City of Richmond

Report to Committee

To:	Public Works and Transportation Committee	**Date:**	June 5, 2025
From:	Lloyd Bie, P.Eng. Director, Transportation	**File:**	10-6500-01/2025-Vol 01
Re:	**City Centre Traffic Study – Terms of Reference**		

Staff Recommendation

That the terms of reference as described in the staff report titled "City Centre Traffic Study – Terms of Reference", dated June 5, 2025 from the Director, Transportation be endorsed and authorize staff to submit a project request in the amount of $150,000 as part of the 2026 budget process.

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

Att. 1

REPORT CONCURRENCE		
ROUTED TO:	**CONCURRENCE**	**CONCURRENCE OF GENERAL MANAGER**
RCMP	☑	
SENIOR STAFF REPORT REVIEW	**INITIALS:**	**APPROVED BY CAO**

Staff Report

Origin

At the May 21, 2025, Public Works & Transportation Committee meeting, staff received the following direction:

(1) That staff be directed to review the north and south roads in the City Centre (roads bounded by Westminster Highway, Granville Avenue, Garden City Road and Gilbert Road) for potential alterations in speed and other measures dealing with congestion and safety, and report back; and

(2) That staff bring forward a terms of reference for the City Centre traffic study and options to the June 2025 Public Works and Transportation Committee meeting.

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.*

This report supports Council's Strategic Plan 2022-2026 Focus Area #6 A Vibrant, Resilient and Active Community:

> *Vibrant, resilient and active communities supported by a wide variety of opportunities to get involved, build relationships and access resources.*

Analysis

Background

The City implements and supports several proactive mitigation initiatives to improve road safety outcomes, particularly for vulnerable road users such as pedestrians and cyclists. These initiatives can be grouped into three categories (the 3E's); Engineering, Education and Enforcement to promote safer streets in Richmond with a focus on reducing vehicle speeds.

Traffic Calming Program for Local Roads

The City's neighbourhood traffic calming and speed limit reduction program for local streets is a community and data driven process. The process includes the following steps:

- Residents request speed management measures on their local street or laneway.
- Staff conduct traffic analysis and collaborate with residents first to develop tailored traffic calming measures and/or a 30 km/h reduced speed limit.
- Residents affected by the proposed change are then surveyed to determine the level of support for the proposed traffic calming measure and/or speed reduction. Should the majority of residents in the study area agree to physical traffic calming measures, pursuant to Council Policy 7018 the preferred road alteration may be implemented.

- If majority support is not achieved, Council approval is required. Council approval of speed limit changes are also required for bylaw amendments.

Since 2022, traffic calming measures, including, speed humps, speed cushions and traffic circles, have been implemented on nine roads. Council has also approved 30 km/h posted speed limit reductions on approximately 40 lane-kilometres of local roads.

Speed and Safety Management on Major Streets

In 2023, City Council approved bylaw amendments to have a maximum posted speed limit of 50 km/h on all roads within Richmond's jurisdiction. Unlike local roads that Vision Zero recommends being 30 km/h, Vision Zero recognizes that a 50km/h speed limit on major streets like arterial roads is necessary due to the high volume of traffic these roads need to transport. In lieu of speed limit reductions, Vision Zero recommends speed mitigation measures on arterial roads such as narrower travel lanes, centre medians, closely spaced intersections that interrupt traffic flow and other design and operational measures to curb speeding. Speed humps or raised crosswalks are not recommended on arterial roads due to negative response time impacts for emergency vehicles.

Determining whether speed reduction is warranted on an arterial road involves a careful balance between maintaining mobility and improving safety. Arterial roads are typically high-capacity routes designed for through traffic, so a data-driven and context-sensitive approach is recommended.

Study Area

The study area is located within the Brighouse Village of City Centre. The roads within the study area are major urban streets and include Gilbert Road, Minoru Boulevard, No. 3 Road, Buswell Road, Cooney Road and Garden City Road bounded by Westminster Highway to the north and Granville Avenue to the south (Figure 1). The roads west of Garden City Road, within the study area, are already aligned with many of Vision Zero's recommendations to reduce speeding on major roads. The City's design standards for City Centre roads includes narrower travel lane widths, medians, closely spaced intersections and walking, cycling and transit related enhancements.

Road Classification: The roads in the study are classified as collector and arterial roads[1].

[1] In the City Centre, road classifications differ from citywide terms. Major Arterials are referred to as "Major Thoroughfares," Minor Arterials correspond to "Major Streets," and Collectors are equivalent to "Minor Streets" in the City Centre. Gilbert, No. 3, and Garden City are classified as Major Thoroughfares, Minoru and Cooney are Major Streets, and Buswell is classified as a Minor Street.

Figure 1: Roads within Study Area

City Centre Transportation Plan – Managing Growth

The City Centre Transportation Plan (CCTP) identifies strategies to meet the mobility needs of the rapidly growing downtown core. The objective of the CCTP is to manage vehicle congestion through an array of strategies that limits widening of streets for cars except to accommodate other travel modes such as cycling and bus only lanes. Specific mobility strategies in the City Centre include:

- Ensuring a well-connected community that provides sustainable travel options.
- Pursuing a more multi-modal approach that promotes a culture of walking, cycling and transit use to reduce the traffic burden on City Centre streets.
- Providing adequate transportation infrastructure and facilities within the City Centre for all road users, in balance with other competing needs for urban space.
- Make driving more efficient by providing operational enhancements rather than the addition of travel lanes.

The CCTP also focuses on principles of transit-oriented development and complete communities together to foster a "car-free" lifestyle as a viable option for City Centre households over time. Ideally, with more choices, it will be possible over time for residents to reduce their reliance on automobiles and thereby decrease congestion in the urban centres as a result.

Proposed Terms of Reference for Traffic Operation and Road Safety Study

This study is to develop a comprehensive set of metrics to assess road safety conditions, traffic operations performance and determine the necessity of speed reduction or operational measures on the north-south corridors within the study area. The results of the traffic study will identify measures to improve safety for all road users, including pedestrians, cyclists, and motorists, by using technical evidence to identify any changes to optimize safety and efficiency of the transportation network.

Scope of Work

The scope of the study includes but is not limited to:

- **Data Collection**
  - Obtain historical ICBC crash data (minimum of 3 years) and crash reports.
  - Conduct speed surveys to determine operating speeds (85th percentile and average speeds).
  - Collect traffic (vehicles, buses, trucks, pedestrians and cyclists) volume data.
  - Analyze road geometry, signage, traffic operations, travel times, delay, existing speed limits and collision data.
  - Identify land use and areas with high vulnerable road user activity (e.g., schools, hospitals, parks, commercial areas, transit stops/stations).
- **Site Assessment**
  - Map and photograph surveyed locations.
  - Conduct field observations to identify risk factors, especially for vulnerable road users.
  - Transportation System performance (intersection, lane configuration, capacity analysis). Identification of existing problems (delays, vehicle storage, conflicts, potential traffic safety issues, etc.).
  - Identify transit service, cycling routes and pedestrian facilities.
- **Safety Analysis**
  - Determine crash patterns and contributing factors (speed, lighting, road geometry, temporal/seasonal, driver behaviour, etc.).
  - Compare measured speeds with posted limits and safe speed recommendations.
  - Assess existing road conditions: geometry, operations and functionality for speed mitigation and/or speed reduction intervention.
  - Key Metrics and Thresholds for Speed Reduction – Develop a detailed safety performance metrics checklist for each road within the traffic study area based on the metrics provided in Attachment 1. The assessment will help to identify any safety or operational concerns, contributing causes and potential mitigation measures based on the specific characteristics of each road.
  - Analyze road capacity and operational impacts of reducing speed limits on the roads within the study area (30 km/h or 40 km/h) and quantify the safety benefits to pedestrians. Consideration of enforcement resource impacts and strategies to use automated enforcement should also be assessed.
- **Road Capacity Analysis**
  - Perform intersection capacity analysis including turning vehicle storage space (queuing), volume to capacity ratio and delay analysis to determine points of congestion, as well as pedestrian counts and movements at the intersections.
- **Other Modes**
  - Review pedestrian, cycling and transit facilities and connectivity and identification of recommended improvements to promote alternate modes and reduce personal vehicle dependency.

Stakeholder Engagement

- Consult with the community to gather feedback on any proposed speed limit reductions using a Let's Talk Richmond Survey, in-person open houses. Stakeholder meetings will also be held, including HUB Cycling, Richmond School District No. 38, Vancouver Coastal Health, Richmond Accessibility Advisory Committee, Richmond RCMP, Richmond Fire-Rescue, and TransLink.

Deliverables

- Initiation Report (including methodology and work plan).
- Interim Report (with preliminary findings, initial screening and road risk/intersection performance profiles).
- Final Report including:
    - Analysis, findings, and conclusions.
    - GIS-based mapping of high-risk zones.
    - Speed management recommendations.
    - Traffic operations recommendations.
    - Prioritized action plan for study area.
    - Develop general criteria for speed reduction consideration on non-local roads.

Timeline

The City Centre traffic study is anticipated to take five months to complete following a procurement process to select an external consultant. This includes time for the stakeholder engagement phase. Staff anticipate providing the results of the traffic study for Council consideration in Q3 2026.

Financial Impact

The anticipated costs for the scope of work is $150,000. If endorsed by Council, the study will be included in the 2026 budget process.

Conclusion

In response to the referral, staff have developed a terms of reference for a traffic study to conduct a comprehensive road safety assessment and traffic operational analysis of sections of north-south roads in City Centre. The study will focus on identifying locations where speed management measures, including speed limit reduction, could be considered based on predefined safety metrics and thresholds.

The goal of the project is to develop an implementation plan of any road operational changes and road safety measures that enhance efficiency and safety for all road users, including pedestrians, cyclists, and motorists, by using evidence-based decision-making.

Sonali Hingorani, P. Eng.
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SH:ck

Att.1: Traffic Operations and Road Safety Performance Metrics Framework

Traffic Operations and Road Safety Performance Metrics Framework

	Metrics	Collector Roads: (Buswell Road)	Arterial		Existing Conditions	Assessment Details
			Minor: (Minoru Boulevard, Cooney Road)	Major: Gilbert Road, No. 3 Road, Garden City Road)		
Typical Road Geometry	Typical City Centre Travel Lane Width (m)	3	3.25 m			
	Typical Number of Lanes	2-4	2-4	4		
	Preferred Curb Return Radii (m)	5.5 – 7.0	5.5 – 9.0			
	Physical Traffic Calming Features	Typically not considered	Not desired	Not desired		
	Minimum intersection spacing (m)	60	200	400		
	On-street parking	Few restrictions other than peak hour	Peak hour restrictions	Prohibited or peak hour restrictions		
	Does Existing Road Geometry Support Reducing Posted Speed Limit?					
Assessment of Traffic Operations	Existing Speed Limit (km/h)	50	50	50		
	Is 85th percentile speed in compliance (>10 km/h of posted speed limit)					
	Collision Data:					
	• Collision Frequency - (Above 25 collisions per year per intersection)					
	• Collision Severity - (Number of fatalities or serious injury in past5 years).					
	Collisions involving Cyclists and Pedestrians (number of collisions, including fatalities					

	and serous injury)					
	Percent of collisions due to speeding and any identified collision patterns					
	If road changes have been made within study period, compare before and after safety results					
	Collisions related to season and other temporal characteristics.					
	Vehicle Mix (passenger cars, trucks, buses, cyclists, etc.).	Typically passenger cars	Mixed Traffic	Mixed Traffic with higher bus and truck proportions		
	Protected Cycling and Walking Facility or Shared with Traffic	Sidewalk: Both sides with boulevard Cycling: facilities considered	Sidewalk: Both sides with boulevard Cycling: facilities considered			
	Transit Service					
	Fire Response Route Considerations					
	Traffic Volume (vehicle/day)	<8,000	5,000 – 20,000	10,000 – 30,000		
	Driveway Access	Permitted	Discouraged	Restricted		
	Does Existing Traffic Operations Support Reducing Posted Speed Limit?					
Function of Roadway	Local Access	Mix of residential and commercial	Mix of residential and commercial	Higher Density Commercial and Residential		
	Traffic Movement	Medium consideration	Major consideration	Primary consideration		
	Land Use Density	Medium	High	High		
	Identify High Pedestrian Generators - • List all High Pedestrian Activity Generators within 100 metres of roadway • Identify all crossing with					

	> 100 pedestrian movements per hour.					
	Identify Adjacent Schools and Hospital entrances within 100m of roadway					
	Flow Characteristics	Access and Mobility	Mobility			
	Does Existing Function of Roadway Support Reducing Posted Speed Limit?					
Assess and quantify impacts of Speed Limit Reduction to Road Capacity.						
Assess and Quantify impacts of Speed Limit Redactions to Safety						
Assess and Quantify Speed Limit Reduction on enforcement resources?						
Public/Stakeholder Consultation Results of Reducing Speed Limits						