

**Transportation Standing Committee
March 28, 2013**

TO: Chair and Members of Transportation Standing Committee
Original Signed

SUBMITTED BY: _____
Ken Reashor, P.Eng., Director, Transportation and Public Works

DATE: March 8, 2013

SUBJECT: Dual Left Turn Lane off the Macdonald Bridge onto Wyse Road

INFORMATION REPORT

ORIGIN

Item 8.3, raised at the September 27, 2012 meeting of Transportation Standing Committee.
MOVED by Councillor Hendsbee, seconded by Councillor Harvey, that the Transportation Standing Committee request a staff report on the feasibility of a double left-hand turning lane capacity off the Macdonald Bridge onto Wyse Road.

LEGISLATIVE AUTHORITY

Part 1, Section 21, "Standing, Special and Advisory Committees" of the HRM Charter.

BACKGROUND

The Angus L. Macdonald Bridge is a three lane structure with a reversible centre lane, pedestrian walkway, and bicycle lane. There are approximately 48,000 crossings on the Macdonald Bridge on an average weekday. On the bridge approach to the intersection of Wyse Road and Nantucket Avenue, there is one left turn lane, two through lanes, one bus priority lane, and one right turn lane. In terms of capacity, the vehicles in the left turn lane often back up behind the bridge tolls during the afternoon peak hour.

DISCUSSION

HRM staff met with Halifax Harbour Bridge staff to discuss this proposal and gather the necessary information to perform a complete analysis.

HRM staff completed an analysis of the four main intersections that would be immediately affected by an additional left turn lane off the Macdonald Bridge. The analysis was performed for the afternoon peak hour and included the intersections of Wyse Road/Nantucket Avenue/Macdonald Bridge, Nantucket Avenue/Victoria Road, Wyse Road/Boland Road, and Boland Road/Victoria Road. These four intersections were chosen to analyse because an increase in left turn vehicles off the bridge would increase traffic on Boland Road and most likely decrease traffic on Nantucket Avenue and a section of Victoria Road.

Existing conditions were compared against the results of the proposed changes. The additional left turn lane did decrease delay for vehicles turning left off the bridge, and it also reduced delay for vehicles at the intersection of Nantucket Avenue/Victoria Road. While the additional left turn lane did not have a pronounced negative impact on the intersections at Boland Road, the changes significantly increased delay for vehicles turning left onto the bridge from Wyse Road. This increased delay is a result of signal timing modifications as the current left turn phase would have to be changed from a protected/permissive phase to protected only. Thus, the amount of green time for other approach legs would have to be decreased, which in turn decreases the capacity of the overall intersection.

As previously mentioned, there is one left turn lane, two through lanes, one bus priority lane, and one right turn lane on the bridge approach to the intersection of Wyse Road/Nantucket Avenue. If an additional left turn lane were to be implemented, it would reduce the number of through lanes to one as the current intersection geometry does not allow for an additional lane. This itself would encourage more traffic to turn left onto Wyse Road instead of continuing straight onto Nantucket Avenue. In reducing the number of vehicles on Nantucket Avenue that would ultimately be turning onto Victoria Road, it would increase vehicles from Wyse Road onto Boland Road which could then turn onto Victoria Road. Boland Road is classified as a local street, with mostly residential homes and apartment buildings abutting the street, and is not designed to carry additional through traffic. Nantucket Avenue, however, is classified as a major collector and its purpose is to carry a higher volume of traffic.

If intersection improvements were to be considered to maintain the existing number of through lanes with the dual left, many upgrades would have to be made. As the current total approach width is not large enough to accommodate an extra lane, the approach island would have to be reconfigured, in turn requiring modifications to the median boulevard and the opposing pedestrian island. The overhead sign structure would need to be extended, thus requiring an entire new structure and extra signage. The receiving lanes on Nantucket Avenue would not be aligned correctly. Consequently motorists, including transit vehicles in the priority lane, would have to complete a weaving manoeuvre which presents a potential safety concern.

Staff does not recommend the implementation of an additional left turn lane off the Macdonald Bridge due to the decrease in the overall capacity at the intersection of Wyse Road/Nantucket Avenue/Macdonald Bridge; the anticipated increase in traffic on Boland Road which is classified as a local street; and the significant capital expenditure that would be required to obtain the dual left turn lane.

FINANCIAL IMPLICATIONS

There are no financial implications.

COMMUNITY ENGAGEMENT

Community engagement was not deemed to be necessary in this process because decisions were based on operational procedures.

ATTACHMENTS

1. Intersection of Wyse Road/Nantucket Avenue/Macdonald Bridge

A copy of this report can be obtained online at <http://www.halifax.ca/commcoun/cc.html> then choose the appropriate Community Council and meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Sam Mayhew, Traffic Analyst, Traffic and Right of Way Services, 490-4856

Original Signed

Report Approved by: Taso Koutroulakis, P.Eng., A/Manager, Traffic and Right of Way Services, 490-4816

Attachment 1 - Intersection of Wyse Road/Nantucket Avenue/Macdonald Bridge

