

HALIFAX

P.O. Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Item No. 5
Halifax Regional Council
April 16, 2019

TO: Mayor Savage and Members of Halifax Regional Council

Original Signed by 

SUBMITTED BY:

Brad Anguish, P. Eng., Director, Transportation & Public Works

Original Signed by 

Jacques Dubé, Chief Administrative Officer

DATE: January 18, 2019

SUBJECT: Beaver Bank Road and Windgate Drive Intersection

INFORMATION REPORT

ORIGIN

Item 14.7.1 of the July 17, 2018 meeting of Halifax Regional Council:

MOVED by Councillor Blackburn, seconded by Councillor Whitman THAT Halifax Regional Council request that staff consider options for traffic control, including potential for a roundabout, at the intersection of Beaver Bank Road and Windgate Drive in Beaver Bank, in consultation with abutting property owners CN Rail and the province of Nova Scotia, and report back to Regional Council.

MOTION PUT AND PASSED UNANIMOUSLY.

LEGISLATIVE AUTHORITY

Part XII, Section 321 (8), "Traffic Authority" of the HRM Charter: "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"; and

Part XII, Section 322 (1), "Street Related Powers" of the HRM Charter: "The Council may design, layout, open, expand, construct, maintain, improve, alter, repair, light, water, clean, and clear streets in the Municipality".

BACKGROUND

Beaver Bank Road is a two-lane, arterial roadway running in a general north/south direction providing the communities of Beaver Bank and Kinsac with connections to the community of Lower Sackville, Sackville Drive and Highway 101. The roadway has separate left-turn lanes at major intersections, concrete curb and sidewalk along one side and gravel shoulder on the other. The posted speed limit is 50 km/h from Sackville Drive to just north of Woodbine Drive where it changes to 70 km/h. Traffic volume on Beaver Bank Road is in the range of 14,000 – 15,000 vehicles per day (vpd).

Windgate Drive is a two-lane, major collector roadway running in a general east/west direction providing a connection to the communities of Beaver Bank, Kinsac, Lower Sackville, Windsor Junction and Fall River. The roadway has a rural cross-section with gravel shoulders. The posted speed limit is 70 km/h and there is a railway line running parallel to the road on the south side. Traffic volume on Windgate Drive is in the range of 3,000 – 4,000 vpd.

The intersection of Beaver Bank Road and Windgate Drive is a skewed T intersection (does not meet at a right angle) with stop control on Windgate Drive. There is a southbound left-turn holding lane on Beaver Bank Road and a single exit lane on Windgate Drive shared by left and right turning vehicles. The railway running parallel to Windgate Drive crosses Beaver Bank Road diagonally through the intersection and has side mounted and overhead railway crossing warning devices in place.

DISCUSSION

Traffic Management staff has been contacted in the past regarding delays experienced by drivers turning left from Windgate Drive onto Beaver Bank Road. Typically, these concerns are accompanied by a request to have traffic signals installed. In response to the concerns and requests received, Traffic Management staff has carried out several traffic signal warrants as well as undertaken assessments of left-turn delay and visibility.

HRM uses the Canadian Matrix Traffic Signal Warrant Analysis developed by the Transportation Association of Canada (TAC) when determining whether traffic signals are warranted at an intersection. The national guideline requires that a location generate 100 points in the warrant matrix before traffic signals are considered for installation. These points depend on characteristics such as traffic and pedestrian volumes and movements, number of travel lanes, speed and proximity to adjacent traffic signals. HRM staff have completed at least six Signal Warrant Analysis over the past 15 years with all the priority points resulting between 59 and 82.

Although the intersection is skewed there is good visibility to the intersection for vehicles travelling on Beaver Bank Road and a clear view of Beaver Bank Road can be achieved by drivers on Windgate Drive as they are able to pull forward past the stop bar without encroaching on the travel lanes on Beaver Bank Road.

The yearly frequency and severity of collisions was reviewed and is contained in the following table. In terms of severity, there were no fatal collisions, 10% were injury, and 90% were Property Damage Only (PDO). The collision history also indicates the frequency has decreased to one per year over the previous three years.

Year	Injury	Property Damage Only	Total
2014	0	2	2
2015	1	4	5
2016	0	1	1
2017	0	1	1
2018	0	1	1
Total	1	9	10

Additional consideration at this intersection is the railway and associated warning system. The track runs diagonal across the intersection with warning lights present on all three intersection approaches. Due to the configuration of the crossing, the railway warning signals on Beaver Bank Road are installed on overhead arms. The location of this infrastructure makes placement of traffic signals at this location difficult. Properly placed traffic signal heads would either block, or be blocked by, the railway signals creating visibility issues with both the signal systems.

HRM engaged the GRIFFIN transportation group inc. in 2016 to carry out an intersection road safety and operational review to identify potential road safety performance issues at the Beaver Bank Road and Windgate Drive intersection. This review was carried out to examine road safety issues that may be contributing to areas of increased risk.

This review provided suggested countermeasures for a possible phased implementation. The short-term suggestions (assuming the stop-control remains) includes shifting the center of the intersection to the west to improve sightlines in the northeast corner of the intersection and the installation of a northbound channelized right turn lane. The mid to long-term suggestions include the installation of either traffic signals or a modern roundabout to improve sightlines and delay/queues on the Windgate Drive approach.

Although the railway has been inactive since approximately 2010, the railway crossing warning devices, pavement markings and rails all appear to negatively impact both the operation and safety performance of the intersection. The presence of the railway crossing warning devices also limits the municipality's ability to move forward with any of the suggested countermeasures.

When CN staff were contacted regarding the status of this railway line and the warning infrastructure, they indicated that it is currently considered an active railway line and the signals are required to conform with Transport Canada Guidelines.

FINANCIAL IMPLICATIONS

There are no financial implications; however, any future upgrades associated with the intersection of Beaver Bank Road and Windgate Drive would be included in future capital budget programs. It is estimated that construction of a modern roundabout in this location would cost in the order of magnitude of approximately \$1,000,000. This estimate is provided without any design work completed and does not include any potential land acquisition.

COMMUNITY ENGAGEMENT

There was no need for community engagement as this report is in response to questions raised by the public.

ATTACHMENTS

N/A

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.

Report Prepared by: Hugh Morrison, Traffic Services Supervisor, 902.490.5018
