCES UNLESS OTHERWISE
SPECIFIED. TO COMPUTE GRID DISTANCES MULTIPLY GROUND LEVEL DISTANCES BY
THE AVERAGE COMBINED FACTOR OF 0.99960261. THE AVERAGE COMBINED
FACTOR HAS BEEN DETERMINED BASED ON AN ELLIPSOIDAL ELEVATION OF
-15.6 METRES.

WHERE INDICATED, PARTS OF THIS PLAN HAVE BEEN EXAGGERATED
FOR CLARITY PURPOSES.

THIS PLAN LIES WITHIN THE
METRO VANCOUVER REGIONAL DISTRICT

THE FIELD SURVEY REPRESENTED BY THIS PLAN
WAS COMPLETED ON THE 24TH DAY OF MAY, 2022.
J. STEPHEN CAMPBELL, BCLS (#712)

CNCL - 524

MATSON PECK & TOPLISS
SURVEYORS & ENGINEERS

#320 - 11120 HORSESHOE WAY
RICHMOND, B.C., V7A 5H7
PH: 604-270-9331
FAX: 604-270-4137

CADFILE: 19225-004-REF-000.DWG

R-22-19225-REF