

REPORT

Engineering Services

To: Mayor Johnstone and Members of Council
Date: July 8, 2024

From: Lisa Leblanc, Director of Engineering Services
File: 05.1035.10
(Doc #2509465)

Item #: 2024-421

Subject: E Columbia Street/Brunette Avenue Road Safety Review

RECOMMENDATION

THAT Council direct staff to proceed with short-term road safety initiatives outlined in this report.

THAT Council direct staff to incorporate a \$250,000 capital request into the 2025 budget process for short-term safety improvements to be funded from the Growing Communities Fund.

THAT Council direct staff to initiate a comprehensive intersection redesign process aligned with previous transportation planning concepts and with the current road safety review recommendations, assessing potential property and utility impacts, implementation costs, external funding opportunities, and implementation timeline.

PURPOSE

To report back to Council on the road safety review for the E Columbia St/Brunette Ave intersection, and to request Council direction to proceed with recommended short-term measures and undertake a comprehensive intersection redesign process.

SUMMARY

As an outcome of the February 2023 fatality involving an individual who was walking along E Columbia St near Brunette Ave, City staff engaged a road safety consultant to review

the intersection characteristics and recommend short-term and longer-term measures to improve the safety of the intersection for all road users. The draft study identifies a range of short-term modifications to address observed safety concerns. The study also notes that many of the more significant safety recommendations would be addressed through a comprehensive intersection redesign process.

BACKGROUND

On Sunday, February 19, 2023, a pedestrian was struck and killed in the roadway on E Columbia St south of Brunette Ave/Debeck St by a commercial truck. Following an investigation, it was determined by the New Westminster Police Department that there was no criminality in the actions of the involved truck driver.

The general location where the crash occurred has been of interest to the community and staff for a number of years, particularly for people walking or cycling. This is due to the constrained sidewalk along E Columbia St, obstructions in the sidewalk, the lack of a boulevard to serve as a buffer between the sidewalk and moving vehicles, and limited and uncomfortable crossings. Combining these factors with high motor vehicle volumes and a relatively high proportion of heavy trucks increases the risks – both real and perceived – associated with this intersection. The location is a long-standing ‘missing link’ in the regional Central Valley Greenway, which currently directs greenway users uphill one block (via Sapper Street) to get around this segment of E Columbia St.

On March 13, 2023, Council directed staff to initiate a safety review of the intersection and midblock section between Brunette Ave and Cumberland St to identify interim safety improvements, and to consider the safety implications of longer-term road network modifications for the area.

EXISTING POLICY AND PRACTICE

Existing Policy and Plans

The subject location has been raised, whether indirectly through policy, or directly, in the following plans:

Master Transportation Plan (MTP) (2015)

- Identifies E Columbia St (including the segment between Cumberland St and Debeck St/Brunette Ave) as a Primary Bicycle Route, intended to be comfortable for people of all ages and abilities.
- Subject location falls within ‘walkshed’ of SkyTrain.
- Confirms aspiration for Major Road Network roads to have sidewalks/separated cycling paths buffered from the road with boulevard.

Sapperton-Massey Victory Heights Transportation Plan (SMVHTP) (2018)

- Recommends reconfiguration of E Columbia/Brunette intersection with two northbound lanes on to Brunette Ave and turn lanes at the reconfigured intersection.
- Recommends completion of Central Valley Greenway along E Columbia St between Cumberland St and Debeck St.
- Recommends protected bicycle lanes along E Columbia St north of Brunette Ave.

Brewery District and Royal Columbian Hospital transportation studies

- Incorporated designs for E Columbia 'Great Street', with protected bicycle lanes, reconfigured E Columbia/Brunette intersection with two northbound lanes on to Brunette Ave.

In all of these plans, it was acknowledged that the area is challenging for a variety of reasons, including due to limited existing road right of way, regulatory challenges, and challenges associated with the MTP policy regarding not increasing road capacity for motor vehicle through-movements.

Active Transportation Network Plan (ATNP) (2022)

- Recommends completion of 'AAA' active transportation route along E Columbia St between Cumberland St and Debeck St and protected bicycle lanes north of Brunette Ave (recommended for Year 4 implementation).

ANALYSIS

Following Council direction in March 2023, staff retained TranSafe Consulting Ltd to undertake a safety review of the existing intersection's physical and operational characteristics (including universal accessibility) and human factors that may affect road safety and particularly the safety of road users on foot, bicycle, mobility aids, and other small-wheeled mobility devices. The process included an online workshop with a number of interest holders, including:

- New Westminster Fire & Rescue Services
- New Westminster Police
- Engineering Operations
- Fraser Health Authority & Royal Columbian Hospital
- HUB Cycling
- Walkers' Caucus (invited but did not attend)
- BC Trucking Association
- TransLink

The workshop discussion pointed to the need for the safety review to consider not only actual safety outcomes (historical collision data) but also "near misses", as there was a strong perception that conflicts between road users are far more prevalent than actual collisions and strongly affect perceptions of road safety at the intersection – particularly for vulnerable road users on foot, bike, and other personal mobility devices. In response

to this sentiment, staff expanded the project scope to include video-based conflict analysis, an emerging technology that assesses the frequency and potential severity of “near misses” (where evasive action may be taken) using multi-day video of the study area. This expansion of scope significantly increased the study timeline.

The review of the intersection’s physical, traffic, collision, and conflict characteristics indicated the following safety findings (with E Columbia St considered the north-south road and Brunette Ave and Debeck St as east-west roads):

- Moderately high pedestrian and bicycle volumes travel through the intersection, averaging a pedestrian every minute and a cyclist every three minutes during the weekday midday and afternoon periods. Most of these road users travel north/south along E Columbia St, mainly using the west crosswalk across Debeck St. The majority of vehicular traffic travels along Brunette Ave and E Columbia St to the south, including heavy vehicles, with over 2,000 vehicles per hour during both the weekday morning and afternoon peak periods.
- Vehicle speeds exceeding the posted speed limit of 50 km/h have been measured for westbound Brunette Ave traffic approaching the intersection and turning to go southbound along E Columbia St. Observations indicate that the speeds combined with drivers needing to turn through the intersection can result in vehicles encroaching into adjacent lanes or travelling close to the west crosswalk and sidewalk. The vehicle speeds combined with a high proportion of heavy vehicles can make the walking and bicycle environment on the west side of the intersection uncomfortable. The speeds and high vehicle volumes can also result in tailgating and sudden braking, increasing sideswipe/overtaking and rear-end crash risks.
- The collision review confirms that rear-end and overtaking collisions are occurring on the westbound Brunette Ave approach to the intersection. The conflict analysis also indicates near-collisions with these traffic volumes and manoeuvres.

To address these issues, the study recommends the following short-term measures:

- Add Tactile Attention Indicators at all crossings
- Provide a crosswalk warning sign with an advisory speed limit for the Brunette Ave right turn crosswalk
- Remove landscaping adjacent to the retaining wall and widen the multi-use pathway to the edge of the retaining wall along the west sidewalk of E. Columbia St
- Remove or trim overgrown vegetation along Debeck St
- Provide lane designation signage for the Brunette Ave approach to encourage truck operators to use the left lane for the downstream turn to Front St
- Provide signal ahead warning sign for Brunette Ave approach
- Provide guidance markings through the intersection for the Brunette Ave approach
- Provide advance warning of the horizontal curve through the intersection for the Brunette Ave approach

- Repair localized trip hazards along sidewalks and crosswalks
- Paint the curb face on the channelization island for improved visibility

There are other short-term recommendations suggested to improve the overall efficiency of the intersection:

- Establish No Right Turn on Red movement for northbound E. Columbia St
- Replace the right turn-only sign with “no left turn” sign for eastbound Cumberland St approach to E. Columbia St and adjust other warning and regulatory signage for improved visibility

The above measures can be implemented relatively quickly with limited design effort. There are other somewhat more complex measures that the study recommends and can be implemented over the next year:

- Review potential curbside fence options for the constrained sidewalk on the west side of E Columbia St
- Provide street lights on both sides of Brunette Ave right turn crosswalk
- Install pedestrian-controlled crossing (RRFB) for Brunette Ave right turn crosswalk
- Work with the property owner(s) of 303 Cumberland St to remove three trees within the private property to provide a multi-use pathway
- Provide “sidewalk ends” signage and create a more formal termination such as a gate or landscaping for the east side E Columbia St sidewalk
- Provide near-side signal displays for Brunette Ave approach
- Warrant review of advance warning flasher for westbound Brunette Ave

The draft report recommends a number of longer-term safety measures but notes that many of them would be addressed through a comprehensive redesign of the intersection, as contemplated in the local plans previously noted. These concepts would most likely require the acquisition of all or portions of adjacent private properties on one or both sides of E Columbia St, with these impacts only understood through further analysis and design.

Although concepts for intersection reconfiguration have previously been developed, the City has not formally initiated this as a project. A formal project would include but not necessarily be limited to the following stages:

- Assign/retain a project manager;
- Develop the necessary project scope and charter;
- Identify and manage risks;
- Identify and engage with interest holders;
- Advance the conceptual designs;
- Identify potential utility impacts;
- Identify what additional properties may be necessary through negotiation and/or expropriation to achieve the City’s safety and transportation objectives;
- Determine increasingly accurate cost estimates;

- Identify and seek out third-party capital funding opportunities; and,
- Advance the project to detailed design and construction.

A multi-year project would involve cross-departmental and cross-jurisdictional collaboration led by a project manager and guided by a project steering committee. It is anticipated that there would be several reports to Council as the project proceeds toward implementation, and that Council would also be updated regularly as part of the quarterly and annual budget review processes.

SUSTAINABILITY IMPLICATIONS

The Master Transportation Plan and subsequent neighbourhood and development plans identify the need for roadway improvements at this location to support walking, cycling and transit.

FINANCIAL IMPLICATIONS

Immediate-term safety improvements – valued at approximately \$35,000 – can be integrated into the current year (2024) road safety improvements capital budget. This budget line is intended for city-wide safety projects arising from the 2023 Intersection Safety Study and from emergent road safety reviews such as this study.

The remaining short-term improvements are to be completed in 2025, and will require an additional capital allocation of approximately \$250,000 in the 2025 capital budgeting process. Staff recommend utilizing the Growing Communities Fund to fund these short-term improvements. Without additional capital funding for these targeted improvements, progress cannot be made on the city-wide Intersection Safety Study or other emergent road safety concerns.

The long-term intersection redesign project can be initiated within the existing 2024 capital budget. As this long-term project is envisioned as an element of the ATNP, initial project management and concept design costs can be allocated from the current year’s ATNP budget. As long-term property and capital costs become better understood as planning and design work proceeds, these costs can be confirmed through future annual capital budgeting processes, likely beginning in 2026.

INTERDEPARTMENTAL LIAISON

Staff from Engineering, Engineering Operations, New Westminster Fire & Rescue Services, and New Westminster Police participated in the intersection safety review.

OPTIONS

The following options are presented for Council’s consideration:

1. That Council direct staff to proceed with short-term road safety initiatives outlined in this report.
2. That Council direct staff to incorporate a \$250,000 capital request into the 2025 budget process for short-term safety improvements to be funded from the Growing Communities Fund.
3. That Council direct staff to initiate a comprehensive intersection redesign process aligned with previous transportation planning concepts and with the current road safety review recommendations, assessing potential property and utility impacts, implementation costs, external funding opportunities, and implementation timeline.
4. That Council provide alternate direction to staff.

Staff recommend Options 1, 2 and 3.

CONCLUSION

The road safety review for E Columbia St at Brunette Ave has identified a range of potential short-term improvements to address observed safety concerns at the intersection. Many of the more significant safety improvements can be addressed through a long-term comprehensive intersection redesign project that has been envisioned for several years. Together, these initiatives are aimed at reducing the likelihood of fatalities and severe injuries, particularly involving our most vulnerable road users.

ATTACHMENTS

Attachment #1 – Recommended Short-Term Safety Measures

APPROVALS

This report was prepared by:
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This report was reviewed by:
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