



**Public Works and Transportation Committee
Electronic Meeting**

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

**Wednesday, February 23, 2022
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 January 19, 2022.*



NEXT COMMITTEE MEETING DATE

March 23, 2022, (tentative date) at 4:00 p.m. in the Council Chambers

ENGINEERING AND PUBLIC WORKS DIVISION

- 1. HOUSEKEEPING AMENDMENTS TO DRAINAGE, DIKE AND SANITARY SEWER SYSTEM BYLAW NO. 7551**
(File Ref. No. 12-8060-20-010331) (REDMS No. 6831343)

PWT-8

See Page PWT-8 for full report

Designated Speaker: Jason Ho

STAFF RECOMMENDATION

That each of the following bylaws be introduced and given first, second, and third readings:

- (a) *Drainage, Dike and Sanitary Sewer System Bylaw No. 7551, Amendment Bylaw No.10331; and,*
- (b) *Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 10353.*



2. **HOUSEKEEPING AMENDMENTS TO WATERWORKS AND WATER RATES BYLAW NO. 5637**
(File Ref. No. 10-6060-01) (REDMS No. 6782655)

PWT-18

[See Page PWT-18 for full report](#)

Designated Speaker: Jason Ho

STAFF RECOMMENDATION

That each of the following bylaws be introduced and given first, second, and third readings:

- (a) *Waterworks and Water Rates Bylaw No. 5637, Amendment Bylaw No. 10330; and,*
- (b) *Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 10333.*



PLANNING AND DEVELOPMENT DIVISION

3. **TRAFFIC OPERATIONS AT NO. 2 ROAD-STEVESTON HIGHWAY AND NO. 1 ROAD-FRANCIS ROAD - REPORT BACK ON REFERRAL**
(File Ref. No. 10-6450-07-01) (REDMS No. 6819058)

PWT-34

[See Page PWT-34 for full report](#)

Designated Speaker: Bill Johal

STAFF RECOMMENDATION

That the staff report titled “Traffic Operations at No. 2 Road- Steveston Highway and No. 1 Road-Francis Road - Report Back on Referral” dated January 17, 2022, from the Director, Transportation, be received for information.

4. **PROPOSED AMENDMENTS TO ZONING BYLAW 8500 - SECTION 7
PARKING AND LOADING**

(File Ref. No. 08-4430-00) (REDMS No. 5081600)

PWT-41

See Page PWT-41 for full report

Designated Speaker: Sonali Hingorani

STAFF RECOMMENDATION

That Zoning Bylaw No. 8500, Amendment Bylaw No. 10077, to increase the implementation of transportation demand management measures and reduce the requirement for large size loading bays on residential sites, be introduced and given first reading.

5. **MANAGER’S REPORT**

ADJOURNMENT



Public Works and Transportation Committee

Date: Wednesday, January 19, 2022

Place: Council Chambers
Richmond City Hall

Present: Councillor Chak Au, Chair
Councillor Alexa Loo (by teleconference)
Councillor Andy Hobbs
Councillor Linda McPhail (by teleconference)
Councillor Michael Wolfe (by teleconference)

Also Present: Councillor Carol Day (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 Public Works and Transportation Committee held on December 14, 2021, be adopted as circulated.

CARRIED

NEXT COMMITTEE MEETING DATE

February 23, 2022, (tentative date) at 4:00 p.m. in the Council Chambers

PLANNING AND DEVELOPMENT DIVISION

- TRAFFIC SAFETY ADVISORY COMMITTEE - PROPOSED 2022 INITIATIVES**
(File Ref. No. 01-0100-30-TSAD1-01) (REDMS No. 6791243)

Public Works & Transportation Committee
Wednesday, January 19, 2022

A brief discussion ensued with respect to pedestrian safety and traffic calming, particularly within school zones.

It was moved and seconded

- (1) *That the proposed 2022 initiatives for the Traffic Safety Advisory Committee, as outlined in the staff report titled "Traffic Safety Advisory Committee - Proposed 2022 Initiatives", dated December 1, 2021 from the Director, Transportation, be endorsed; and*
- (2) *That a copy of the staff report titled "Traffic Safety Advisory Committee - Proposed 2022 Initiatives" be forwarded to the Richmond Council-School Board Liaison Committee for information.*

CARRIED

2. **RICHMOND ACTIVE TRANSPORTATION COMMITTEE – PROPOSED 2022 INITIATIVES**

(File Ref. No. 01-0100-20-RCYC1) (REDMS No. 6790224)

Discussion ensued regarding multi-use pathways and messaging with respect to cycling safety and the shared obligations to the other users of multi-use pathways.

A brief discussion ensued regarding snow removal for bike lanes.

It was moved and seconded

- (1) *That the proposed 2022 initiatives of the Richmond Active Transportation Committee, as outlined in the staff report titled "Richmond Active Transportation Committee – Proposed 2022 Initiatives" dated November 29, 2021 from the Director, Transportation, be endorsed; and*
- (2) *That a copy of the report titled "Richmond Active Transportation Committee – Proposed 2022 Initiatives" be forwarded to the Richmond Council-School Board Liaison Committee for information.*

CARRIED

ENGINEERING AND PUBLIC WORKS DIVISION

3. **WATER USE RESTRICTION AMENDMENT BYLAWS**

(File Ref. No. 10-6060-01) (REDMS No. 6762151)

Discussion ensued with respect to Metro Vancouver's proposed reduction of watering days during Stage 1, from two days to one day per week, noting that the region typically stays within Stage 1 throughout the summer months. Staff noted Metro Vancouver's objective for the regional restriction is to reduce peak water demands, allowing for the deferral or elimination of costly infrastructure upgrades.

2.

Public Works & Transportation Committee
Wednesday, January 19, 2022

The requirement for the proposed increase of the maximum fine from \$10,000 to the \$50,000 was noted. Staff reported that water restrictions have generally been adhered to through education and communication, with very few instances of tickets issued.

It was moved and seconded

That each of the following bylaws be introduced and given first, second, and third readings.

- (a) *Water Use Restriction Bylaw No. 7784, Amendment Bylaw No. 10329;*
- (b) *Municipal Ticket information Authorization Bylaw No. 7321, Amendment Bylaw No. 10337; and,*
- (c) *Notice of Bylaw Violation Dispute Adjudication Bylaw No. 8122, Amendment Bylaw No. 10338.*

CARRIED

Opposed: Cllr. Hobbs

4. **CORPORATE ELECTRIC VEHICLE CHARGING STATION
INSTALLATION SCOPE INCREASE**

(File Ref. No. 10-6370-01) (REDMS No. 6796888)

It was moved and seconded

That the Consolidated 5 Year Financial Plan (2022-2026) be amended accordingly for the scope change as identified in the staff report titled, "Corporate Electric Vehicle Charging Station Installation Scope Increase", dated December 8, 2021, from the Director, Public Works Operations.

CARRIED

5. **MANAGER'S REPORT**

(i) *Dyking and Drainage*

Staff provided a brief update on the region's recent atmospheric river event, January 11 and 12, noting Richmond received a total rainfall of 31-60mm over a 24 hour period, compared to the November event with 138mm. Staff further reported 26 service calls were received, all of which were minor in nature and have been addressed, and that the City's drainage system performed well.

With respect to the recent King tide event, staff noted water levels rose higher than usual, and that the water system worked well with no notable failures to the system. Staff further reported that continuous inspections on the dyke, together with annual drone inspections, drives the overall maintenance program of the 49kms of earth dike.

Public Works & Transportation Committee
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(ii) TransLink Capstan Station Construction Update

Staff noted TransLink construction crews have completed the necessary work at Capstan Station two weeks ahead of schedule, and that no further single tracking will be necessary for this phase of the work. Staff further reported the public have been informed through signage at Canada Line stations and TransLink's website and social media, and that YVR has also been informed. The City's website has also been updated to reflect the completion date of January 18.

ADJOURNMENT

It was moved and seconded
That the meeting adjourn (4:46 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, January 19, 2022.

Councillor Chak Au
Chair

Lorraine Anderson
Legislative Services Associate



City of Richmond

Report to Committee

To: Public Works and Transportation Committee **Date:** January 27, 2022
From: Milton Chan, P.Eng.
 Director, Engineering **File:** 12-8060-20-010331/Vol 01
Re: **Housekeeping Amendments to Drainage, Dike and Sanitary Sewer System Bylaw No. 7551**

Staff Recommendation

That each of the following bylaws be introduced and given first, second, and third readings:

- a) Drainage, Dike and Sanitary Sewer System Bylaw No. 7551, Amendment Bylaw No. 10331; and,
- b) Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 10353.

Milton Chan, P.Eng.
 Director, Engineering
 (604-276-4377)

Att. 2

REPORT CONCURRENCE		
ROUTED TO: Law Sewer and Drainage Services	CONCURRENCE <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	CONCURRENCE OF GENERAL MANAGER
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

Drainage, Dike and Sanitary Sewer System Bylaw No. 7551 governs the use of, and access to, the City's drainage, dike, and sanitary sewer systems. The Consolidated Fees Bylaw No. 8636 allows for the annual adjustment of fees and charges imposed through the City's bylaws, to account for cost inflation. Bylaw updates are required periodically to adapt to new or emerging issues.

This report supports the following strategies within Council's 2018-2022 Strategic Plan:

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

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.*

Strategy # 5. Sound Financial Management

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

- 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.*

Analysis

The following is a summary of the recommended changes to the existing Bylaw No.'s 7551 and 8636, as proposed in Amendment Bylaw No.'s 10331 and 10353 (Attachments 1 and 2):

- Properties require a Metro Vancouver Waste Discharge Permit to dispose of non-domestic waste in the sanitary system. Non-domestic waste is most often produced from industrial processes, and these permit fees are paid directly by the permit holder to Metro Vancouver. Under these permits, the volume of sanitary sewage is measured. Metro Vancouver consults with staff prior to issuing permits to confirm that the sanitary system can accommodate the proposed amount of sewage.

The City's sanitary utility fees are based on the volume of water delivered to a property via its metered water connection. In cases where the Metro Vancouver Waste Discharge Permit allows for a higher volume of sewage than this, the City does not currently collect any utility revenue for the volume of sewage over and above the metered water reading.

Since the City's metered sewer rate also captures Metro Vancouver fees, charging the City's full metered sewer rate on this excess volume would effectively double-bill permit holders. Therefore, a discounted sewer rate equal to 34% of the metered sewer rate is proposed, as this represents the City's portion of the current sewer rate. The full rate would apply up to the metered water volume, and the discounted rate would apply to the volume of sewage that exceeds the metered water volume.

- Aligning Bylaw No. 7551 with the proposed amendments to the Waterworks and Water Rates Bylaw No. 5637, as discussed in the report titled "Housekeeping Amendments to Waterworks and Water Rates Bylaw No. 5637" from the Director, Engineering, dated January 27, 2022.
- Increasing construction-related fees to account for construction cost inflation since the last update. The updated fees better reflect the current value of labour for the respective services.
- Transferring certain fees to the Consolidated Fees Bylaw No. 8636, to allow for annual adjustment of fees using the Consumer Price Index, without the need for individual amendment of Bylaw No. 7551.
- Replacing the word "dyke" with "dike" where it appears in Bylaw No. 7551, including the bylaw name, to provide consistency with other City documents.

Financial Impact

The changes in the proposed amending bylaws are intended to represent full cost recovery for the associated services.

Conclusion

Proposed Bylaw No. 10331 is an amendment bylaw for the Drainage, Dike and Sanitary Sewer System Bylaw No. 7551. Proposed changes include a discounted fee structure for Metro Vancouver discharge permit holders who discharge sewage that is produced from water sources other than the City's water system, and update of fees based on the current value of services to ensure full cost recovery. Bylaw No. 10353 proposes transfer of certain fees from the Drainage, Dike and Sanitary Sewer System Bylaw No. 7551 to the Consolidated Fees Bylaw No. 8636.

The amending bylaws presented with this report require Council's approval to maintain proper use of various utility services and recover costs incurred by the City to provide these services.



Jason Ho, P.Eng.
Manager, Engineering Planning
(604-244-1281)



Stephenie Wong, P.Eng.
Project Manager
(604-204-8516)

JH:sw

- Att. 1: Drainage, Dike and Sanitary Sewer System Bylaw No. 7551, Amendment Bylaw No. 10331
- Att. 2: Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 10353



**Drainage, Dyke, and Sanitary Sewer System Bylaw No. 7551,
Amendment Bylaw No. 10331**

The Council of the City of Richmond enacts as follows:

1. The **Drainage, Dyke, and Sanitary Sewer System Bylaw No. 7551**, as amended, is further amended by deleting subsection 1.2.1(d) and replacing it with the following:

“(d) at the request of the **property owner** of a **one-family dwelling** or **two-family dwelling**, a design plan or drawing referred to in paragraph (c) may be prepared by the **City** for the fee specified in Consolidated Fees Bylaw No. 8636.”

2. The **Drainage, Dyke, and Sanitary Sewer System Bylaw No. 7551**, as amended, is further amended by deleting subsection 2.1.1(d) in its entirety and replacing it with the following:

“(d) for industrial, commercial, and institutional properties which are **metered properties** and operate under a Metro Vancouver permit and do not receive fee reductions in accordance with section 2.1.1A(b) or 2.3.2 of this Bylaw, 75% of the rates specified in subsection 2.1.1(c).”

3. The **Drainage, Dyke, and Sanitary Sewer System Bylaw No. 7551**, as amended, is further amended by adding section 2.1.1A as follows:

“2.1.1A Every **property owner** whose property has been connected to the **sanitary sewer** system, discharges **sewage** under an issued Metro Vancouver permit, and discharges greater volumes of **sewage** into the **sanitary sewer** system than the metered volume of water delivered to the property (e.g. sewage produced using a water source other than that provided by the **City**), must pay user fees as follows:

- (a) User fees as imposed in section 2.1.1; and,
- (b) User fees at 34% of the **sanitary sewer** metered rate specified in Part 2 of Schedule B for the volume of **sewage** discharged to the **sanitary sewer** system less the metered volume. The volume of **sewage** discharged shall be determined as the lesser of:
 - (i) the maximum daily discharge rate listed on the issued Metro Vancouver permit applied across the duration of the permit (if applicable);

- (ii) the **sewage** discharge volumes listed in the quarterly monitoring reports submitted to Metro Vancouver as a condition of a Metro Vancouver permit (if applicable); and
 - (iii) the sewage discharge volume measured using an alternative method proposed by the property and approved in writing by the **General Manager, Engineering & Public Works.**”
- 4. The **Drainage, Dyke, and Sanitary Sewer System Bylaw No. 7551**, as amended, is further amended by deleting subsection 2.1.2(a) in its entirety and replacing it with the following:
 - “(a) pursuant to the universal or voluntary water metering program under section 14(b), 14(d) or 22A of the *Waterworks and Water Rates Bylaw No. 5637.*”
- 5. The **Drainage, Dyke, and Sanitary Sewer System Bylaw No. 7551**, as amended, is further amended by deleting section 2.1.3 in its entirety and replacing it with the following:
 - “2.1.3 Every owner of a multi-family dwelling which has a water meter installed pursuant to section 9(b) or section 14(b) of the *Waterworks and Water Rates Bylaw No. 5637* will receive a credit to be applied to future sewer charges equal to the difference between the metered charges for the first 60 months of consumption subsequent to the initial meter reading for billing purposes and the amount that would have been payable on a flat rate, provided:
 - (a) the metered charges exceed the flat rate by more than \$10; and,
 - (b) the **property owner** or **property owners** submits a request for the credit to the City in writing within 15 months of the calendar year over which the credit shall be applied. The credit will be the difference of the metered charges and the flat rate charge for the applicable calendar year.”
- 6. The **Drainage, Dyke, and Sanitary Sewer System Bylaw No. 7551**, as amended, is further amended by deleting section 2.6.1 and replacing it with the following:
 - “2.6.1 Where the **City** responds to a request for maintenance or emergency service to the **sanitary sewer** system or **drainage system** and the **City** determines that the problem originates on private property, the **property owner** must pay the fees specified in Consolidated Fees Bylaw No. 8636.”
- 7. The **Drainage, Dyke, and Sanitary Sewer System Bylaw No. 7551**, as amended, is further amended at section 3.3.2 by deleting the reference to “Ten Thousand Dollars (\$10,000)” where it appears and replacing it with “Fifty Thousand Dollars (\$50,000)”.

8. The **Drainage, Dyke, and Sanitary Sewer System Bylaw No. 7551**, as amended, is further amended by amending the following definition to Section 5.1:

“SEWAGE means human excretion, water-carried wastes from drinking, culinary purposes, ablutions, laundering, food processing, or ice producing activities, or other water-carried wastes discharged into the **sanitary sewer** system.”

9. The **Drainage, Dyke, and Sanitary Sewer System Bylaw No. 7551**, as amended, is further amended by deleting Schedule A in its entirety and inserting Schedule A attached to and forming part of this bylaw.

10. The **Drainage, Dyke, and Sanitary Sewer System Bylaw No. 7551**, as amended, is further amended by replacing the word “dyke” with “dike” where it appears.

FIRST READING

SECOND READING

THIRD READING

ADOPTED



MAYOR

CORPORATE OFFICER

SCHEDULE A TO BYLAW NO. 10331**SCHEDULE A to BYLAW NO. 7551****SANITARY SEWER AND DRAINAGE SYSTEM CONNECTION CHARGES****1. DEMOLITION CHARGES**

- | | |
|---|--------------|
| a) Cap and abandon existing service | \$1,300 each |
| b) Adjustment to top elevation of inspection chamber or manhole | \$1,300 each |
| c) Repair of inspection chamber | \$1,300 each |

2. INSPECTION CHAMBERS

- | | |
|---|--------------|
| a) Supply and installation of inspection chamber | \$3,300 each |
| b) Adjust existing inspection chamber | \$1,000 each |

3. CONNECTION TO MAIN

- | | |
|---|--------------|
| a) Connection to sewer main up to 1.5 metres deep | \$4,000 each |
| b) Connection to sewer main over 1.5 metres deep | By Estimate |

4. SERVICE PIPE

- | | |
|---|-----------------|
| a) Supply and install 100 to 150 mm dia lateral pipe, up to 1.5 m in depth | \$500 per metre |
| b) Supply and install 200 mm dia lateral pipe, up to 1.5 metres in depth | \$600 per metre |
| c) Supply and install lateral pipes greater than 200mm dia or greater than 1.5 metres in depth. | By Estimate |

5. MANHOLES

- | | |
|--|---------------|
| a) Supply and install 1050 mm dia manhole, up to 1.5 metres in depth | \$8,000 each |
| b) Supply and install 1200 mm dia manhole, up to 1.5 metres in depth | \$8,700 each |
| c) Supply and install 1500 mm dia manhole, up to 1.5 metres in depth | \$9,400 each |
| d) Supply and install 1800 mm dia manhole, up to 1.5 metres in depth | \$10,000 each |
| e) Supply and install manholes over 1800 mm dia | By Estimate |
| f) Supply and install manholes over 1.5 metres deep | By Estimate |



**Consolidated Fees Bylaw No. 8636,
Amendment Bylaw No. 10353**

The Council of the City of Richmond enacts as follows:


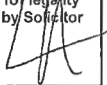
1. The **Consolidated Fees Bylaw No. 8636**, as amended, is further amended by inserting Schedule A attached to and forming part of this bylaw, in appropriate alphabetical order.

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 TO BYLAW No. 10353**SCHEDULE – DRAINAGE, DIKE, AND SANITARY SEWER SYSTEM****Drainage, Dike, and Sanitary Sewer System Bylaw No. 7551**

Description [Section]	Fee
<u>Design Plan Prepared by City [s. 1.2.1(d)]</u> a) Design plan prepared by City for One-Family Dwelling or Two-Family Dwelling b) Design plan prepared by City for all other buildings	\$1,000 each \$2,000 each
<u>Service Requests [s. 2.6.1]</u> For responses by the City in connection with a request for maintenance or emergency services.	\$300 each



City of Richmond

Report to Committee

To: Public Works and Transportation Committee **Date:** January 27, 2022
From: Milton Chan, P.Eng.
 Director, Engineering **File:** 10-6060-01/2021-Vol 01
Re: **Housekeeping Amendments to Waterworks and Water Rates Bylaw No. 5637**

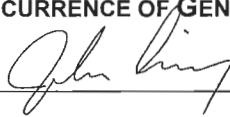

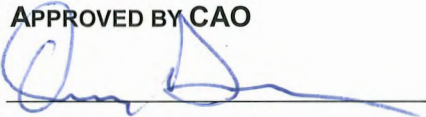
Staff Recommendation

That each of the following bylaws be introduced and given first, second, and third readings:

- a) Waterworks and Water Rates Bylaw No. 5637, Amendment Bylaw No. 10330; and,
- b) Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 10333.

Milton Chan, P.Eng.
 Director, Engineering
 (604-276-4377)

Att. 2

REPORT CONCURRENCE		
ROUTED TO: Law Water Services	CONCURRENCE <input checked="" type="checkbox"/>	CONCURRENCE OF GENERAL MANAGER 
	<input checked="" type="checkbox"/>	
REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE	INITIALS: 	APPROVED BY CAO 

Staff Report

Origin

Waterworks and Water Rates Bylaw No. 5637 governs the use of, and access to, the City's water system. The Consolidated Fees Bylaw No. 8636 allows for the annual adjustment of fees and charges imposed through the City's bylaws, to account for cost inflation. Bylaw updates are required periodically to adapt to new or emerging issues.

This report supports the following strategies within Council's 2018-2022 Strategic Plan:

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

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.*

Strategy # 5. Sound Financial Management

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

- 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.*

Analysis

The following is a summary of the recommended changes to the existing Bylaw No.'s 5637 and 8636, as proposed in Amendment Bylaw No.'s 10330 and 10333 (Attachments 1 and 2):

- Clarifying that the addition of one or more plumbing fixtures will result in the need to renew service pipes smaller than 25mm, when works proposed under a building permit is valued at \$75,000 or more. This change provides clarity when determining if service pipes require renewal.
- Specifying a minimum setback distance of 1m for meter boxes from surfaces that may present an obstruction to meter boxes. To provide further clarity, pavers and other surfaces intended for pedestrian or vehicle traffic are added as objects from which setback is required.
- Specifying a minimum setback distance of 1m for service pipes and curb stops from obstructions. To provide further clarity, retaining wall foundation and fence foundations are added as structures from which setback is required.
- Prohibiting changes or adjustments to service or meter boxes unless authorized by the City, preventing property owners from making modifications that do not meet the City's installation, operations, or maintenance requirements. City costs to address unauthorized changes or adjustments may be billed to the property owner as part of their property taxes.
- Including universal water metering for multi-family dwellings, which was endorsed by Council at the November 8, 2021 Regular Council Meeting. Similar to participants of the voluntary multi-family water metering program, the universal multi-family water metering program will be eligible for a rebate on metered water utility fees exceeding the flat rate for a period of five years. The rebate provides newly metered dwellings with the opportunity to address leaks and other sources of high consumption.
- Removing references to voluntary water metering for single-family dwellings, which are now all metered.
- Increasing construction-related fees to account for construction cost inflation since the last update. The updated fees better reflect the current value of labour for the respective services.
- Transferring certain fees from Bylaw No. 5637 to the Consolidated Fees Bylaw No. 8636, to allow for annual adjustment of fees using the Consumer Price Index, without the need for individual amendment of Bylaw No. 5637.
- Reorganizing certain fees to more appropriate locations within the bylaw.

Staff will also be reviewing the temporary fire hydrant use procedures and fee structure in Bylaw No. 5637 in order to improve operational efficiency, ratepayer equity, and cost recovery for the City, and will present options and recommendations for Council consideration in a future report.

Financial Impact

The changes in the proposed amending bylaw are intended to represent full cost recovery for the associated services.

Conclusion

Proposed Bylaw No. 10330 is an amendment bylaw for Waterworks and Water Rates Bylaw No. 5637. Proposed changes include amended fees based on the current value of services to ensure full cost recovery, changes to support the implementation of universal multi-family water metering, and clarifying installation and maintenance requirements for water infrastructure to align with best practices. Bylaw No. 10333 proposes transfer of certain fees from Waterworks and Water Rates Bylaw No. 5637 to the Consolidated Fees Bylaw No. 8636.

The amending bylaws presented with this report require Council's approval to maintain proper use of various utility services and recover costs incurred by the City to provide these services.



Jason Ho, P.Eng.
Manager, Engineering Planning
(604-244-1281)



Stephenie Wong, P.Eng.
Project Manager
(604-204-8516)

JH:sw

- Att. 1: Waterworks and Water Rates Bylaw No. 5637, Amendment Bylaw No. 10330
- Att. 2: Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 10333



**Waterworks and Water Rates Bylaw No. 5637,
Amendment Bylaw No. 10330**

The Council of the City of Richmond enacts as follows:

1. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by adding the following definitions to section 1 in appropriate alphabetical order, reordering remaining definitions, and bolding such terms where they appear in **Waterworks and Water Rates Bylaw No. 5637**:

“**METER BOX** means the structure used to contain a **water meter** when used in relation to underground structures and the appurtenance which provides above-ground access to the **water meter** when used in relation to objects or structures that are above ground.”

2. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 2(d) in its entirety and replacing it with the following:

“(d) At the request of the **property owner**, a design plan or drawing referred to in subsection 2(a)(iii) may be prepared by the **City** for the fee specified in Consolidated Fees Bylaw No. 8636.”

3. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 4(b) in its entirety and replacing it with the following:

“(b) Where an application for a **building permit** has been made for works valued at \$75,000 or greater and the existing **service pipe** to the building(s) for which works are proposed, from the **curb stop** at the property line to the **City’s** watermain, is either:

- (i) more than 25 years old; or
- (ii) smaller than 25 mm and the works include the addition of one or more plumbing fixtures,

the **property owner** must install a new **service pipe**, including a **water meter** if one does not exist on the **service pipe**, and pay the applicable water connection fee set-out in Schedule “D”.”

4. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 6(c) in its entirety and replacing it with the following:

“(c) The **meter box** for a new connection shall be set back at least 1 m clear from sidewalks, driveways, brick walkways, pavers, or any other surface that is intended for pedestrian or vehicle traffic.”

5. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting section 7 in its entirety and replacing it with the following:

“7. **Inaccessibility of Meters**

The **City** will notify the **customer** if the **customer’s** privately located meter or accessory thereof is found to have become inaccessible for reading or maintenance. If the **customer** does not make the meter or accessory accessible within 96 hours of receipt of notice, the **customer** shall pay, in addition to the metered rates and water meter fixed charge amounts set out in Schedule B or C as applicable, the fee for an inaccessible meter as set out in Section 3 of Schedule B or C as applicable and not pro-rated while the said meter or accessory remains inaccessible. If the **customer** does not make the meter or accessory accessible within 96 hours of receipt of notice, the **City** may also choose to reinstate access to the meter or accessory at the cost of the **customer**.”

6. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 9(a) in its entirety and replacing it with the following:

“(a) For all new **multi-family dwelling** properties, existing **multi-family dwelling** properties that apply for **meter service** pursuant to 9(b), or existing **multi-family dwellings** required to have a meter water service pursuant to section 14:

- (i) a **water meter** will be installed at each of the **service pipe** connections at or near the property line; or
- (ii) if the **General Manager, Engineering & Public Works** determines that separate metering for water usage by different dwellings, buildings or areas within a **multi-family dwelling** property would:
 - A) be cost-efficient;
 - B) capture all water usage by the property; and
 - C) provide the City with readily available access to the **water meter** or **water meters**,

the **General Manager, Engineering & Public Works** may permit, in addition to or in place of **water meters** installed pursuant to subsection 9(a)(i), **water meters** to be installed in the following locations:

- D) at all **service pipe** connections in the mechanical room or the **service pipe** junction of one or more buildings within the **multi-family dwelling** property; or
 - E) at the water connection for each dwelling unit and each common area within the **multi-family dwelling** property.”
7. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 10(a) and 10(b) in their entirety and replacing them with the following:
- “(a) Every **property owner** shall locate all **service pipes** and **curb stops** at least one (1) metre clear of any structure, driveway, curb, sidewalk, retaining wall foundation or fence foundation.
 - (b) Every **property owner** shall locate the top of the **service box** and/or **meter box** at finished ground level, at least one (1) metre clear of any structure, driveway, curb, or sidewalk.”
8. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by adding the following new subsection 10(e):
- “(e) **Service boxes** and **meter boxes** shall not be moved, adjusted, or otherwise modified unless completed by the **City** or with the written approval from the **General Manager, Engineering & Public Works**. If the **General Manager, Engineering & Public Works** determines any unauthorized modifications were completed, the **City** may reinstate the **service box** and or **meter box** without the **property owner’s** permission and at the cost of the **property owner**.”
9. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 11(a)(iii) in its entirety and replacing it with the following:
- “(iii) The **property owner** shall pay the charges set out in Consolidated Fees Bylaw No. 8636 for each turn on or turnoff.”
10. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 11(b)(i) in its entirety and replacing it with the following:
- “(i) A **property owner** requesting non-emergency service calls to turn water off or on outside regular working hours shall pay the charges set out in Consolidated Fees Bylaw No. 8636.”
11. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 11(c)(i) in its entirety and replacing it with the following:
- “(i) A **customer** requesting an **emergency service call** to turn water off or on must pay the charges set out in Consolidated Fees Bylaw No. 8636.”

12. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 13(e) in its entirety and replacing it with the following:

“(e) Every **property owner** of a **multi-family dwelling** which has a **water meter** installed pursuant to section 9(b) or section 14(b) of this Bylaw will receive a credit to be applied to future water charges equal to the difference between the metered charges for the first 60 months of consumption subsequent to the initial meter reading for billing purposes and the amount that would have been payable on a flat rate basis, provided:

- (i) the metered charges exceed the flat rate by more than \$10; and
- (ii) the **property owner(s)** submits a request for the credit to the City in writing within 15 months of the calendar year over which the credit shall be applied. The credit will be the difference of the metered charges and the flat rate charge for the applicable calendar year.”

13. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 14(b) in its entirety and replacing it with the following:

“(b) Commencing January 1, 2022, the **General Manager, Engineering & Public Works** shall establish a schedule for substituting a **meter service** in lieu of an ordinary service for **multi-family dwellings** in the **City** that do not have **meter service**, and the **City** will supply and install **water meters** at these **properties** at no charge to the **property owner**.”

14. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by adding the following new subsection 14(d):

“(d) Notwithstanding the schedule established in subsection 14(b), owners of **multi-family dwellings** may continue to apply to the **City** for a **meter service** in accordance to subsection 9(b).”

15. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 19(a) in its entirety and replacing it with the following:

“(a) All persons shall install all underground pipes such that the top of pipe is not less than 500 mm (20 inches) below the surface of the ground, and all other pipes where so fitted as to be exposed to frost shall be properly protected.”

16. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 22(a) in its entirety and replacing it with the following:

“(a) No person shall obtain water from a watermain by means other than a metered connection for the purpose of serving any **one-family dwelling**, commercial or industrial establishment, or farm. Nothing in this Section shall apply to the fighting of fires.”

17. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 22(b)(ii) in its entirety and replacing it with the following:
 - “(ii) pay, prior to installation, the applicable connection charge and water meter installation fee specified in Schedule “D”, notwithstanding **water meters** installed as an outcome of 9(b) or 14(b) or 22A(b).”
18. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 22A(a) in its entirety.
19. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting subsection 22B(b) in its entirety and replacing it with the following:
 - “(b) The **City** will rebate the **property owner** \$100 for each replacement toilet, up to a maximum of two replacement toilets per property, provided that the **City** is satisfied that the rebate application meets the criteria set-out in subsection 22B(a).”
20. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting section 26(a) in its entirety and replacing it with the following:
 - “(a) The **General Manager, Engineering and Public Works** will, upon written request and the payment of the fee as set out in Consolidated Fees Bylaw No. 8636 by the **customer**, test a **water meter** for accuracy.”
21. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting section 26(d) in its entirety and replacing it with the following:
 - “(d) Where a **customer** requests verification that a **water meter** at a property is functioning properly, the **City** will conduct an on-site inspection of the **water meter** after the **customer** has paid the fees set out in Consolidated Fees Bylaw No. 8636. The fee(s) will be refunded to the **customer** if the **City** determines that the **water meter** fails to register or properly indicate the flow of water. In no other circumstance will the fee be refunded to the **customer**.”
22. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting Schedules “B”, “C”, and “D” to Bylaw 5637 in their respective entireties and substituting therefor Schedule A attached to and forming part of this Bylaw.
23. The **Waterworks and Water Rates Bylaw No. 5637**, as amended, is further amended by deleting Schedule “F” to Bylaw 5637 in its entirety.

FIRST READING

SECOND READING

THIRD READING

ADOPTED

CITY OF RICHMOND
APPROVED for content by originating dept. <i>SW</i>
APPROVED for legality by Solicitor <i>[Signature]</i>

MAYOR

CORPORATE OFFICER

SCHEDULE A TO BYLAW No. 10330**SCHEDULE "B" TO BYLAW NO. 5637**

**METERED RATES FOR
INDUSTRIAL, COMMERCIAL, INSTITUTIONAL, MULTI-FAMILY,
STRATA-TITLED AND FARM PROPERTIES**

1. RATES

Consumption per cubic metre:	\$1.5082
Minimum charge in any 3-month period (not applicable to Farms)	\$114.00

2. WATER METER FIXED CHARGE

Fixed charge per **water meter** for each 3-month period:

<u>Meter Size</u>	<u>Fixed Charge</u>
16 mm to 25 mm (inclusive)	\$15
32 mm to 50 mm (inclusive)	\$30
75 mm	\$110
100 mm	\$150
150 mm	\$300
200 mm and larger	\$500

3. FEE FOR AN INACCESSIBLE METER AS SET OUT IN SECTION 7

Per quarter that the meter is in accessible (not to be pro-rated)	\$200
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SCHEDULE "C" TO BYLAW NO. 5637

**METERED RATES FOR
ONE-FAMILY DWELLING AND TWO-FAMILY DWELLING**

1. **RATES**
Consumption per cubic metre: \$1.5082

2. **WATER METER FIXED CHARGE**
Fixed charge per **water meter** for each 3-month period:

<u>Meter Size</u>	<u>Fixed Charge</u>
16 mm to 25 mm (inclusive)	\$12
32 mm to 50 mm (inclusive)	\$14
75 mm	\$110
100 mm	\$150
150 mm	\$300
200 mm and larger	\$500

3. **FEE FOR AN INACCESSIBLE METER AS SET OUT IN SECTION 7**
Per quarter that the meter is in accessible (not to be pro-rated) \$200

SCHEDULE “D” to BYLAW 5637*

1. WATER CONNECTION CHARGE

One-Family, Two-Family, Multi-Family, Industrial, Commercial Water Connection Size	Connection Charge	
	Tie In Charge	Price Per Metre of Service Pipe
25 mm (1”) diameter	\$3,400	\$200
40 mm (1 ½”) diameter	\$4,700	\$200
50 mm (2”) diameter	\$4,900	\$200
100 mm (4”) diameter or larger	in accordance with Section 38	in accordance with Section 38

2. WATER METER INSTALLATION FEE

- a. Install water meter 25 mm (1”) or smaller on water connection 25 mm (1”) or smaller for One-Family Dwelling or Two-Family Dwelling [s. 3A(a), s. 22(b)(ii)] \$1,300 each
- b. Install water meter not covered under Schedule D Item 2a. [s. 3A(a), s. 22(b)(ii)] Actual Cost

3. WATER SERVICE DISCONNECTIONS

- a. When the service pipe is temporarily disconnected at the property line for later use as service to a new building \$200 each
- b. When the service pipe is not needed for a future development and must be permanently disconnected at the watermain, up to and including 50mm \$1,500 each
- c. If the service pipe is larger than 50mm Actual Cost



City of Richmond

Bylaw 10333

Consolidated Fees Bylaw No. 8636, Amendment Bylaw No. 10333

The Council of the City of Richmond enacts as follows:

1. The **Consolidated Fees Bylaw No. 8636**, as amended, is further amended by inserting Schedule A attached to and forming part of this bylaw, in appropriate alphabetical order.

FIRST READING

SECOND READING

THIRD READING

ADOPTED

MAYOR

CORPORATE OFFICER

CITY OF RICHMOND
APPROVED for content by originating dept.
<i>[Signature]</i>
APPROVED for legality by Solicitor
<i>[Signature]</i>

SCHEDULE A TO BYLAW No. 10333**SCHEDULE – WATERWORKS****Waterworks and Water Rates Bylaw No. 5637**

Description [Section]	Fee
<u>Design Plan Prepared by City [s. 2(d)]</u>	
a) Design plan prepared by City for One-Family Dwelling or Two-Family Dwelling	\$1,000 each
b) Design plan for all other buildings	\$2,000 each
For each turn on or turn off [s. 11(a)(iii), s. 11(c)(i)]	\$108
For each non-emergency service call outside regular hours [s. 11(b)(i)]	Actual Cost
Fee for testing a water meter [s. 26(a)]	\$377
Fee for water meter verification request [s.26(d)]	\$50
Troubleshooting on private property	Actual Cost
<u>Fire flow tests of a watermain</u>	
(a) First test.	\$250
(b) For each subsequent test	\$150
Locate or repair of curb stop service box or meter box	Actual Cost
<u>Fee for use of City fire hydrants [s. 37]:</u>	
(a) Where the installation of a water meter is required:	
(i) Refundable Deposit	\$340
(ii) Consumption fee: the greater of the rates set out in Item 1 of Bylaw No. 5637 Schedules “B” or “C”, or	\$218
(b) Where the installation of a water meter is not required:	
(i) First day	\$218
(ii) Each additional day of use beyond the first day	\$72

Description [Section]	Fee
<p><u>Fee for use of Private fire hydrants [s. 37.1]:</u></p> <p>(a) Where the installation of a water meter is required:</p> <p style="padding-left: 20px;">(i) Refundable Deposit</p> <p style="padding-left: 20px;">(ii) Consumption fee: the greater of the rates set out in Item 1 of Bylaw No. 5637 Schedules "B" or "C", or</p> <p>(b) Where the installation of a water meter is not required:</p> <p style="padding-left: 20px;">(i) First day</p> <p style="padding-left: 20px;">(ii) Each additional day of use beyond the first day</p>	<p></p> <p>\$360</p> <p>\$210</p> <p></p> <p>\$100</p> <p>\$65</p>



City of Richmond

Report to Committee

To: Public Works and Transportation Committee **Date:** January 17, 2022
From: Lloyd Bie, P.Eng.
 Director, Transportation **File:** 10-6450-07-01/2022-
 Vol 01
Re: **Traffic Operations at No. 2 Road-Steveston Highway and No. 1 Road-Francis Road - Report Back on Referral**

Staff Recommendation

That the staff report titled "Traffic Operations at No. 2 Road-Steveston Highway and No. 1 Road-Francis Road - Report Back on Referral" dated January 17, 2022, from the Director, Transportation, be received for information.

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

Att. 1

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

Staff Report

Origin

At the December 14, 2021 meeting of the Public Works and Transportation Committee, a delegate attended to speak on traffic light operations at intersections, particularly No. 2 Road-Steveston Highway and No. 1 Road-Francis Road. Following discussion, the following referral motion was carried:

- (1) *That the presentation by Jeff Jones, Richmond resident on traffic light operations, including traffic signal timing, at intersections be referred to staff; and*
- (2) *That staff report back with crash data analysis at No.2 Road and Steveston Highway.*

This report responds to the referral.

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.

1.1 Enhance safety services and strategies to meet community needs.

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

Traffic Signal Timing for Advance Left Turns

Generally, the type of left turn signal operation at a signalized intersection considers vehicle volumes, vehicle approach speeds, intersection geometry (e.g., number of through and turn lanes), intersection widths, and the presence or absence of a left turn lane. Vehicle and bicycle detectors or sensors are installed within the roadway to detect the presence of vehicles and measure if queues are adequate to request a left turn signal. Detectors primarily consist of wire loops cut into the pavement approaching the stop line. They are activated by the change of electrical inductance caused by a metal mass (vehicle or bicycle) passing or resting over the wire loop. The City also uses video detection cameras that use imaging recognition technology to detect vehicles.

No. 2 Road-Steveston Highway Intersection

The No. 2 Road-Steveston Highway intersection has left turn lanes on Steveston Highway and has a protected/permmissive left turn signal installed in the westbound, eastbound and southbound directions. A left turn arrow for the northbound direction is not warranted. With this type of operation, left turn lanes share the same red/amber/green signal indications with the parallel through movement. A “flashing” (*protected*) left turn arrow is activated when a queue of approximately four vehicles are detected in the left lane. During the display of the solid green ball, left turns can be made (*permmissive*) when there are adequate gaps in opposing traffic to complete left turns safely.

This type of left turn phasing is designed to help minimize delay to all intersection users by allowing motorists to turn on the green ball after opposing traffic has cleared. The left turn arrows are turned off by computer control when traffic volumes are low, and sometimes during peak traffic conditions where low volume left turn arrows can interrupt the opposing direction’s signal synchronization.

The westbound, eastbound and southbound left turn arrows are programmed to be active between 7:00 am and 11:30 pm weekdays when there is a queue of three to five vehicles detected in the left turn lane. On average, there are 236 daily activations of the southbound left turn arrow, 65 daily activations of the westbound left turn arrow and 32 daily activations of the eastbound left turn arrow with most occurring during the morning and afternoon peak periods.

ICBC Crash Data

During the five-year period of 2016 to 2020 (the most recent ICBC data available), a total of 106 crashes were recorded at the intersection (Figure 1). Of this total, 69% (73) were property damage only and 31% (33) were casualty crashes resulting in injury. There were no fatalities.

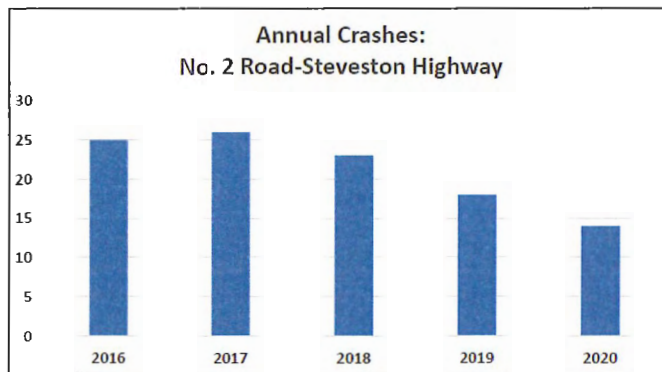


Figure 1: Annual Crashes at No. 2 Road-Steveston Hwy

The City’s network screening study, undertaken in 2019 using 2013 to 2017 ICBC crash data, identified and prioritized high collision locations in order to determine where road safety improvement investments should be directed to achieve the greatest safety benefits. The study ranked the No. 2 Road-Steveston Highway intersection at #55. Accordingly, improvements to this intersection will be undertaken once conditions at more highly ranked intersections are addressed.

No. 1 Road-Francis Road Intersection

The No. 1 Road-Francis Road intersection does not have any left turn lanes and has a protected/permmissive left turn signal installed in the northbound, southbound and westbound

directions. Since both through and left turn traffic share the same lane, opposing directions cannot receive a left turn arrow simultaneously. To accommodate this intersection configuration, the City developed a system called “swap-logic,” which works as follows:

- The system analyzes the presence of vehicle queues (approximately three to five vehicles) in the through/left turn lane in both opposing directions and selects one flashing left turn arrow per signal cycle
- If there are constant vehicle queues in both opposing direction, the system will alternate (or swap) the left turn arrow between each direction every cycle
- If there is a constant queue of vehicles in only one direction, the system will select a left turn arrow for that direction for each cycle the queue exists until a queue develops in the opposing direction, which will then get a left turn arrow the next signal cycle
- If there are no vehicle queues in either direction, no left turn arrows will be active

When there is a queue of three to five vehicles detected in the through/left turn lane, the northbound and southbound left turn arrows are programmed to be active between 7:00 am and 8:00 pm while the westbound left arrow is programmed to be active between 9:30 am and 8:00 pm. On average, there are 286 daily activations of the southbound left turn arrow, 93 daily activations for the westbound left turn arrow and 40 daily activations of the northbound left turn arrow with most occurring during the morning and afternoon peak periods.

ICBC Crash Data

During the five-year period of 2016 to 2020, a total of 162 crashes were recorded at the intersection (Figure 2). Of this total, 59% (96) were property damage only and 41% (66) were casualty crashes resulting in injury. There were no fatalities.

The City’s network screening study ranked the No. 1 Road-Francis Road intersection within the top 20 collision prone intersections at #17. The two-page Intersection Safety Review Report for the intersection (Attachment 1) identifies potential improvements (short-term and medium-/long-term). As part of the recommended short-term improvements, staff have completed the warrant analysis for adding a left turn phase for the eastbound approach and the left turn arrow is anticipated to be installed by the end of March 2022. Due to right-of-way constraints, long-term improvements to provide left turn lanes will be addressed as part of future adjacent development.

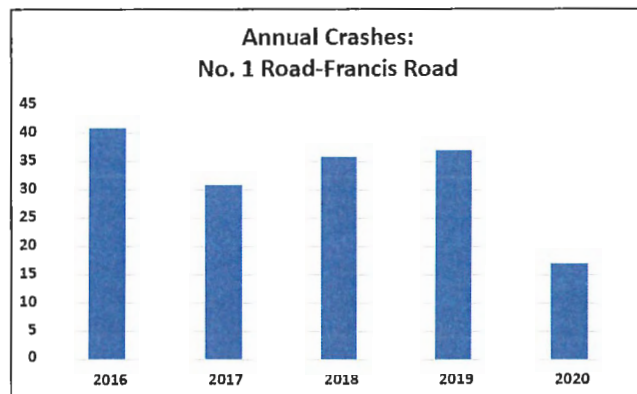


Figure 2: Annual Crashes at No. 1 Road-Francis Road

Financial Impact

None.

Conclusion

Staff will continue to monitor traffic signal operations at the No. 2 Road-Steveston Highway and No. 1 Road-Francis Road intersections via traffic cameras to ensure adequate signal timing is in place for all intersection movements.



Bill Johal
Supervisor-Traffic Signal Systems
(604-276-4298)



Joan Caravan
Transportation Planner
(604-276-4035)

BJ:jc

Att. 1: No. 1 Road-Francis Road – Intersection Safety Review Report

No. 1 Road-Francis Road: Intersection Safety Review Report



Network Screening Study
City of Richmond

NO. 1 ROAD & FRANCIS ROAD																					
INTERSECTION INFORMATION	COLLISION STATISTICS (2015-2017)																				
<p>Site #: 17</p> <p>Intersection Type: 4-Legged</p> <p>Traffic Control Type: Signalized - P/P LT for N-S & WB</p> <p>N-S Street Classification: Arterial</p> <p>E-W Street Classification: Arterial</p> <p>Surrounding Land Use: Comm. / Rec. / Inst. / Resl.</p> <p>Daily Traffic Volume (2015): 27,200 Entering Vehicles</p>	<p>Collision Frequency: 27.3 per year (Total = 82)</p> <p>Collision Severity Index: 4.73 (Casualty = 41%)</p> <p>Collision Rate OBS. / CRT.: 2.99 / 3.41 [2013-2017]</p> <p>Collision with Pedestrian: 0</p> <p>Collision with Cyclist: 2</p> <table border="1"> <caption>Collision Data by Year and Severity</caption> <thead> <tr> <th>Year</th> <th>Total</th> <th>Property Damage Only</th> <th>Injury</th> <th>Fatal</th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>28</td> <td>16</td> <td>10</td> <td>2</td> </tr> <tr> <td>2016</td> <td>31</td> <td>14</td> <td>17</td> <td>0</td> </tr> <tr> <td>2017</td> <td>25</td> <td>18</td> <td>7</td> <td>0</td> </tr> </tbody> </table> <p>Highest % Month: May / June (13%)</p> <p>Highest % Day of Week: Friday / Wednesday (20%)</p> <p>Highest % Time Period: 3 PM - 6 PM (29%)</p> <p>Top 3 Collision Types: Rear End (31%), Left Turn (30%), Sideswipe (26%)</p>	Year	Total	Property Damage Only	Injury	Fatal	2015	28	16	10	2	2016	31	14	17	0	2017	25	18	7	0
Year	Total	Property Damage Only	Injury	Fatal																	
2015	28	16	10	2																	
2016	31	14	17	0																	
2017	25	18	7	0																	
IDENTIFIED OPERATIONAL AND SAFETY ISSUES																					
<p>Geometric:</p> <ul style="list-style-type: none"> Lack of left-turn bay – all approaches; limited visibility of through traffic for left-turn drivers Lane drop after intersection due to on-street parking during off-peak periods – south, east, and west legs Commercial and recreational driveways close to intersection – north, east, and west legs 																					
<p>Signal:</p> <ul style="list-style-type: none"> Lack of left-turn phase – eastbound approach Provision of left-turn phase without left-turn bay – north-south and westbound approaches No countdown for pedestrian signal phases – all directions 																					
<p>Vulnerable Road User:</p> <ul style="list-style-type: none"> Substantial pedestrian crossing activities – all legs (to/from retail stores and nearby community centres and schools); conflict between left/right-turn vehicles and crossing pedestrians No bicycle facilities provided – overall intersection 																					
<p>Collision (Data Review):</p> <ul style="list-style-type: none"> High number of rear-end collisions occurred on No. 1 Road approaches – 10 for northbound and 7 for southbound; out of total 24 collisions High number of left-turn opposing collisions occurred on N-S direction – 85%; 22 out of total 23 collisions High proportion of sideswipe collisions reported for northbound (6), followed by eastbound/southbound (4); out of total 20 collisions Two cyclist-involved collisions occurred between vehicles turning left/right from No. 1 Road onto Francis Road and bicycle crossing east/west leg of the study intersection 20 extra collisions reported at the driveways of Seafair Centre (shopping plaza) located on the northwest corner of the intersection – 14 collisions at the driveway along No. 1 Road and 6 collisions at the driveway to Francis Road 																					
<p>Operational (Field Review):</p> <ul style="list-style-type: none"> Significant left-turn volumes/queues during commuter and school peak periods – north-south approaches; aggressive turning manoeuvres Significant lane changing/weaving activities – all directions; due to lack of left-turn bays Road work and lane closure on the northwest corner during the field review in early April 																					



No. 1 Road-Francis Road: Intersection Safety Review Report



Network Screening Study
City of Richmond

NO. 1 ROAD & FRANCIS ROAD

Other:

- None

POTENTIAL IMPROVEMENTS

Short-Term (Potential Safety Benefit – 10 to 20% of Total Collisions):

- Review and adjust signal timing to provide priority and/or dedicated pedestrian phase – *all approaches*
- Paint green pavement marking for crosswalk to alert drivers for substantial pedestrian crossing activities – *all legs*
- Review and relocate/remove on-street parking close to intersection – *south, east, and west legs*
- Conduct warrant analysis for adding left-turn phase – *eastbound approach*
- Educate community centre children and school students regarding safe pedestrian crossing – *overall*

Medium/Long-Term:

- Consolidate commercial driveways with future redevelopment – *north leg*
- Add left-turn phase (if warranted) – *eastbound approach*
- Add left-turn bays with future redevelopments in the future – *all approaches, particular north-south directions*
- Conduct a detailed in-service operation and safety study to include the safety review of nearby commercial driveways – *overall*





City of Richmond

Report to Committee

To: Public Works and Transportation Committee **Date:** January 19, 2022
From: Lloyd Bie, P. Eng.
 Director, Transportation **File:** 08-4430-00/Vol 01
Re: **Proposed Amendments to Zoning Bylaw 8500 - Section 7 Parking and Loading**

Staff Recommendation

That Zoning Bylaw No. 8500, Amendment Bylaw No. 10077, to increase the implementation of transportation demand management measures and reduce the requirement for large size loading bays on residential sites, be introduced and given first reading.

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

Att. 2

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Engineering	<input checked="" type="checkbox"/>	
Sustainability & District Energy	<input checked="" type="checkbox"/>	
Development Applications	<input checked="" type="checkbox"/>	
Policy Planning	<input checked="" type="checkbox"/>	
Law	<input checked="" type="checkbox"/>	
Community Social Development	<input checked="" type="checkbox"/>	
SENIOR STAFF REPORT REVIEW	INITIALS: 	APPROVED BY CAO

Staff Report

Origin

Section 7 (Parking and Loading) of Zoning Bylaw 8500 (the Bylaw) identifies the requirements for off-street parking (motor vehicles and bicycles) and loading spaces for residential, commercial and other land uses. This report presents proposed amendments to Section 7 in order to:

- incorporate the findings of recent parking utilization studies in Metro Vancouver;
- respond to feedback from the development community; and
- achieve a better alignment of the requirements with the goals and objectives of the Official Community Plan (OCP) and Community Energy and Emissions Plan (CEEP).

Upon completion of the update of the Cycling Network Plan and cycling-related policies anticipated in Q2 2022, a future staff report anticipated in Q4 2022 will propose updated off-street bicycle parking requirements and respond to the following Council referral made at the May 19, 2015 Public Hearing meeting:

That staff examine the bicycle parking stall requirements for multi-residential units in Richmond Zoning Bylaw 8500.

In the interim, staff will continue to pursue additional long-term on-site bike parking in excess of Bylaw requirements for larger multi-family units.

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.

6.1 Ensure an effective OCP and ensure development aligns with it.

Analysis

Proposed Amendments to Section 7: Parking and Loading

The proposed amendments to Section 7 are intended to:

- streamline and align requirements with current practices; and
- increase the implementation of Transportation Demand Management (TDM) measures to encourage the use of alternative travel modes.

Collectively, the proposed amendments will:

- improve utilization of parking spaces;
- improve site design and increase available floor space for urban space in residential developments;

- reduce the costs of the provision of off-street parking facilities; and
- achieve parking provisions that respond to the sustainability goals of the OCP and CEEP.

For each of the proposed Zoning Bylaw amendments, the following sections outline the current bylaw, the proposed changes and the rationale for the respective amendment. In addition, the terminology used Section 7 will be updated (i.e., use “people with disabilities” instead of “disabled persons” in Sections 7.5.14 and 7.15.5).

Section 7.4.4: Transportation Demand Management (TDM) Measures

The City secures TDM measures through redevelopment to manage traffic and parking demand. TDM measures are an effective approach to maximize travel through sustainable transportation choices. The current Bylaw wording states that the minimum on-site parking requirements contained in the bylaw may be reduced by up to a maximum of 10% where:

- the City implements transportation demand management measures, including the use of car co-operatives, transit passes, private shuttles, carpools or enhanced end-of-trip cycling facilities; and
- the minimum on-site parking requirements are substantiated by a parking study that is prepared by a registered professional transportation engineer and subject to review and approval of the City.

The proposed amendment will increase the reduction in minimum off-street parking requirements that can be allowed with the implementation of TDM measures from a maximum of 10% to a maximum of 20%. Similar to the application of the existing clause, the proposed TDM reduction will be applicable to all uses identified with parking requirements in the Bylaw. TDMs will continue to be secured and implemented through the redevelopment process.

The proposed increase in eligible parking reduction reflects the results of the City’s parking study utilization counts for sites within City Centre (Attachment 1) and is also consistent with the results of the Metro Vancouver 2019 Apartment Study results (Attachment 2). Even with the proposed maximum 20% reduction from the current Bylaw rates for residential use, the resultant parking rates will still be within the observed on-site parking utilization rates from both studies. The proposed further reduction will more closely match the on-site parking provisions for future residential developments to the observed parking demands in the City Centre.

The list of eligible TDM measures will also be broadened to include those commonly applied in the industry:

- enhancements to cycling and walking facilities in the vicinity of the development;
- implementation of pedestrian-friendly pavement and sidewalk treatments; and
- the development makes provision for emerging and innovative TDM measures in the future.

In addition, the monetary equivalent could be considered towards the City securing the TDM measures associated with the development.

An additional clause is proposed to deter an oversupply of on-site parking in excess of the Bylaw provisions or associated parking study requirements whereby through a development permit or

rezoning application, additional TDM measures may be sought by the City to offset the impacts created by additional vehicle trips to the site.

Currently the Bylaw does not permit staff to seek enhancements to encourage active modes of travel to a site when additional parking beyond required parking demand is provided. Application of the proposed clause will be reviewed on a case by case basis through the development applications process to determine if the level of parking oversupply is deemed to increase the reliance of the automobile use without any countermeasures that promote alternate modes of travel.

An example of a development application where consideration for the provision of TDMs may be secured is an apartment building with two parking stalls per unit proposed by the developer whereas the Bylaw parking provision requires 1.5 parking stalls per unit. Depending on the size and location of the development, staff may pursue requiring the developer to incorporate TDM measures to support sustainable transportation modes in order to better align the development with the objectives of the OCP and CEEP.

This clause will not preclude the provision of parking stalls on site that exceed the Bylaw provision for market or other reasons by a development. It will, however, allow the City to offset the impacts of additional automobile trips to the site by also supporting enhancements to alternate modes of travel. As additional vehicle trips have operational and maintenance impacts to the adjacent road network, expanding the availability of transportation choices for future residents, employees and visitors of a development will help mitigate these impacts.

Section 7.9.3.1: Residential Use City Centre Parking Requirements – Affordable Housing Use

Per the current Bylaw, the minimum parking spaces required for an affordable housing unit are 0.9 spaces per unit for residents. The proposed amendment will lower the minimum parking rate to 0.8 spaces per unit to align with the market rental apartment housing rate of 0.8 spaces per unit in City Centre Zone 1. Both affordable housing units and market rental apartment housing units would be eligible for the further 20% parking reduction with TDM measures as proposed for Section 7.4.4 described above.

A staff report in response to the Council referral that staff review the required parking ratios for 100% market rental buildings is anticipated to be presented to Council for consideration in the first quarter of 2022.

Section 7.4.3: Shared Parking Areas

The current Bylaw wording states that the sharing of on-site parking areas for two or more uses is permitted where:

- the maximum demand of such parking areas by the individual uses occurs at different periods of the day;
- the maximum demand of such parking areas is substantiated by a parking study that is prepared by a registered professional transportation engineer; and
- the parking study is subject to the review and approval of the City.

The changes proposed will allow the sharing of commercial/retail and residential visitor parking areas. This change will formalize a long standing practice for mixed use developments as the peak demands for each use occur at different times of the day. The additional change proposed is a new clause that the undertaking of a parking study is at the discretion of the City.

Initial Consultation with Urban Development Institute

At the January 29, 2020 meeting of the Richmond Committee of the Urban Development Institute (UDI), staff presented the proposed Zoning Bylaw amendments to seek input and feedback. Generally, there was support for reducing the off-street parking rates; however, the group did express some concern regarding TDM measures, especially with respect to the provision of transit passes. Staff explained that there is no mandatory provision for TDM measures and a development can still elect to provide the minimum parking required by the Bylaw should a reduction in parking supply not be sought. Similar to the current TDM clause in the Bylaw, TDM measures to support a parking reduction of up to 20% will be required to promote the use of alternate modes of travel to the site.

Although not presented as part of the proposed Zoning Bylaw amendments, UDI expressed concern regarding large truck loading requirements for residential developments. Staff have investigated this item and support changes to the current bylaw requirements. As described below, this amendment will formalize the current practice through the development application process to grant a variance for the need to accommodate larger trucks on site.

Section 7.13: On-Site Loading for Large Size Trucks

Under the current Zoning Bylaw, the general requirements for on-site large size truck (e.g., semi-trailer) loading spaces in residential developments are as follows:

- 81 or more dwelling units: required where the developments are fronting a public road where on-street parking is prohibited.
- 241 or more dwelling units: required where the developments are fronting a public road where on-street parking is permitted.

The proposed amendment would remove the requirements for on-site large size truck loading spaces for residential developments based on the following rationale:

- Feedback from the development industry indicates that on-site large size truck loading spaces are very infrequently used and in some cases never used. The provision of such loading facilities therefore is not the best utilization of urban space.
- Because of the large foot print required to accommodate the on-site turning movements, the design of loading facilities for large size trucks is often very challenging and in some cases not possible.
- Removing the large size truck loading requirements is expected to result in improved design of site layout and more optimal utilization of limited urban space for residential developments.
- Any developments that need on-site large size truck loading spaces would typically be provided by the developer at its own initiative to meet the tenant's needs. If any large size truck loading spaces are required in special cases, the requirements would be addressed on a

case by case basis jointly by staff and the applicants to ensure that all on-site loading demand can be accommodated.

Follow-up Consultation with Urban Development Institute

At a meeting with the Richmond Committee of UDI held on January 13, 2022, staff presented the suite of proposed bylaw amendments, including the removal of the on-site large truck loading space requirement. UDI was supportive of all of the changes, the feedback received was positive and the group commended staff for the proposed amendments.

Financial Impact

None.

Conclusion

The proposed changes to Section 7 of the Zoning Bylaw are consistent with the findings in Metro Vancouver's 2019 apartment study, reflective of feedback from the development community, and are in alignment of the transportation-related goals, objectives and actions outlined in the Official Community Plan.

These amendments are intended to encourage the use of non-automobile based travel mode choices and provide a mechanism for the City to secure measures to promote non-automobile travel to a development.

Without these proposed amendments to reflect today's market conditions and regional sustainability goals, there would be a continued undesirable over-supply of parking and loading spaces thereby encouraging the increased use of private automobiles resulting in unnecessary traffic congestion and increased vehicle emissions in the city.



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Att. 1: 2016 City Centre Parking Study

Att. 2: 2018 Metro Vancouver Apartment Study

2016 City Centre Parking Study

A parking survey study conducted during September-October 2016 in the City Centre confirmed that reduced residential and visitor parking rates are appropriate. The study observed on-site parking usage in 11 residential developments in all three City Centre parking zones (Attachment 1) as summarized in Table 1.

Table 1: Residential Parking Supply and Use at 11 Sites in Richmond

Residential Parking Rate (space/dwelling unit)	Zone 1	Zone 2	Zone 3
Current Rate	1.0	1.2	1.4
Average Observed Usage	0.77	0.74	0.78
Proposed Rate with TDM 20% Reduction	0.8	1.0	1.1

For resident parking, the proposed increase to a 20% parking rate reduction with TDM measures is still within the average observed parking demand.

In conjunction with undertaking the local parking survey, staff also reviewed the findings of the regional parking study conducted in 2018 by Metro Vancouver (Attachment 3). The findings of the local Richmond study are consistent with those generated by the Metro Vancouver study in terms of actual parking demand relative to Zoning Bylaw parking requirements. The Richmond specific parking study commissioned by staff did indicate high utilization of adjacent on-street parking.

Based on the findings of parking studies conducted locally and by Metro Vancouver, staff conclude that the proposed parking reduction of up to 20% with TDM measures is appropriate and can be supported based on the following rationale:

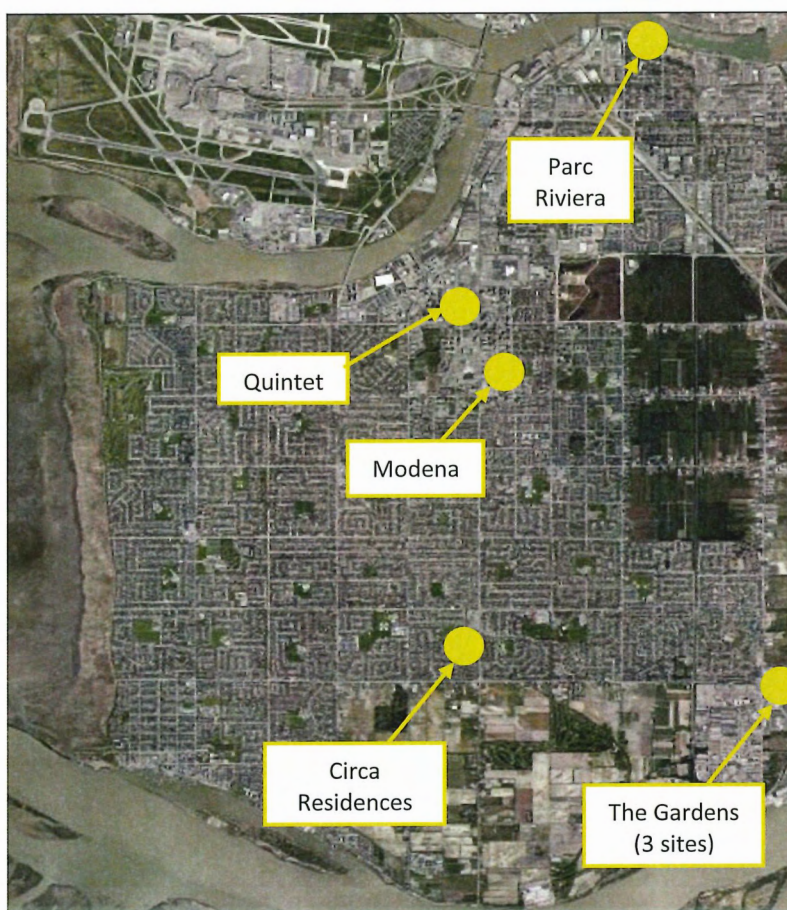
- A potential reduction of up to 20% with TDM measures will yield parking rates that are well within the range of actual parking demand generated by both residents and visitors.
- Reduced car parking supply and less reliance on the automobile as a travel choice are consistent with the City's sustainability goals and initiatives.
- The proposed reduction will achieve a balance between meeting parking demand and recognizing increasing transit usage as a result of improved transit services such as the Canada Line and the Frequent Transit Network.
- Discretion is available to staff regarding the extent of practical parking reduction with TDM measures based on the request for and results of a parking study and in consideration of site specific conditions. An outright parking reduction will not be recommended to Council without capturing benefits to the City.

2018 Metro Vancouver Apartment Study

A staff report titled “TransLink Metro Vancouver 2018 Regional Parking Study – Key Findings” was presented to Public Works and Transportation Committee on May 23, 2019 for information.¹ The key finding from the seven sites studied in Richmond is a consistent over supply of parking compared to the on-site utilization. Table 1 summarizes the findings for each site studied in Richmond.

Table 1: Residential Parking Supply and Use at Selected Sites in Richmond

Building Name	Tenure	Parking Supply (Stalls per DU)	Parking Use (Vehicles per DU)	Parking Oversupply Estimate
Azalea at the Gardens	Strata	1.41	0.82	+72%
Camellia at the Gardens	Market Rental	1.05	0.74	+42%
Magnolia at the Gardens	Strata	1.45	0.88	+65%
Circa Residences	Market Rental	1.28	0.85	+51%
Modena	Strata	1.29	0.75	+72%
Parc Riviera	Strata	1.70	1.10	+55%
Quintet Towers	Strata	1.16	0.69	+68%



Surveyed Apartment Sites in Richmond

¹ The report can be accessed at: https://www.richmond.ca/agendafiles/Open_PWT_6-19-2019.pdf.



**Zoning Bylaw No. 8500
Amendment Bylaw No. 10077**

The Council of the City of Richmond enacts as follows:

- (1) **Zoning Bylaw No. 8500**, as amended, is amended further by deleting Section 7.4.3 and replacing it with the following:

7.4.3 Shared on-site parking areas for two or more **uses** may be permitted where:

- (a) the maximum demand of such parking areas by the individual **uses** occurs at different time periods of the day;
- (b) the maximum demand of such parking areas for residential visitor and commercial **uses** occurs at different time periods of the day;
- (c) the maximum demand of such parking areas is substantiated by a parking study that is prepared by a registered professional transportation engineer and is subject to review and approval of the **City**; and
- (d) the undertaking of such studies is at the discretion of the Director, Transportation.

- (2) **Zoning Bylaw No. 8500**, as amended, is amended further by deleting Section 7.4.4 and replacing it with the following:

7.4.4 The minimum on-site parking requirements contained in this bylaw may be reduced by up to a maximum of 20% where:

- (a) the **City** secures transportation demand management measures, including but not limited to new or enhanced cycling and walking facilities in the vicinity of the development, the provision of car-sharing and bike-sharing, transit passes, increased bicycle parking, private shuttles, carpools, and end-of-trip cycling facilities, and other measures deemed acceptable by the **City**;
- (b) the minimum on-site parking requirements are substantiated by a parking study that is prepared by a registered professional transportation engineer and is subject to review and approval of the **City**; and
- (c) the undertaking of such studies is at the discretion of the Director, Transportation.

- (3) **Zoning Bylaw No. 8500**, as amended, is amended further by adding the following Section 7.4.5:

7.4.5 Should the minimum on-site parking requirements contained in this bylaw or substantiated by a parking study that is prepared by a registered professional transportation engineer that is subject to review and approval of the **City** be exceeded, the **City** may secure transportation demand management measures including but not limited to new or enhanced cycling and walking facilities in the vicinity of the development, the provision of car-sharing and bike-sharing, transit passes, increased bicycle parking, private shuttles, carpools, and end-of-trip cycling facilities, and other measures deemed acceptable by the **City**.

(4) **Zoning Bylaw No. 8500**, as amended, is amended further at Sections 7.5.14(b) and 7.5.15(a) by deleting the phrase “disabled persons” and replacing it with “persons with disabilities.”

(5) **Zoning Bylaw No. 8500**, as amended, is amended further at Table 7.9.3.1 Residential Use City Centre Parking Requirements by deleting the row for Affordable Housing Unit and replacing it with the following:

Residential Uses	Zone 1	Zone 2	Zone 3
Affordable Housing Unit	0.8 spaces for residents per affordable housing unit ; plus 0.2 spaces for visitors per affordable housing unit		

(6) **Zoning Bylaw No. 8500**, as amended, is amended further by deleting Table 7.13.6.1 Residential Use On-site Loading Space Requirements and replacing it with the following:

Number of Dwelling Units	Minimum Number of On-site Loading Spaces Required for Residential Uses			
	For developments fronting a public road where on-street parking is typically allowed, i.e. collector road , local road or City Centre minor street		For developments fronting a public road where on-street parking is or will be prohibited, i.e. provincial highway, arterial road or City Centre major street or thoroughfare	
	Medium Size ¹	Large Size ¹	Medium Size ¹	Large Size ¹
Up to 10	n/a	n/a	On-site ²	n/a
11 to 80	On-site ²	n/a	On-site ²	n/a
81 to 240	On-site designated: 1 space	n/a	On-site designated: 1 space	n/a

Number of Dwelling Units	Minimum Number of On-site Loading Spaces Required for Residential Uses			
	For developments fronting a public road where on-street parking is typically allowed, i.e. collector road, local road or City Centre minor street		For developments fronting a public road where on-street parking is or will be prohibited, i.e. provincial highway, arterial road or City Centre major street or thoroughfare	
	Medium Size ¹	Large Size ¹	Medium Size ¹	Large Size ¹
241 or more	On-site designated: 1 space plus 1 space per each additional 160 dwelling units over 240 dwelling units	For buildings that are 5 storeys or higher: n/a or Laneway: 1 space for every 2 buildings ³	On-site designated: 1 space plus 1 space per each additional 160 dwelling units over 240 dwelling units	For buildings that are 5 storeys or higher: n/a or On-street layby: 1 space for every 2 buildings or Laneway: 1 space for every 2 buildings ³

Notes:

- 1 On-site medium-size and large-size loading spaces could be shared.
- 2 Designated space not required provided that the (designated) loading vehicle would be able to manoeuvre on-site and not impact the public road (i.e., vehicles would manoeuvre via the drive aisle to reach the area intended to be served, as approved by the Director of Transportation).
- 3 Provision of a loading space in laneways can be considered if a 4.5 m lateral clearance is available on the travel portion of the laneway, clear of the parked loading vehicle and loading activities.

(7) This Bylaw is cited as “Zoning Bylaw No. 8500, Amendment Bylaw No. 10077”.

FIRST READING

SECOND READING

THIRD READING

ADOPTED

CITY OF RICHMOND
APPROVED for content by originating dept.
JC
APPROVED for legality by Solicitor
LB

MAYOR

CORPORATE OFFICER