

**Report to
Rapport au:**

**Transportation Committee
Comité des transports
7 October 2020 / 7 octobre 2020**

**and Council
et au Conseil
14 October 2020 / 14 octobre 2020**

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Ward: CITY WIDE / À L'ÉCHELLE DE LA VILLE File Number: ACS2020-TSD-TRF-0001

SUBJECT: Cycling Safety Review of High-Volume Intersections

OBJET: Examen de la sécurité des cyclistes aux intersections achalandées

REPORT RECOMMENDATION

That the Transportation Committee receive this report for information.

RECOMMANDATION DU RAPPORT

Que le Comité des transports prenne connaissance du présent rapport.

BACKGROUND

The Cycling Safety Review of High-Volume Intersections information report is being brought forward in response to Mayor Watson and Councillor Blais' Cycling Safety inquiry (OCC 07-19), which was presented at the May 22, 2019 Council meeting. As part of the inquiry, staff were asked to:

“Prepare a report for Transportation Committee, no later than Q1 2020, that will include a review of high volume intersections with heavy traffic and cycling interaction, potential options for safety improvements, and a roadmap for changes to existing and future cycling facilities”.

Transportation Services staff have completed the cycling safety review as requested, and this report will serve to outline the review's results including:

- Considerations for safety improvements;
- Information on options and estimated costs (Class D estimates) to develop conceptual designs; and
- A roadmap for changes to the City's existing and future cycling infrastructure, through infrastructure renewal projects, development review and stand-alone projects.

DISCUSSION

Intersection Selection

Transportation Services initiated the Cycling Safety Review of High-Volume Intersections in June 2019. The first step of the review was a preliminary exercise to identify high-volume intersections with heavy traffic and cycling interactions along existing cycling routes in Ottawa. A total of 74 intersections were identified as part of the preliminary screening exercise based on:

- A combination of high cycling volumes, high volumes of turning motor vehicle traffic, and high posted speed limits; and
- A total of four or more cycling collisions during the most recent five-year collision data (2014-2018); some locations with three collisions were added to the list if a trend was identified.

Locations identified as part of the preliminary screening exercise were further examined to ensure they were practical for inclusion as part of the Cycling Safety Review of High-Volume Intersections. Of the 74 locations, 30 locations were screened in for further

review. The other 44 locations are either part of other projects being built through existing City road safety or infrastructure programs or fall outside of the City's jurisdiction, as detailed further in the report. As a result, these 44 locations were not screened in for review.

Transportation Services staff also consulted with cycling safety stakeholders for feedback and input on the preliminary list of locations during the intersection screening stage. Stakeholders consulted included Bike Ottawa, Ecology Ottawa, the Healthy Transportation Coalition, and EnviroCenter.

Other City Programs

The locations found to be within the limits of another City project were not included as part of the review since these projects are being delivered according to Council-approved plans and policies that influence cyclist mobility and safety. These locations have either been recently redesigned, are already included in ongoing safety reviews, or are currently in the planning, design or construction phase of a project. As such, these locations are already scheduled to receive improvements that will enhance safety for all, including vulnerable road users such as cyclists. Plans and policies that guide City cycling projects include, but are not limited to:

- **Transportation Master Plan:**
 - Identifies the transportation facilities, services and policies to serve Ottawa's projected future population; and
 - Emphasizes complete streets, promotes walking and cycling, rapid transit and transit-oriented development, safe and efficient roads, mobility choices and affordability.
- **Complete Streets Framework** considers the needs of vulnerable users in the design of road projects and their context.
- **Transportation System Management Strategy** that looks to adopt "Smarter City" concepts to integrate all modes and optimize safety, efficiency and capacity of the transportation system. Separate cycling signals are part of the design toolbox to improve cycling priority and safety.
- **Ottawa Cycling Plan:**
 - Describes the strategy to make cycling safer and more attractive to users of all ages and abilities;

- Includes an implementation plan for cycling network infrastructure, program initiatives and associated costs; and
 - Includes a range of facilities from separated (multi-use pathways, cycle tracks and protected intersections) on busy roads to mixed-use facilities on quiet neighbourhood roads.
- **Building Better and Smarter Suburbs**, which presents implementation strategies to develop complete, walkable and transit-supportive communities.
 - **Community Design Plans** guide strategic planning and design issues that contribute to the quality, safety and functionality of a community, including complete streets.
 - **Secondary Plans** provide a framework for changing an area over time with respect to land use, urban design, circulation and modes of transportation.

Outside of the City of Ottawa's Jurisdiction

Locations outside of the City's jurisdiction include locations on land owned by the federal government (e.g. National Capital Commission). As the City does not have the authority to implement measures or safety enhancements at these locations, they were not included in the Cycling Safety Review of High-Volume Intersections.

Please refer to ***Document 1 – High-Volume Intersections Part of Other City Projects OR Outside the City's Jurisdiction*** for a list of the 44 high-volume locations that were not included as part of the review. Document 1 also includes the rationale for the removal of the intersection from the review, in addition to the associated project description, where applicable.

Safety Review and Concept Designs

A total of 30 intersections were included as part of the Cycling Safety Review of High-Volume Intersections. A consultant, Alta Planning + Design Inc., was retained by Transportation Services to conduct intersection safety reviews of these locations. They developed ultimate long-term conceptual designs, which provide separated cycling facilities and/or protected intersections for 29 of the 30 locations. A conceptual design was not developed for the intersection of Bank Street and Riverside Drive North. The location was deemed outside of the consultant's project scope, given the requirement for bridge structure modifications or the need to reallocate existing street space on the bridge to accommodate separate cycling facilities.

A copy of the consultant's final report, which includes detailed information pertaining to completed intersection safety reviews, conceptual designs and rough order-of-magnitude (Class D) cost estimates is included in ***Document 2 - Cycling Safety Review of High-Volume Intersections.***

The designs developed by the consultant are conceptual to meet the direction of Council. The intersection reviews were conducted from a cycling and pedestrian perspective, and as such, the conceptual designs should not be considered as final recommended designs. As these designs move to the functional design stage, it is during this period that consultation on design will occur, and at which point a recommended design would be developed. Staff review, public consultation and Councillor approval through the Roadway Modification Agreement (RMA) process and/or by Transportation Committee and Council is required before any proposed design proceeds to the detailed design and implementation. The Class D cost estimates developed for the conceptual designs are rough order-of-magnitude estimates and further design work may influence implementation costs.

Key Opportunities

Further to the consultant's review, Transportation Services staff have grouped the locations based on the types of opportunities available for the City to proceed with the implementation of the conceptual designs. The locations are grouped under two categories:

1. **Potential inclusion in future projects through existing City programs:** The list includes locations that could be considered for further planning, design, consultation and implementation as part of infrastructure renewal or growth projects, coordination with future developments, cycling network expansion or stand-alone projects, should a funding source become available; and
2. **Require cycling network review for further design work:** This list includes locations which have geometric constraints. The implementation of separated cycling facilities would result in significant impacts to transit operations, emergency vehicle access, parking and general traffic operations. These locations do not have connecting cycling facilities and would require cycling network review prior to further consideration.

The list of locations categorized based on opportunities available can be viewed in ***Document 3 - High-Volume Intersection Safety Review Locations Categorized by Opportunity Available for Implementation (Document 3).***

Cost Estimates

For each of the proposed conceptual designs developed, the consultant prepared a rough order-of-magnitude (Class D) cost estimate along with potential property acquisition requirements. The Class D cost estimates, which do not include the cost of potential property acquisitions, hydro burial, utility and/or traffic signal costs, range from approximately \$470,000 to \$1.8 million per location for the implementation of separate cycling facilities or a protected intersection. In total, the rough order-of magnitude cost to implement all 29 of the conceptual designs is estimated to be \$32 million, not including the above-mentioned costs.

Infrastructure projects typically proceed through a number of stages starting from the initial identification that a project is needed through to its completion. Cost estimates are developed at each stage of the project using the information available at the time. With each subsequent stage of the project, as more information becomes available, the level of accuracy of the estimate improves.

The conceptual level Class D estimates developed for the selected intersections are rough order-of-magnitude estimates based on historical costs for similar work. The estimates, which do not include potential property acquisition costs, hydro burial, utility and/or traffic signal costs are considered to be preliminary and more work is required during subsequent design stages to improve on the level of accuracy of the cost estimate. Therefore, the final design and construction costs may vary significantly from the conceptual estimates presented in this report.

A summary of the proposed conceptual designs along with corresponding Class D cost estimates are included as part of ***Document 2***.

Budget

Currently, there is no dedicated funding to implement the conceptual designs developed as part of the Cycling Safety High-Volume Intersection Review. Capital cost implications for these conceptual designs could be considered as part of the Long-Range Financial Plan update, which is expected in 2022. The Class D cost estimates provided are high-level cost only, and changes to design plans will likely influence implementation costs.

Should adequate funding become available, staff will seek future opportunities to advance these projects through:

- Infrastructure renewal or growth projects;
- Cycling network expansions;

- Cycling safety enhancement opportunities through the Road Safety Action Plan; or
- New project funding to design and construct specific locations.

Currently, as part of the Road Safety Action Plan's (RSAP) 2020 Implementation Plan, \$380,000 has been allocated towards the functional design and implementation of one of the locations identified as part of the Cycling Safety Review of High-Volume Intersections. Transportation Planning is also contributing an additional \$430,000 in funding for improvements to this location. The intersection of Smyth at Riverside Hospital was selected for further design work based on several factors including historical collision data, improving cycling connectivity and addressing a number of concerns raised by members of the public. The consultant's conceptual design has an estimated Class D cost of \$1.5 million. However, staff are working to identify feasible improvement options that could be implemented within the available budget of \$810,000.

Furthermore, in addition to the consultant's assessment of the reviewed locations, where feasible, they developed a menu of potential short-term, low-cost cycling safety enhancement measures. These measures will be reviewed and evaluated through the Cycling Safety Improvement Program (CSIP) for implementation. The CSIP Council-approved annual budget is of \$105,000. Through the program, 10 locations per year are selected for low-cost cycling enhancements. Where appropriate and feasible, some of the measures will be prioritized and implemented through the CSIP program in future years.

Future Design Implementation Considerations

The main objective of the Cycling Safety High-Volume Intersection Review was to develop intersection designs that focus on the safety and comfort of both cyclists and pedestrians. As part of the designs, ultimate cycling facilities were added to roadways where, in some cases, physical constraints would require the removal of travel lanes to accommodate such facilities. There are competing demands on the road network, which can include but are not limited to the need for transit priority corridors, on-street parking, traffic operations, accommodation of truck movements, emergency vehicle access and road maintenance operations. Further consultation is required with affected stakeholders to develop a design that balances the needs of all users while prioritizing safety of pedestrians and cyclists.

Furthermore, the concept designs were developed within the limits of the intersection and intersection approaches only. The designs were not developed giving consideration to the adjacent roadway corridors. As such, any future design implementation would

require a cycling network connectivity review prior to further consideration to ensure that cycling infrastructure would be consistent throughout the corridor. The concept plans and cost estimates may change as they proceed through the planning and design stages based on feedback related to transit, cycling connectivity, traffic and parking requirements from Business Improvement Areas (BIAs), property owners, National Capital Commission (NCC) and public consultations.

Consideration must also be given to changes to the cycling network and travel patterns, which may influence location priority, as design standards for protected intersections, cycling facilities, pedestrian facilities and accessibility requirements may evolve. As such, conceptual plans developed for each location will need to be reconsidered prior to proceeding towards design and implementation in the future.

Cycling Plan Update

Updates to the Ottawa Cycling and Pedestrian Plans are currently underway and expected to be completed by fall 2023 as part of the Transportation Master Plan review. The Active Transportation Plan will prioritize new additions and upgrades to the cycling and pedestrian networks, to be delivered through the City's active transportation infrastructure programs, with consideration given to the City's affordability framework.

The City's Active Transportation Plan will include:

- ***New Construction:*** The City will continue to focus on building separated cycling facilities and protected intersections from Day 1, along new collector and arterial streets in the urban area and rural villages, guided by several existing Council-approved policies, guidelines and studies, such as the Complete Streets Framework, Building Better and Smarter Suburbs, and the Designing Neighbourhood Collector Streets. For collector and arterial roads in the general rural areas, design guidance and network priorities are being developed specific to these areas.
- ***Existing Infrastructure Improvements:***
 - As part of road widening projects, cycle tracks and protected intersections, where appropriate and feasible, will continue to be considered as part of the road re-design.
 - As part of existing road renewal projects, opportunities to incorporate cycling infrastructure will be pursued. Typically, it is more cost-effective to incorporate upgrades and new additions to cycling infrastructure into the City's ongoing infrastructure renewal program to achieve economies of scale, rather than as

costly stand-alone projects. Full road reconstruction projects offer opportunities to incorporate cycling improvements at a lower relative cost. The integrated road renewal program should be adequately funded accordingly. A large component of the renewal program consists of projects with less than full reconstruction. For this reason, opportunities to coordinate and expand the implementation of cycling infrastructure beyond the original scope of these renewal projects will be considered.

- Stand-alone projects to provide cycling facilities will be identified for priority locations where other City projects are not anticipated.

Furthermore, in December 2019, as part of the Strategic Road Safety Action Plan Update Report (ACS2019-TSD-TRF-0009), Council approved that “all new local residential streets, constructed within new developments, or when reconstruction occurs on local residential streets, be designed for a 30 km/h operating speed”. Design guidance is currently being developed to create comfortable mixed-use environments with low traffic volumes and operating speeds below 30 km/h on local roads. These guidelines will be considered in the development of the Active Transportation Plan and the overall Transportation Master Plan.

CONCLUSION:

The City of Ottawa continues to show both commitment to and progress towards achieving a safer transportation network for all road users. The Transportation Services Department is a key stakeholder and contributor in the continuous improvement of road safety initiatives. As such, staff will pursue opportunities to incorporate the proposed conceptual designs developed as part of the Cycling Safety Review of High-Volume Intersections in future City projects and programs if adequate funding becomes available.

RURAL IMPLICATIONS

This report applies to the entire city with an emphasis dedicated to improving safety at high-volume intersections with heavy traffic and cycling interaction.

CONSULTATION

Transportation Services staff consulted in September 2019 with cycling safety stakeholders including Bike Ottawa, Ecology Ottawa, the Healthy Transportation Coalition, and EnviroCenter. Consultation occurred during the intersection screening stages to assess the list of high-volume intersections with heavy traffic and cycling

interactions along existing cycling routes in Ottawa. Concurrence was achieved to put forward the locations identified for further review by the hired consultant, Alta Planning + Design Inc.

Future consultation on proposed designs will be required, should any of these locations move to the functional design stage. Consultation will include staff review, public consultation and Councillor approval through either the Roadway Modification Approval (RMA) process or at Transportation Committee and Council, where applicable.

ADVISORY COMMITTEE(S) COMMENTS

Not applicable.

LEGAL IMPLICATIONS

There are no legal impediments to receiving this report for information.

RISK MANAGEMENT IMPLICATIONS

There are no risk implications.

ASSET MANAGEMENT IMPLICATIONS

This report is being brought forward in response to an inquiry about cycling safety. If the concepts presented in this report are to be considered further, it will be important to ensure that they are adequately funded from new budgets. Budget should also be sufficient to cover the costs associated with property acquisition, hydro burial, new signals, etc., which are not insignificant. Proper funding will ensure that these initiatives do not impact our ability to renew our transportation assets in a sustainable way, in alignment with the City's Comprehensive Asset Management Policy.

FINANCIAL IMPLICATIONS

There are no financial implications associated with receiving this report for information.

ACCESSIBILITY IMPACTS

The Cycling Safety High-Volume Intersection Report seeks to inform Council members on ultimate options for safety improvements at high-volume intersections with heavy traffic and cycling interactions. These measures will help improve safety not only for cyclists, but also for all road users, including drivers, passengers, pedestrians, cyclists and motorcyclists. Roadway safety enhancements benefit all residents.

TERM OF COUNCIL PRIORITIES

The report aligns with the Integrated Transportation Priority of the 2019 to 2022 Council Plan.

SUPPORTING DOCUMENTATION

- Document 1 – High-Volume Intersections Part of Other City Projects OR Outside the City’s Jurisdiction
- Document 2 – Cycling Safety Review of High-Volume Intersections
- Document 3 – High-Volume Intersection Safety Review Locations Categorized by Opportunity Available for Implementation

DISPOSITION

The Transportation Services Department will continue to support initiatives that improve road safety for all road users as directed by Council.