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Item No. 13.1.1
Transportation Standing Committee
June 19, 2024

TO: Chair and Members of the Transportation Standing Committee

SUBMITTED BY: -Original Signed-
Cathie O'Toole, Chief Administrative Officer

DATE: June 14, 2024

SUBJECT: Road Safety Action Plans

ORIGIN

Staff initiated report.

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Charter, S.N.S. 2008, c. 39, Part XII, subsection 321(8) provides:

321(8) The Traffic Authority for the Municipality has, with respect to highways in the Municipality, excluding those for which the Provincial Traffic Authority has authority, the powers conferred upon a traffic authority by or pursuant to the Motor Vehicle Act.

Motor Vehicle Act, R.S.N.S. 1989, c.293, subsection 89 (1) provides:

89(1) Subject to such authority as may be vested in the Minister, the Registrar or the Department, traffic authorities in regard to highways under their respective authority may cause appropriate signs to be erected and maintained designating business and residence districts and railway grade crossings and such other signs, markings, and traffic control signals as may be deemed necessary to direct and regulate traffic and to carry out the provisions of this act.

RECOMMENDATION

It is recommended that the Transportation Standing Committee recommend that Halifax Regional Council approve the proposed action plans, in principle, to address the ten intersections with the highest number of fatal and injury collisions as outlined in this report.

BACKGROUND

As outlined in the proposed [Road Safety Strategy](#), it was recommended that the Halifax Regional Municipality adopt the principle of Vision Zero and the Safe System Approach to road safety. Vision Zero recognizes that no amount of fatal or serious injury collisions on roadways is acceptable. It is also recognized that people make mistakes, and the road system should be designed, as much as possible, so that when those mistakes occur, they do not result in serious injuries or fatalities. The Safe System Approach is a comprehensive approach that seeks to address road design that recognizes the potential for human error and vulnerabilities. The outline for implementation within the proposed Road Safety Strategy identifies program activities and priorities that support the Safe System Approach. Intersections have been identified as one of four priority areas for the Road Safety Program moving forward.

In addition to the new priorities identified in the proposed Road Safety Strategy, the HRM's original Strategic Road Safety Framework (2018-2023) recommended that an engineering review be conducted for signalized intersections with the worst collision histories, resulting in customized action plans for each location. Based on available data and on-going reviews, a list of 10 intersections with the highest number of fatal and injury collisions between 2018-2022 was identified and presented in the [2023 Road Safety Annual Report](#). This report builds on the 2023 intersection priority list by providing proposed infrastructure improvements, estimated costs, and a proposed capital plan. These projects will be a major focus of the road safety program over the next three years and will require additional capital funding, or a reallocation of existing program funds.

DISCUSSION

Current data shows that half of all fatal and injury collisions in HRM occur at intersections, of which the majority are located on collector and arterial roadways. Vulnerable road users experience an even higher percentage of fatal and injury collisions at intersections, around 70%. It is important to target infrastructure improvements at these locations, specifically at signalized intersections where the highest volume of incidents is evident.

One of the most common conflicts at signalized intersections involves turning vehicles. Fully protected left and/or right turns is one potential improvement to help address this issue. By implementing protected turn phases, which separate road users in time, staff can minimize potential conflicts between vehicles, pedestrians, and cyclists. Other improvements could include no-right-turn-on red, sightline improvements, traffic signal equipment upgrades, high-visibility crosswalks, leading pedestrian intervals (LPIs) or even a full intersection redesign. In addition to these options, staff will continue to work with the Province of Nova Scotia to implement a photo radar program, although at this time such a program would be primarily focused on speed enforcement and not directly related to intersection safety (i.e. red-light cameras).

Table 1 below outlines the key safety issues and associated improvements being proposed to address the current list of intersections with the highest number of fatal and injury collisions. These intersections and potential improvements were developed through an analysis of existing collision data, identification of road user conflicts through video analytics, and a review of existing site conditions. A full feasibility analysis of each proposed countermeasure has yet to be conducted which will include traffic modelling, concept design, and detailed cost estimates. As most locations recommend protected only left turn phasing, it is critical to note the potential for significant queuing and delay for all road users because of implementation. Safety improvements are the primary goal of these projects, however ultimate solutions need to factor in the potential for negative safety impacts due to a significant decline in operational performance. As a result, proposed recommendations will be refined as staff continue working through a feasibility assessment of each measure.

Table 1: Proposed Intersection Improvements

Rank	Location	Total F&I Collisions (over 5 years)	Key Safety Issues Identified	Primary Recommendations
1	Burnside Dr at Wright Ave	13	<ul style="list-style-type: none"> Left turn movements from Burnside Dr. Rear-end injury collisions, most notably in the northbound direction. Red-light signal violations. 	<ul style="list-style-type: none"> Protected only left turn phasing for Burnside Dr. Adjustments to Burnside Dr northbound right-turn lane. Advanced traffic signal notification on Burnside Dr.
2	Bayers Rd at Connaught Ave	13	<ul style="list-style-type: none"> Left turn movement from Bayers Rd eastbound. Left turn movement from Connaught Ave northbound and southbound, related to signal violations. Rear-end injury collisions, primarily in the eastbound direction. 	<ul style="list-style-type: none"> Protected only left turn phasing for Bayers Rd in the eastbound direction. Traffic signal visibility upgrades. Upgrade eastbound right turn channel to smart turn channel.
3	Victoria Rd at Albro Lake Rd	12	<ul style="list-style-type: none"> Left turn movements from Victoria Rd. High number of pedestrian collisions associated with the northbound left movement. 	<ul style="list-style-type: none"> Protected only left turn phasing for Victoria Rd.
4	Joseph Howe Dr at Dutch Village Rd (S) & Bayers Rd	12	<ul style="list-style-type: none"> Left turn movements, primarily in the northbound direction. Rear-end injury collisions, primarily on Joseph Howe Dr. Pedestrian collisions on multiple approaches. 	<ul style="list-style-type: none"> Protected only left turn phasing for Joseph Howe Dr. Protected-permissive left turn phasing for Dutch Village Rd and Bayers Rd. Traffic signal visibility upgrades.
5	Mumford Rd at Halifax Shopping Centre	11	<ul style="list-style-type: none"> Left turn movements from Mumford Rd. Pedestrian collisions on multiple approaches. Traffic control violations by drivers and pedestrians. 	<ul style="list-style-type: none"> Protected only left turn phasing for Mumford Rd. Permanent left turn traffic calming. No-right-turn-on-red for Mumford Rd, southbound. Education and enforcement.
6	Burnside Dr at Commodore Dr & Ronald Smith Ave	11	<ul style="list-style-type: none"> Left turn movement from Burnside Dr (southbound). Rear-end collisions on Burnside Dr. Traffic signal compliance. 	<ul style="list-style-type: none"> Protected only left turn phasing for Burnside Dr (southbound). Advanced traffic signal notification on Burnside Dr.
7	Bedford Hwy at Hammonds Plains Rd	9	<ul style="list-style-type: none"> Left turn movement from Bedford Hwy (northbound). Rear-end collisions. 	<ul style="list-style-type: none"> Protected only left turn phasing for Bedford Hwy (northbound). Traffic signal visibility upgrades including advanced signage, backboards, signal display upgrades.

8	Portland St at Spring Ave & Portland Estates Blvd	9	<ul style="list-style-type: none"> Left turn movements from Portland St. Right turn movement from Spring Ave. Traffic signal compliance. 	<ul style="list-style-type: none"> Protected only left turn phasing for Portland St. No-right-turn-on-red for Spring Ave. Traffic signal visibility upgrades including advanced signage, backboards, clearance interval adjustments, enforcement.
9	Joseph Howe Dr at Dutch Village Rd (N)	9	<ul style="list-style-type: none"> Left turn movement from Joseph Howe Dr. Rear-end collisions on all approaches. High-risk conflict between Joseph Howe Dr southbound right turning vehicles and active transportation users in the westside crosswalk. Access management beyond the intersection. 	<ul style="list-style-type: none"> Permanent left-turn calming of Joseph Howe Dr (northbound). Adjustments to Joseph Howe Dr southbound right turn geometry. Traffic patterns are expected to change with the future upgrades to the Windsor Street Exchange. This intersection will be monitored for changes to collision trends.
10	Chebucto Rd at Connaught Ave	8	<ul style="list-style-type: none"> Left turn movements from Connaught Ave. Pedestrian collisions on multiple approaches. 	<ul style="list-style-type: none"> Protected only left turn phasing for Connaught Ave.

Table 2 below provides the estimated costs and timelines associated with each intersection improvement project. It is important to note that costs and timelines will be refined as staff continue working through detailed assessments, design, and investigating opportunities to integrate projects with other capital work.

In addition to the primary recommendations included in Table 1, considerations for additional infrastructure requirements have been included in the preliminary scoping of cost estimates in Table 2. These include pedestrian safety upgrades (installation of durable high-visibility crosswalk markings at all locations, accessibility improvements); concrete reinstatements; signal head display upgrades; street lighting upgrades; signage and pavement markings; etc.

Table 2: Proposed Intersection Improvements - Estimated Cost and Timelines

Rank	Location	Estimated Cost	Estimated Design Year	Estimated Construction Year
1	Burnside Dr at Wright Ave	\$550,000	2025/26	2026/27
2	Bayers Rd at Connaught Ave	\$200,000	2024/25	2025/26
3	Victoria Rd at Albro Lake Rd	\$750,000	2024/25	2025/26
4	Joseph Howe Dr at Dutch Village Rd (S) & Bayers Rd	\$250,000	2025/26	2026/27
5	Mumford Rd at Halifax Shopping Centre	\$850,000	2024/25	2025/26
6	Burnside Dr at Commodore Dr & Ronald Smith Ave	\$450,000	2025/26	2026/27
7	Bedford Hwy at Hammonds Plains Rd	\$150,000	2025/26	2026/27

8	Portland St at Spring Ave & Portland Estates Blvd	\$350,000	2025/26	2026/27
9	Joseph Howe Dr at Dutch Village Rd (N)	\$100,000	2025/26	2026/27
10	Chebucto Rd at Connaught Ave	\$350,000	2025/26	2026/27

Enforcement plays a major role in the success of many engineering measures and addressing road safety within the HRM. Staff will continue to work with both the Halifax Regional Police and the RCMP to prioritize high collision intersections.

Protected Turning Movements

In addition to the above noted action plans, staff will continue to investigate the potential to implement protected turning movements (i.e. fully protected left and/or right turns, and no-right-turns-on-red) at intersections in general. On-going implementation of fully protected turns will be based on need, where it is determined these measures can be reasonably applied without significant detrimental impacts to operations resulting in the creation of other safety issues and where substantial infrastructure requirements are not needed. Recent examples of protected turning movement installations include:

- Dunbrack St at Lacewood Dr
- Portland St at Eisener Blvd
- Joseph Howe Dr at Highway 102
- Oxford St at Jubilee Rd (planned for 2024 installation)

Other locations under investigation for protected turning movements are included in Table 3 below. As with the proposed intersection priority projects, estimated costs and timelines will be refined as feasibility is further investigated.

Table 3: Proposed Protected Turning Movements

Location	Proposed Improvements	Estimated Cost	Estimated Design Year	Estimated Construction Year
Dunbrack St at Willett St	<ul style="list-style-type: none"> • Protected only left turn phasing for Dunbrack St • Protected-permissive left turn phasing for Willett St 	\$25,000	2024/25	2024/25
Dunbrack St at Main Ave	<ul style="list-style-type: none"> • Protected only left turn phasing for Dunbrack St • Protected-permissive left turn phasing for Main Ave 	\$300,000	2026/27	2027/28
Glendale Dr at Cobequid Rd	<ul style="list-style-type: none"> • Protected only left turn phasing for Glendale Dr 	\$200,000	2026/27	2027/28
Lacewood Dr at Regency Park Dr	<ul style="list-style-type: none"> • Protected only left turn phasing for Lacewood Dr 	\$150,000	2026/27	2027/28

FINANCIAL IMPLICATIONS

Budget estimates for the intersection improvements are outlined in the table below. The \$25,000 design work required in 2024/25 can be accommodated within the current budget for CT190006 – Road Safety Improvements Program. Funding for the subsequent three years is outside the approved four-year capital plan. It will be brought forth during the annual capital budget process and prioritized both within the planned future budgets for the Road Safety Improvements Program as well as the overall capital plan. This is a

commitment to evaluate the intersection improvements in the context of the overall capital plan for budget allocation and timing. It is not an approval to allocate funds in future years.

Table 4: Estimated Annual Budget Requirements

Budget Year	2024/25	2025/26	2026/27	2027/28
Estimated Budget	\$25,000 (captured within existing approved budgets)	\$1,800,000	\$2,200,000	\$650,000

RISK CONSIDERATION

There were no risks identified in association with the recommendation provided in this report.

COMMUNITY ENGAGEMENT

No community engagement was required.

ENVIRONMENTAL IMPLICATIONS

No environmental implications were identified.

ALTERNATIVES

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1. Transportation Standing Committee could choose not to approve the proposed action plans to address the ten intersections with the highest number of fatal and injury collisions as presented in this report.
2. Transportation Standing Committee could choose to defer consideration of the proposed action plans until the Road Safety Strategy 2024 is approved

ATTACHMENTS

No attachments.

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

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