



**Public Works and Transportation Committee
Electronic Meeting**

**Council Chambers, City Hall
6911 No. 3 Road**

**Wednesday, May 17, 2023
4:00 p.m.**

Pg. # ITEM

MINUTES

PWT-4 *Motion to adopt the **minutes** of the meeting of the Public Works and Transportation Committee held on April 19, 2023.*



NEXT COMMITTEE MEETING DATE

June 21, 2023, (tentative date) at 4:00 p.m. in the Council Chambers.

PLANNING AND DEVELOPMENT DIVISION

- 1. ICBC-CITY OF RICHMOND ROAD IMPROVEMENT PROGRAM
AND INTERSECTION SAFETY CAMERA PROGRAM – 2023
UPDATE**

(File Ref. No. 10-6460-01) (REDMS No. 7159425)

PWT-8

See Page PWT-8 for full report

Designated Speaker: Beata Ng

STAFF RECOMMENDATION

- (1) *That the proposed road safety improvement projects, as described in Attachment 2 of the staff report titled “ICBC-City of Richmond Road Improvement Program and Intersection Safety Camera Program – 2023 Update,” dated April 18, 2023 from the Director, Transportation be endorsed for submission to the ICBC 2023 Road Improvement Program for consideration of cost-share funding; and*
- (2) *That should the above applications be successful, the Chief Administrative Officer and General Manager, Planning and Development be authorized to execute the cost-share agreements on behalf of the City, and that the Consolidated 5 Year Financial Plan (2023-2027) be amended accordingly.*



ENGINEERING AND PUBLIC WORKS DIVISION

2. **SNOW REMOVAL FROM PRIORITY MULTI-USE PATHWAY CORRIDORS - SUMMARY OF PILOT INITIATIVES**

(File Ref. No. 10-6360-13) (REDMS No. 7178265)

PWT-16

See Page PWT-16 for full report

Designated Speaker: Suzanne Bycraft

STAFF RECOMMENDATION

That the staff report titled “Snow Removal from Priority Multi-Use Pathway Corridors – Summary of Pilot Initiatives” dated April 17, 2023, from the Director, Public Works Operations be received for information.



3. **2023 SUBMISSION TO THE DISASTER MITIGATION AND ADAPTATION FUND – RICHMOND FLOOD PROTECTION PROGRAM**

(File Ref. No. 10-6060-04-01) (REDMS No. 7215498)

PWT-21

See Page PWT-21 for full report

Designated Speaker: Eric Sparolin

STAFF RECOMMENDATION

- (1) *That the submission to the Disaster Mitigation and Adaptation Fund–Richmond Flood Protection Program requesting funding for up to 40% of the project cost, for a total of \$35,600,000 to upgrade approximately 4.6 kilometers of dike and the No. 6 Road North Drainage Pump Station be endorsed;***
- (2) *That the Chief Administrative Officer and General Manager, Engineering and Public Works be authorized to enter into funding agreements with the Government of Canada for the above mentioned project should it be approved for funding by the Government of Canada; and***
- (3) *That, should the above mentioned project be approved for funding by the Government of Canada, the Consolidated 5 Year Financial Plan (2023-2027) be amended accordingly.***

☐

4. MANAGER'S REPORT

ADJOURNMENT

☐



Public Works and Transportation Committee

Date: Wednesday, April 19, 2023

Place: Council Chambers
Richmond City Hall

Present: Councillor Carol Day, Chair
Councillor Michael Wolfe
Councillor Kash Heed
Councillor Alexa Loo (by teleconference)

Absent: Councillor Chak Au

Also Present: Councillor Laura Gillanders (by teleconference)
Councillor Any Hobbs

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 Public Works and Transportation Committee held on March 22, 2023, be adopted as circulated.

CARRIED

AGENDA ADDITION

It was moved and seconded

That 480 Bus be added to the agenda as Item No. 3A.

CARRIED

PLANNING AND DEVELOPMENT DIVISION

Public Works & Transportation Committee

Wednesday, April 19, 2023

1. AZURE ROAD NEIGHBOURHOOD: RESULTS OF RESIDENTIAL PERMIT PARKING REVIEW

(File Ref. No. 10-6455-01) (REDMS No. 7172178)

In response to queries from Committee, staff noted that (i) the traffic management and parking plan will be determined through a separate process, (ii) in regards to the Spires Road pilot project, staff have been given direction by Council to pursue a residential permit parking pilot through a traffic management plan, and (iii) staff are seeking Council endorsement to engage with Alta Court residents over the next few weeks to develop an implementation plan for a residential permit parking program, similar to what is being done in the Spires Road neighbourhood.

It was moved and seconded

- (1) That Staff engage with the residents on Alta Court to develop a resident permit parking pilot program, as described in the staff report titled "Azure Road Neighbourhood: Results of Residential Permit Parking Review" dated April 3, 2023, from the Director, Transportation; and*
- (2) That should the majority of residents on Alta Court wish to participate in such a program, staff will bring forward the necessary City Bylaw amendments for Council consideration.*

CARRIED

ENGINEERING AND PUBLIC WORKS DIVISION

2. 2023 NATIONAL PUBLIC WORKS WEEK - MAY 21 TO 27, 2023: CONNECTING THE WORLD THROUGH PUBLIC WORKS

(File Ref. No. 10-6000-) (REDMS No. 7171389)

Staff highlighted that in-person events are returning in May, including Project WET, the City's annual water education program developed in partnership with the Richmond School Districts, and the Public Works Open House on May 13, 2023, with an expected attendance of over 8,000 residents.

It was moved and seconded

That the 2023 in-person event and virtual campaign plan and theme to recognize National Public Works Week as outlined in the staff report titled "2023 National Public Works Week - May 21 to 27, 2023: Connecting the Works Through Public Works", dated March 15, 2023 from the Director, Public Works Operations, be received for information.

CARRIED

Public Works & Transportation Committee

Wednesday, April 19, 2023

3. **RECYCLING AND SOLID WASTE MANAGEMENT – REPORT 2022: TAKING ACTION TO REDUCE WASTE**

(File Ref. No. 10-6370-01) (REDMS No. 7174996)

In response to queries from Committee, staff noted that (i) the bike reuse program has not yet been implemented, and staff estimate they will receive approximately 10-15 bikes per week, (ii) the storage of bikes will be assessed through a feasibility study, and (iii) the installation of the trash skimming device at Steveston Harbour is targeted for this quarter.

It was moved and seconded

- (1) *That the report titled, “Recycling and Solid Waste Management – Report 2022: Taking Action to Reduce Waste” dated March 13, 2023, from the Director, Public Works Operations, be endorsed.*
- (2) *That the “Recycling and Solid Waste Management – Report 2022: Taking Action to Reduce Waste” be made available to the community on the City’s website and through various communication tools including social media channels and as part of community outreach initiatives.*

CARRIED

3A. **480 BUS**

(File Ref. No.)

Discussion ensued with regard to the indefinite service suspension of the 480 bus route, an express route connecting UBC and Bridgeport Station.

In response to queries from Committee, staff noted that Mayor Brodie and Transportation staff have advocated to TransLink for the reinstatement of the 480 bus service.

4. **MANAGER’S REPORT**

(i) Transportation Department Staffing Update

Staff briefed Committee on the hiring of a new Manager of Transportation Development and Design.

(ii) Left Turn Lane at Cambie Road and No. 5 Road

In response to queries from Committee, staff noted that property acquisition is a contributing factor for the project delay.

(iii) Capital Projects Open House

Staff highlighted that in addition to the upcoming Public Works Open House, the Capital Projects Open House taking place today at City Hall highlights capital projects and public art throughout the city and can be viewed online through Let’s Talk Richmond.

Public Works & Transportation Committee
Wednesday, April 19, 2023

ADJOURNMENT

It was moved and seconded
That the meeting adjourn (4:26 p.m.).

CARRIED

Certified a true and correct copy of the Minutes of the meeting of the Public Works and Transportation Committee of the Council of the City of Richmond held on Wednesday, April 19, 2023.

Councillor Carol Day
Chair

Shannon Unrau
Legislative Services Associate




City of Richmond

Report to Committee

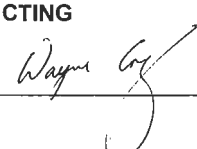


To: Public Works and Transportation Committee
From: Lloyd Bie, P. Eng.
Director, Transportation
Date: April 18, 2023
File: 10-6460-01/2023-Vol
01
Re: ICBC-City of Richmond Road Improvement Program and Intersection Safety
Camera Program – 2023 Update

Staff Recommendations

1. That the proposed road safety improvement projects, as described in Attachment 2 of the staff report titled "ICBC-City of Richmond Road Improvement Program and Intersection Safety Camera Program – 2023 Update," dated April 18, 2023 from the Director, Transportation be endorsed for submission to the ICBC 2023 Road Improvement Program for consideration of cost-share funding; and
2. That should the above applications be successful, the Chief Administrative Officer and General Manager, Planning and Development be authorized to execute the cost-share agreements on behalf of the City, and that the Consolidated 5 Year Financial Plan (2023-2027) be amended accordingly.


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

Att. 2

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF ACTING GENERAL MANAGER
Finance	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO 

Staff Report

Origin

At the March 28, 2022 Council meeting, Council endorsed a number of proposed joint ICBC-City of Richmond road safety improvement projects for 2022. This report summarizes the projects implemented in 2022 with funding from ICBC and presents a list of projects proposed to be implemented with funding contributions from ICBC as part of the 2023 ICBC-City of Richmond Road Improvement Program partnership. This report also provides an update to the Intersection Safety Camera Program.

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.

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

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

Intersection Safety Camera Program

The Province's Intersection Safety Camera Program operates 140 automated enforcement red light cameras throughout BC, with 35 of these cameras also enforcing speeding violations. Nine red light cameras and one speed enforcement camera are located in Richmond. Figure 1 shows the number of red light violations issued through these cameras since 2019.

The camera located at the intersection of Cambie Road and Garden City Road was upgraded to include automated speed enforcement capabilities on September 30th, 2019. This camera registered 530 speed violations in 2019 (2120 if pro-rated to a full year), 2048 speed violations in 2020, 527 speed violations in 2021 and 671 speed violations in 2022. This data supports the effectiveness of automated enforcement cameras in reducing speed violations. Staff will continue to work with ICBC and the Province to encourage the implementation of more Intersection Safety Cameras within Richmond.

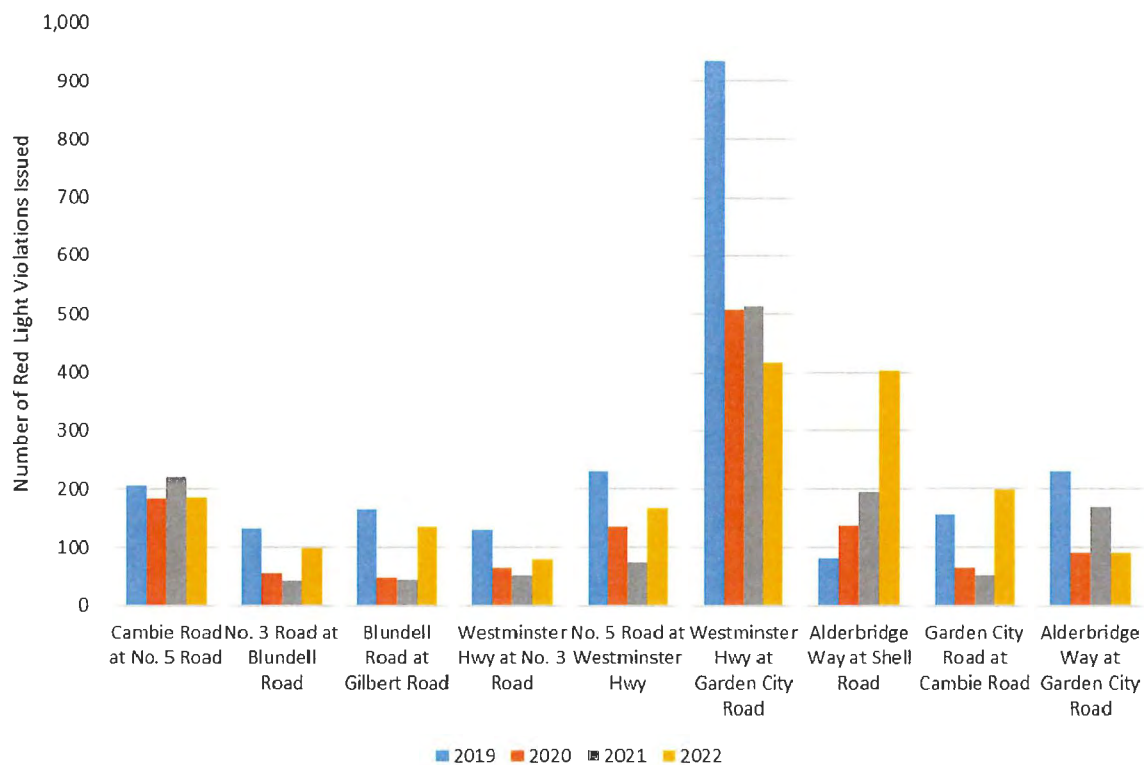


Figure 1: Red Light Violations Issued through the Intersection Safety Camera Program

ICBC Road Improvement Program

ICBC initiated the Road Improvement Program in 1990 to help fund the implementation of road safety engineering measures to reduce the frequency and/or severity of crashes at high-risk locations, reduce claims costs and reduce the potential for crashes.

The City has been in partnership with ICBC in the Road Improvement Program since 1994. This partnership is an important component of the City's traffic safety program as it enables the City not only to undertake more traffic safety enhancements than it could alone, but also to expedite some of these road safety improvement projects. Each year, a list of potential eligible capital projects is developed for inclusion in the Program based on community requests and input from the Traffic Safety Advisory Committee and other stakeholders.

Completed ICBC-City of Richmond Road Improvement Projects

In 2022, the City implemented thirteen groups of road improvement projects (Attachment 1) and will receive a total of \$277,000 through ICBC's 2022 Road Improvement Program (example completed project in Figure 2).



Figure 2: Installation of Traffic Circle at Barnard Dr. /Lam Dr. /Robson Dr. Intersection

Over the past 5 years, ICBC has contributed over \$1.2M towards road improvement projects within Richmond, which helped facilitate improvements to the top 20 collision-prone intersections within the City, the installation of 35 video detection cameras, 6 new traffic signals, 43 LED overhead street name signs, 13 special crosswalks, 35 speed humps and uninterrupted power supply at 38 intersections.

Proposed 2023 ICBC-City of Richmond Road Improvement Projects

Attachment 2 lists ten bundles of projects proposed for submission to the 2023 Road Improvement Program for funding contributions from ICBC, all of which are included in previously approved Capital Budgets. The projects align with the objectives of the City and ICBC to improve the safety of all road users by implementing new infrastructure improvements to reduce crashes and injuries. ICBC's potential funding contribution to these projects will be determined by historical traffic crash rates at these locations and the estimated reduction in ICBC claim costs resulting from the proposed traffic safety improvements, project eligibility in relation to the funding guidelines and the total funding available, which varies from year to year. The outcome of ICBC's review of the projects will be reported back as part of the 2024 update of the ICBC-City of Richmond Road Improvement Program.

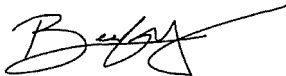
Should a project be approved for funding by ICBC, the City will be required to enter into a funding agreement with ICBC. The agreement is provided by ICBC and generally includes an indemnity in favour of ICBC. Staff recommend that the Chief Administrative Officer and General Manager, Planning and Development be authorized on behalf of the City to execute the funding agreements for the approved projects.

Financial Impact

The total estimated cost of all the projects identified in Attachment 2 is \$2,663,000. All projects are fully funded through previously approved Capital Budgets. Should any submitted projects receive funding from ICBC, these external grants will be used to reduce the previously approved City funding sources and the Consolidated 5 Year Financial Plan (2023-2027) will be amended accordingly.

Conclusion

ICBC is a significant long-time partner working with the City to promote traffic safety in Richmond. The traffic safety initiatives jointly implemented by ICBC and the City, including various road and traffic management enhancements, educational efforts and enforcement measures, have resulted in safer streets for all road users in Richmond. Therefore, staff recommend that Council endorse the various local road safety improvement projects for submission to the 2023 joint ICBC-City of Richmond Road Improvement Program.



Beata Ng, P.Eng.
Manager, Transportation
Development and Design
(604-247-4627)



Kevin Whitmarsh
Transportation Project Leader
(604-276-4035)

Att. 1: 2022 Road Improvement Projects receiving ICBC Funding

Att. 2: Proposed 2023 City-ICBC Road Improvement Projects

2022 Road Improvement Projects receiving ICBC Funding

Project Description	Location	ICBC Contribution	Est. Total Cost
Installation of Special Crosswalk	• Third Ave-Chatham Street	\$3,500	\$92,000
Installation of Pedestrian Signal	• Westminster Hwy-Westminster Hwy North (upgrade from existing fire signal)	\$16,500	\$100,000
Installation of UPS (Uninterruptible Power Supply) at Intersections	• Jacombs Road-Cambie Road • No. 6 Road-Mayfield Drive • No. 8 Road-Blundell Road • No. 6 Road-Commerce Parkway • No. 3 Road-Leslie Road • No. 3 Road-Ackroyd Road • No. 6 Road-Cambie Road • No. 4 Road-Alderbridge Way • Viking Way-Cambie Road	\$22,500	\$225,000
Construction of New Multi-Use Pathway	• Westminster Highway (Smith Crescent to Fraserside Gate)	\$5,000	\$1,100,000
Installation of Traffic Video Cameras	• No. 1 Road-Osmond Avenue • Bridgeport Road-St. Edwards Dr • Bridgeport Road-Shell Road • Bridgeport Road-Simpson Road	\$37,000	\$115,000
Installation of Overhead LED Street Name Signs	• No. 1 Road-Chatham Street • No. 1 Road-Williams Road • No. 1 Road-Osmond Ave • No. 1 Road-Francis Road • No. 1 Road-Blundell Road • No. 1 Road-Granville Ave • No. 1 Road-Westminster Hwy • Gilbert Road-Williams Road • Gilbert Road-Francis Road • Gilbert Road-Blundell Road • No. 3 Road-Park Road • No. 3 Road-Cook Road • Shell Road-Williams Road • No. 5 Road at 11000-block • Railway Ave-Moncton Street • Elmbridge Way-Westminster Hwy • Minoru Blvd-Minoru Gate • Minoru Blvd-Alderbridge Way • Alderbridge Way-Westminster Hwy • Alderbridge Way-Elmbridge Way	\$66,000	\$300,000
Installation of a New Traffic Signal and Rail Crossing System	• Shell Road-Williams Road	\$93,500	\$1,330,000
Construction of Pedestrian Pathways	• River Road (No 6 Road to Burdette Avenue)	\$5,000	\$700,000
Granville Avenue - Bike Lane Protection Project	• Granville Avenue – Gilbert Road to Railway Avenue	\$10,000	\$75,000
Traffic Calming: Traffic Circle	• Barnard Drive-Robson Drive/Lam Drive	\$3,000	\$22,000
Traffic Calming: Speed Humps	• 4 Avenue / Manoah Steves Elementary School	\$1,000	\$6,000
Speed Reader Boards	• 22760 Westminster Highway Northbound • Westminster Highway at Hamilton Transit Centre	\$6,000	\$14,000
Installation of Pedestrian Zone Markers at Schools	• Anderson Elementary School • Cook Elementary School • Diefenbaker Elementary School • General Currie School • Thomas Kidd Elementary School • Bridge Elementary School • Debeck Elementary School • Errington Elementary School • Gilmore Elementary School • Brighthouse Elementary School	\$8,000	\$10,000
Total		\$277,000	\$4,089,000

Proposed 2023 City-ICBC Road Improvement Projects

Proposed 2023 ICBC-City of Richmond Road Improvement Program Project	Estimated Total Cost
Installation of special crosswalk: <ul style="list-style-type: none"> Granville Ave-Mayflower Drive Williams Road-Leonard Road 4500 BLK and Moncton St. Shell Road Trail and Granville Ave. Shell Road Trail and Blundell Rd. Other locations to be determined⁽²⁾ 	\$410,000
Installation of full traffic signal: <ul style="list-style-type: none"> St Albans Road-Bennett Road Other locations to be determined⁽²⁾ 	\$350,000
Installation of pedestrian signal: <ul style="list-style-type: none"> No. 3 Road-Saunders Road (upgrade from existing special crosswalk) Other locations to be determined⁽²⁾ 	\$180,000
Installation of traffic video cameras: <ul style="list-style-type: none"> No. 5 Road and Bridgeport Road Sweden Way and Bridgeport Road No. 5 Road and Cambie Road Other locations to be determined⁽²⁾ 	\$90,000
Installation of overhead LED street name signs: <ul style="list-style-type: none"> St. Albans Rd.-Blundell Rd. No. 3 Rd.-Williams Rd. No. 3 Rd.-Francis Rd. No. 3 Rd.-Blundell Rd. Cooney Rd.-Cook Rd. Cooney Rd.-Saba Rd. Cooney Rd.-Ackroyd Rd. Hazelbridge Way-Alexandra Rd. Hazelbridge Way-Leslie Rd. Hazelbridge Way-Browngate Rd. Garden City Rd.-Williams Rd. Garden City Rd.-Francis Rd. Garden City Rd.-Blundell Rd. Garden City Rd.-Cook Rd. Garden City Rd.-Lansdowne Rd. Garden City Rd.-Cook Rd. Other locations to be determined⁽²⁾ 	\$240,000
Installation of pedestrian zone markers in various locations as identified through of traffic studies ⁽¹⁾	\$16,000
Traffic calming measures: <ul style="list-style-type: none"> Raised Crosswalks – Tomsett School and Walter Lee School Other locations pending results of traffic studies⁽¹⁾ 	\$14,000

Proposed 2023 City-ICBC Road Improvement Projects

Proposed 2023 ICBC-City of Richmond Road Improvement Program Project	Estimated Total Cost
Installation of UPS (uninterruptible power supply): <ul style="list-style-type: none"> • No. 1 Rd.-Westminster Hwy. • No. 1 Rd.-Granville Ave. • Railway Ave.-Granville Ave. • Railway Ave.-Blundell Rd. • Railway Ave.-Francis Rd. • Railway Ave.-Williams Rd. • No. 1 Rd.-Chatham St. • Oval Way-River Rd. • Elmbridge Way-Westminster Hwy. • Minoru Blvd.-Westminster Hwy. • Kwantlen St.-Alderbridge Way • Other locations to be determined⁽²⁾ 	\$240,000
Construction of pedestrian pathway: <ul style="list-style-type: none"> • St. Edwards Drive (350m east of Cambie Road-Bird Road) • Westminster Hwy (Muir Road- 150 m east) • Other locations to be determined⁽²⁾ 	\$823,000
Bike Lane Protection Project: Garden City Rd – Granville Ave to Sea Island Way	\$300,000
Total	\$2,663,000

(1) Implementation is subject to consultation with and support from affected residents.

(2) Additional locations may be identified for submission to ICBC prior to its annual program deadline.



City of Richmond




Report to Committee

To: Public Works and Transportation Committee **Date:** April 17, 2023
From: Suzanne Bycraft
Director, Public Works Operations **File:** 10-6360-13/2023-Vol
01
Re: **Snow Removal from Priority Multi-Use Pathway Corridors - Summary of Pilot Initiatives**

Staff Recommendation

That the staff report titled “Snow Removal from Priority Multi-Use Pathway Corridors – Summary of Pilot Initiatives” dated April 17, 2023, from the Director, Public Works Operations be received for information.

Suzanne Bycraft
Director, Public Works Operations
(604-233-3338)

REPORT CONCURRENCE	
CONCURRENCE OF GENERAL MANAGER 	
SENIOR STAFF REPORT REVIEW	INITIALS: 
APPROVED BY CAO 	

Origin

At the November 28, 2022 Council meeting, the following resolution was adopted during consideration of the staff report entitled “Options for Snow Removal from Priority Multi-use Pathway Corridors – Referral Response”:

‘(b) Staff conduct pilot initiatives during the 2022/2023 winter season to undertake snow clearing from four kilometres of multi-use pathways along Railway Avenue and Alderbridge Way within 72 hours after the snowfall has ended for each snow event.’

This report provides information on these pilot initiatives for 2022/2023.

This report supports Council’s Strategic Plan 2022-2026 Focus Area #2 Strategic and Sustainable Community Growth:

Strategic and sustainable growth that supports long-term community needs and a well-planned and prosperous city.

2.4 Enhance Richmond’s robust transportation network by balancing commercial, public, private and active transportation needs.

This report supports Council’s Strategic Plan 2022-2026 Focus Area #3 A Safe and Prepared Community:

Community safety and preparedness through effective planning, strategic partnerships and proactive programs.

3.4 Ensure civic infrastructure, assets and resources are effectively maintained and continue to meet the needs of the community as it grows.

Background

Council Policy 7013 “Roadways – Ice and Snow Removal” establishes the priorities for treatment of roadways on a tiered basis. First priority are major arterial routes, followed by major collector roads, with third priority given to interior collector roads. This approach provides for effective allocation of equipment and resources to areas of highest demand by the community during ice and snow events. By clearing and treating major arterial roads, best value is achieved and public safety is maximized. Similarly, this approach minimizes negative impacts to business and promotes access to community services. Transit use is also encouraged since first priority arterials include many bus routes. The City also treats bus stops and wheelchair letdowns to promote community mobility.

These priorities and actions result in all City equipment and resources capable of being used for snow response efforts being directed accordingly, given the demand is greater than available resources for the generally short duration and relatively low frequency of snow and ice events in the Lower Mainland. To address sidewalk clearing, the City’s Traffic Bylaw 5870 contains provisions requiring property owners to clear snow and ice from adjacent sidewalks. Proposed updates to this bylaw will be the subject of a separate forthcoming report to Council.

There are currently approximately 25 kilometres of multi-use pathways (MUPs). MUPs are currently not a City priority service under Policy 7013 and property owners are not required to clear them under Bylaw 5870.

Analysis

Multi-use Pathways Pilot – 2022/2023 To assess the process of snow and ice clearing on MUPs, staff implemented a pilot program this past winter as follows:

- Approximately four kilometres along the Railway Greenway and the Alderbridge Way MUPs were treated.
- An objective was established to service the pilot MUPs within 72 hours of snowfall and return the MUPs to a status of safe use for pedestrians and cyclists.
- A one-tonne truck outfitted with a brine unit and plow was allocated to the MUPs when available after treatment of first and second priority routes.

The truck completed nine passes over the pilot MUPs over four days (November 30, December 1, December 19 and December 22)

Findings: The nine truck passes with brining and plowing did not effectively break the ice bond that formed on the paved surface, therefore the pilot MUPs were not fully returned to safe service levels. As with arterial roads, the pilot showed that pre-treatment with brine is necessary to create the barrier needed to prevent or limit the degree to which ice adheres to the surface. There is also the need to continuously maintain treatment once started to avoid hazardous conditions such as black ice. This presents additional risks as smaller patches of ice that would not be hazardous for vehicles could easily cause pedestrians and cyclists to slip and fall.

The pilot also revealed some operational challenges. Arterial roads can be treated relatively efficiently as trucks can operate at higher speed within a space designed for motor vehicles. For the pilot MUPs, bollards and other obstacles had to be removed and replaced for each treatment and truck speeds were greatly reduced for safety and to avoid damage to the MUPs.

Cost:

Costs for the pilot initiative were approximately \$6,660 or \$185 per kilometre to service the MUPs based on the nine passes over the 4 kilometres serviced in the pilot. Based on this experience, additional annual funding needed to treat 25 kilometres of MUPs during average winter conditions, where an estimated 85 treatments, would cost in excess of \$400,000, plus the purchase cost of new dedicated equipment, as shown in Table 1.

Table 1: Preliminary Estimate - Cost for Treatment of Paved Priority MUPs

Expense Type	Description	Amount
<i>Capital</i>	Purchase of additional one-tonne truck with brine and plow equipment	\$175,000- \$200,000
<i>Annual Operating</i>	Vehicle	\$ 25,000
	Labour: \$185/km x 25 km x estimated 85 treatments	\$393,125
<i>Total Annual Operating Estimate</i>		<i>\$418,125</i>

A preliminary review of other cities indicated some have implemented treatment for high pedestrian use corridors at considerable expense, while others have placed the onus for clearing pathways on adjacent residents or businesses via bylaw requirements. Staff continually monitor best practices from both a policy perspective as well as advancements in available equipment technology for snow and ice clearing.

The City's 2023 snow response budget is approximately \$1.4 million. During the 2022/2023 winter season actual costs incurred were approximately \$1.9 million due to the number, duration and intensity of events experienced, with over 96,000 kilometres of lanes serviced. Therefore, staff note that cost estimates provided can vary widely either positively or negatively based on the type, number and severity of winter conditions.

Summary: The approach to treat the pilot MUPs was not sufficiently effective to allow a rapid return to safe use. Adequate treatment of MUPs would require a pre-treatment approach, similar to current service levels on priority arterial routes. The current fleet complement and funding allocations are insufficient to provide this level of service. Partial treatment, as conducted in the pilot, is not a recommended option since the pilot revealed this can create a safety risk for the public. Adding priority service for 25 kilometres of MUPs would require an approximate 30% increase to the snow response budget. Even with this, it will be challenging depending on weather conditions to return the MUPs to safe levels for use in every circumstance.

Staff will continue to monitor evolving approaches for more cost-effective treatment options of high use multi-use pathways in the formulation of any future recommended service options as part of promoting active transportation year-round.

Financial Impact

None.

Conclusion

The 2022/2023 pilot initiative to clear snow and ice from multi-use pathways was not sufficiently successful to warrant continuation of the pilot level of service. The trial showed that a pre-treatment approach and continual winter maintenance similar to roadway treatment would be necessary to be effective. The current inventory of snow response fleet equipment is not

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sufficient to provide this level of service due to priority service demands established by Policy 7013.

Staff will continue to evaluate the impacts of changing climate conditions and emerging equipment or treatment methods for snow and ice events as part of promoting increased active transportation in the community during those times.

A handwritten signature in black ink, appearing to read 'L. Ford', is positioned above the printed name.

Larry Ford
Manager, Roads and Construction Services
(604-244-1209)



City of Richmond

Report to Committee

To: Public Works and Transportation Committee
From: John Irving, P.Eng. MPA
General Manager, Engineering and Public Works
Date: April 25, 2023
File: 10-6060-04-01/2023-Vol 01
Re: **2023 Submission to the Disaster Mitigation and Adaptation Fund – Richmond Flood Protection Program**

Staff Recommendations

1. That the submission to the Disaster Mitigation and Adaptation Fund – Richmond Flood Protection Program requesting funding for up to 40% of the project cost, for a total of \$35,600,000 to upgrade approximately 4.6 kilometers of dike and the No. 6 Road North Drainage Pump Station be endorsed.
2. That the Chief Administrative Officer and General Manager, Engineering and Public Works be authorized to enter into funding agreements with the Government of Canada for the above mentioned project should it be approved for funding by the Government of Canada; and
3. That, should the above mentioned project be approved for funding by the Government of Canada, the Consolidated 5 Year Financial Plan (2023-2027) be amended accordingly.

John Irving, P.Eng. MPA
General Manager, Engineering and Public Works
(604-276-4140)

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Finance	<input checked="" type="checkbox"/>	
Intergovernmental Relations & Protocol Unit	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS:	APPROVED BY CAO

Staff Report

Origin

The Disaster Mitigation and Adaption Fund was established by Infrastructure Canada in 2018 to invest in structural and natural infrastructure projects. This program is intended for projects that help local governments and communities address current and future infrastructure needs while strengthening overall resilience to future environmental hazards caused by the adverse effects of climate change through investments in infrastructure projects.

The City of Richmond submitted an Expression of Interest in July 2018 for the Richmond Flood Protection Program and was invited to submit a grant application in October 2018. The City has been awarded \$13,780,000 of grant funding from this application.

In January 2023, Infrastructure Canada announced that applications for new projects were being accepted. The application deadline is July 19, 2023. The purpose of this report is to seek Council's endorsement on the submission to the Infrastructure Canada Disaster Mitigation and Adaptation Fund 2023 intake for grant funding for up to 40% of the \$89 million project cost, for a total of \$35.6 million of grant funding. The project involves upgrading approximately 4.6 kilometers of dike and the No. 6 Road North Drainage Pump Station as part of the City's critical flood protection system.

This report supports Council's Strategic Plan 2022-2026 Focus Area #2 Strategic and Sustainable Community Growth:

Strategic and sustainable growth that supports long-term community needs and a well-planned and prosperous city.

2.1 Ensure that Richmond's targeted OCP update shapes the direction and character of the city.

This report supports Council's Strategic Plan 2022-2026 Focus Area #3 A Safe and Prepared Community:

Community safety and preparedness through effective planning, strategic partnerships and proactive programs.

3.1 Advance proactive, sustainable, and accelerated flood protection in collaboration with other governments and agencies.

This report supports Council's Strategic Plan 2022-2026 Focus Area #4 Responsible Financial Management and Governance:

4.4 Work with all levels of governments for grant and funding opportunities.

Analysis

Richmond is an island city situated in a floodplain that is approximately one metre above mean sea level and protected by 49 kilometers of dikes and 39 drainage pump stations. Richmond is at risk of flooding as a result of climate change-induced sea level rise. Current climate change guidelines adopted by the Province estimate that the sea level will rise approximately 1 metre by the year 2100, and 0.2 metres of land subsidence is forecasted over the same period.

Flood risks continue to become a greater concern for future years due to climate impacts on rainfall, freshet, and sea level rise. Guided by the City's Flood Protection Management Strategy and the various phases of the Dike Master Plan, Richmond continues to safeguard the people, and its estimated \$100 billion worth of assets by upgrading and maintaining the City's robust flood protection system through the Council approved Capital Program for diking and drainage and development partnerships.

The Richmond Flood Protection Program, submitted by staff to Infrastructure Canada for the Disaster Mitigation and Adaptation Fund, includes four infrastructure projects for the perimeter dike to upgrade approximately 4.6 kilometers of dike and the No. 6 Road North Drainage Pump Station with a total amount of \$89 million. All projects are expected to be completed by 2033.

Funding Details

The Disaster Mitigation and Adaption Fund was established in 2018, with a commitment to invest \$2 billion over 10 years in structural and natural infrastructure projects, and an additional \$1.375 billion in federal funding was provided to renew the Disaster Mitigation and Adaption Fund in 2021. The fund is a part of the Investing in Canada Plan to support the Government of Canada's objectives to create long-term economic growth, support the resilience of communities, and transition to a clean growth economy. The fund operates through a maximum Federal contribution of 40% of project cost towards municipal infrastructure projects.

If the City of Richmond is successful through this grant application, the City would be required to enter into a funding agreement with the Government of Canada. Infrastructure Canada will provide funding through disbursements for the projects identified as part of the program. The agreements are standard form agreements provided by senior levels of government and include an indemnity and release in favour of the Federal Government. As with any submission for funding to external sources, funding is not guaranteed to be granted to assist with this project.

Financial Impact

The City of Richmond will be requesting up to \$35.6 million to fund the Richmond Flood Protection Program from the Infrastructure Canada Disaster Mitigation and Adaptation Fund.

The grant application includes future years capital projects to be completed within the next 10 years. Should the City be successful with the DMAF grant application, the grant will reduce the contributions from the Drainage Improvement Reserve of the existing approved capital projects, and the Consolidated 5-Year Financial Plan (2023-2027) will be amended accordingly. Any

future years capital projects will be presented for Council's consideration as part of the annual budget process.

Conclusion

Staff are seeking Council's endorsement on the submission to the Infrastructure Canada Disaster Mitigation and Adaptation Fund for the Richmond Flood Protection Program. Richmond is requesting up to the maximum grant amount of 40% funding for this project for a total of \$35.6 million.

A handwritten signature in black ink, appearing to read 'E. Sparolin'.

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ES: