

## **Transportation Services Department**

## **TO: Community Development Committee**

SUBJECT: Berwick Drive Neighbourhood Traffic Management Plan Split Speed Hump Review

Report Number: TS-1	3-12 File Number(s): 750-14-34				
Report Date: Septemb	er 11, 2012 Ward(s) Affected: 1 □ 2 □ 3 □ 4 □ 5 □ 6 ⊠ All □				
Date to Committee: Oc	ober 22, 2012 Date to Council: November 5, 2012				
Recommendation:	Approve that the split speed hump devices on Berwick Drive remain in place, excluding the winter season; and,				
	Approve the use of the split speed hump device as a possible traffic calming device that can be considered on local and collecto roadways during the Neighbourhood Traffic Management (Traffic Calming) Process.				
Purpose:	<ul> <li>Address goal or action in strategic plan</li> <li>Establish new or revised policy or service standard</li> <li>Respond to legislation</li> <li>Respond to staff direction</li> <li>Address other area of responsibility</li> </ul>				
Reference to Strategic Plan:	<ul> <li>☑ Vibrant Neighbourhoods</li> <li>□ Excellence in Government</li> <li>□ N/A</li> <li>Ensure that neighbourhoods and commercial areas, including the downtown, are safe and accessible places to live and gather for activities.</li> </ul>				
Background:	On April 11, 2011 Council approved the Berwick Drive Neighbourhood Traffic Management (NTM) Plan as outlined in Report TS-15-11, which included the installation of two split speed humps and one road narrowing on Berwick Drive.				

Vertical traffic calming measures (i.e. speed humps) are not usually installed on roadways identified as a primary emergency response route<sup>1</sup>, such as Berwick Drive, and as a result horizontal traffic calming measures (i.e. road narrowings) are typically installed. However, the split speed hump design used on Berwick Drive is different than a standard speed hump as they allow emergency services vehicles to drive between the split speed humps, by driving over a flexible delineator in the center, thereby minimizing impacts to their response times. These devices are new to the City of Burlington and therefore staff recommended the installation of these devices on Berwick Drive as a pilot project, which is subject to an evaluation. The intent being that if successful, these split speed hump devices would be included in our inventory of possible traffic calming options that can be considered during the NTM process, and the recommended split speed humps on Berwick Drive would remain in place. If unsuccessful, these devices would be removed.

Staff, upon approval of staff report TS-15-11, was therefore directed to undertake the appropriate studies and evaluate the effectiveness of the split speed humps and report back to Council with the results, as summarized in this report. The road narrowing on Berwick Drive was approved on a permanent basis; however, the results have been included within this report for Council's information.

## **Discussion:**

Berwick Drive is a 40 km/h two-lane urban collector roadway with direct residential frontage, a school (Florence Meares Public School) and two parks (Berton Park and Berwick Green Park). As a result of the Berwick Drive NTM Plan, two split speed humps were installed in July 2011 and one road narrowing was installed in September 2011 on Berwick Drive, as illustrated in Appendix "A".

### Strategy/Process

In order to determine the effectiveness of the split speed humps and road narrowing in reducing vehicle speeds, staff has undertaken before and after traffic studies and the results are presented in 'Table 1'.

<sup>&</sup>lt;sup>1</sup> Route identified in the Fire Master Plan, which is used as the primary route to and from an emergency

Location	Count	85th Percentile Speed <sup>1</sup> (km/h)	Average Daily Traffic (veh/day)	Percentage of High End Speeds <sup>2</sup>
Hydro Corridor (Split Speed Hump)	Before	58.4	1070	20.2%
	After	39.3	1461	1.3%
	Change	-19.1	391	-18.9% (94% reduction)
Pipe Line Corridor (Split Speed Hump)	Before	55.6	1425	13.7%
	After	34.8	1473	0.8%
	Change	-20.8	48	-12.9% (94% reduction)
In front of School (Road Narrowing)	Before	53.6	770	11.2%
	After	49.6	812	3.4%
	Change	-4.0	42	-7.8% (70% reduction)

### Table 1 – Berwick Drive Before and After Traffic Data

<sup>1</sup> The  $85^{\text{th}}$  percentile speed is the speed at which 85% of traffic is travelling at or below

<sup>2</sup> Expressed as the daily percentage of vehicles that exceed 15 km/hr over the speed limit

As a result of the installation of the split speed humps, the 85<sup>th</sup> percentile speeds have been reduced by approximately 20 km/hr and the high-end speeds have been reduced by 94%. In addition, the results revealed that the installation of the road narrowing reduced the 85<sup>th</sup> percentile speeds by 4 km/hr and the percent of high end speeds by 70% at that location. The traffic volumes on Berwick Drive have increased, although this increase isn't necessarily attributable to the installation of the devices, the volumes are still well below the acceptable threshold for a collector roadway.

A review of the collision history revealed that no reported collisions have occurred related to the split speed humps or road narrowing since they were installed on Berwick Drive.

Split speed humps present a challenge during winter road maintenance. The requirement to raise the blade as the plow travels over these devices will result in an accumulation of snow and ice. This impacts the ability to maintain the road to the approved level of service and presents a potential hazard for vehicles. With these concerns in mind, it is recommended that the split speed humps be removed for the winter season (mid-November to end of March) by Road and Parks Maintenance staff.

The Fire Department has been involved with this project since the initial testing of the split speed hump installation on Berwick Drive. Fire trucks completed tests runs through the split speed humps and this revealed no issues. No problems or issues with split speed humps have been reported by Fire Department personnel during the experimental testing phase. The split speed humps result in minimal response time

delay and are an acceptable solution for their fire trucks as they area able to navigate through these installations with minimal delay.

## **Financial Matters:**

The estimated cost to install a rubber split speed hump is approximately \$4,000 per location. The estimated cost to install a road narrowing is approximately \$35,000 per location and therefore a rubber split speed hump is a more economically viable alternative for roads that are classed as an emergency response route.

The cost associated with installing any future split speed hump devices, during the NTM (traffic calming) process, will be funded through capital account TC0029 (Traffic Calming Projects).

The total estimated cost for Road and Parks Maintenance Department staff to maintain a rubber split speed hump, including removal for the winter season and reinstallation the following spring, is \$1,000 annually. Subject to Council approval, of the incremental use of split speed humps city wide any increased costs to maintenance activity as a result will be addressed in future budget requests.

#### **Communication Matters:**

All residents fronting onto Berwick Drive have been notified of the results of staff's review and recommendations.

The Halton Regional Police Service supports the decision to keep the split speed humps in place on Berwick Drive and encourages their use on other roads where necessary, as a result of the NTM process.

#### Conclusion:

The split speed humps and road narrowing have significantly reduced vehicular speeds on Berwick Drive and no reported collisions have occurred related to the split speed humps or road narrowing since they were installed.

Split speed humps are more cost effective than road narrowings and provide greater reductions in vehicular speeds. They also provide less delay to emergency service vehicles compared to the traditional speed hump design as they allow emergency service vehicles to drive between the split speed humps, by driving over a flexible delineator in the center. Due to the concern of snow and ice accumulation in and around the split speed hump device it is our intention to remove them for the winter season (mid-November to end of March) by Road and Parks Maintenance staff

Therefore, it is recommended that the two split speed humps remain in place on Berwick Drive, excluding the winter season, and that the split speed hump device be approved as a possible traffic calming device that can be considered on local and collector roadways during the Neighbourhood Traffic Management (Traffic Calming) process.

Respectfully submitted,

Chris Day Supervisor of Traffic Services 905- 335-7671 ext. 7401

Appendices:

A. Berwick Drive Key Map

Notifications: (after Council decision)	Name	Mailing or E-mail Address

# Approvals:

\*required

\*Department

City Treasurer General Manager

City Manager

	To be completed by the Clerks Department							
Committee Disposition & Comments								
d comments								
	01-Approved	02-Not Approved	03-Amended	04-Referred	06-Received & Filed	07-Withdrawn		
Council								
& Comments								
	01-Approved	02-Not Approved	03-Amended	04-Referred	06-Received & Filed	07-Withdrawn		



Appendix "A" – Berwick Drive Key Map