
Neighbourhood Traffic Management – Vertical Traffic Calming Devices Pilot Project Update

Recommendation

That the Standing Policy Committee on Transportation recommend to City Council:
That vertical traffic calming devices are not identified as an approved traffic calming measure in the Traffic Calming Guide.

Topic and Purpose

The purpose of this report is to provide City Council with an update from the vertical traffic calming devices pilot project.

Report Highlights

1. Vertical traffic calming devices were piloted at four locations throughout the city.
2. The effectiveness of the speed humps on reducing the speed of traffic is inconclusive, although generally there appears to be speed reductions in the immediate vicinity of the speed hump devices.
3. The effectiveness of the speed humps on reducing daily traffic volumes is inconclusive.
4. There was support for speed humps from the residents that live on the street/block that had a speed hump installed. There was a general lack of support for speed humps on a neighbourhood-wide and city-wide basis.

Strategic Goal

This report supports the Strategic Goal of Moving Around by providing a plan to guide the installation of traffic calming devices to improve the safety of all road users.

Background

City Council at its meeting held on August 15, 2017, received an information report Neighbourhood Traffic Management – Vertical Traffic Calming Devices Pilot Project, outlining the pilot project scope and the selected locations for the pilot. City Council at its Preliminary Business Plan and Budget meeting held on November 27, 2017, approved funding of \$40,000 in Capital Project #0631 – Transportation Safety Improvements from the Traffic Safety Reserve to undertake the pilot project.

City Council at its meeting held on June 25, 2018 and June 26, 2018, considered the report Traffic Safety Reserve Program – 2018 Budget Adjustment, and resolved, in part:

- “1. That the amount of \$60,000 be approved for Capital Project #0631 – Transportation Safety Improvements from the Traffic Safety Reserve;”

The additional funding was required as the costs of the devices were higher than the initial estimates.

Report

Pilot Project Overview

Vertical traffic calming devices were piloted at four locations on major collector roads with 85th percentile speeds of 56 kilometres per hour (kph) or greater:

- Vic Boulevard between Assaly Street and Hunter Road, in Stonebridge;
- Nemeiben Road between Emmeline Road and Anglin Crescent, in Lakeridge;
- 29th Street West between McMillan Avenue and Avenue L North, in Westmount; and
- Stensrud Road between Van Impe Crescent/Lamarsh Road and Greaves Crescent/Muzyka Road, in Willowgrove.

The device selected for the pilot was a speed hump. The speed hump dimensions comply with the Canadian Guide to Traffic Calming, Transportation Association of Canada (2017). The devices were in place for two-to-four months and were removed prior to winter conditions. Plans showing the placement of the speed humps are shown in Attachment 1.

Traffic Data

Speed assessments were completed at all locations before and after the speed hump installation. The results are summarized in the following table:

Location (85 th percentile speed ¹ from NTR)	85 th Percentile Speed (kph)				Estimated Annual Average Daily Traffic (Seasonally Adjusted) (vehicles per day)		
	Direction	Before	After	Change	Before	After	Change (%)
Vic Boulevard (56 kph)	EB	68	63	-5	3,847	3,650	-197 (-5.1%)
	WB	44	41	-3			
Nemeiben Road ² (63 kph)	EB	50	40	-10	1,711	1,411	-300 (-17.5%)
	WB	52	42	-10			
29 th Street W ³ (60 kph)	EB	62	71	+9	1,706	2,433	+727 (+42.6%)
	WB	52	35	-17	1,579	2,257	+678 (+42.9%)
Stensrud Road ⁴ (56 kph)	EB	48	49	+1	4,152	4,203	+51 (+1.2%)
	WB	53	43	-10			

¹ Measured as part of the Neighbourhood Traffic Review.

² Horizontal traffic calming was installed prior to speed hump installation.

³ EB traffic recorder was placed downstream of speed hump. WB traffic recorder was placed upstream of speed hump.

⁴ This location was tested with two speed humps.

The data in the table yields the following observations, post installation:

- The speed reductions experienced on Vic Boulevard and Nemeiben Road (ranging from 3 kph to 10 kph) aligns with the expected speed reduction published in the Canadian Guide to Traffic Calming Transportation Association of Canada (2017) (speed humps may reduce speed between 6 kph to 13 kph).
- Both Vic Boulevard and Nemeiben Road experienced a reduction in daily traffic volumes (ranging from 8 to 20%).

- 29th Street West experienced a reduction in speed for westbound traffic, and a large increase in speed for eastbound traffic. The location of the traffic study was downstream of the eastbound speed hump, indicating that while vehicles reduced their speed while approaching the speed hump, they accelerated immediately after passing over the speed hump.
- 29th Street West experienced an increase of approximately 43% in daily traffic volumes in either direction.
- Stensrud Road experienced a 10 kph reduction in speed for westbound traffic, and a 1 kph increase in speed for eastbound traffic.

A review of the data yields the following conclusions:

- The effectiveness of the speed humps on reducing the speed of traffic is inconclusive, although it appears that in the immediate vicinity of the speed hump device, vehicle speeds are reduced as they approach the speed hump.
- The effectiveness of the speed humps on reducing daily traffic volumes is inconclusive.

Public Feedback

Public feedback from residents was collected through an online survey providing 1,239 responses and 80 submissions via phone calls and e-mail. The feedback from residents who reside on the street/block that fronts the device and residents who live in the neighbourhood that had a device is summarized below:

Street (No. of responses from residents that front speed hump)	Support for permanent installation?		Neighbourhood (No. of responses from neighbourhood)	Support for permanent installation?	
	Yes	No		Yes	No
Vic Boulevard (no properties with frontage)	-	-	Stonebridge (378)	50%	50%
Nemeiben Road (15 of 23 homes with frontage)	53%	47%	Lakeridge (135)	33%	67%
29 th Street W (2 of 5 homes with frontage)	50%	50%	Westmount (91)	35%	65%
Stensrud Road (8 of 28 homes with frontage)	75%	25%	Willowgrove (310)	35%	65%

The feedback from residents city-wide is summarized below:

Question	Do you support expanding the use of speed humps throughout the city?		
	Yes	No	Not sure
No. of Responses	379	693	147
Percentage of Responses	31%	57%	12%

The online survey presented opportunity for residents to provide additional comments regarding speed humps. Details of the online survey are provided in Attachment 2, with comments related to the following themes:

- Traffic and pedestrian safety;
- Noise and vibration;
- Vehicle speed and enforcement;
- Travel time and delays;
- Location and placement;
- Shortcutting promotion;
- Emergency services and response times; and
- Comfort and cost.

A detailed summary of the comments received is provided in Attachment 3.

A review of the survey results yields the following conclusions:

- Support for permanent installation from the residents that live on the street/block that had a speed hump installed.
- Lack of support for permanent installation from the neighbourhood that had a speed hump installed.
- Lack of support for permanent installation from residents city-wide regarding the use of speed humps.

Based on the evidence gathered during this pilot study, installation of a speed hump may have both beneficial and/or detrimental, upstream and downstream traffic volume and speed impacts; the effectiveness of the device cannot be predicted before installation. In addition, the feedback from the community was mixed. As a result, the Administration does not recommend including vertical traffic calming devices as an approved traffic calming measure in the Traffic Calming Guide.

Options to the Recommendation

City Council could recommend the addition of vertical traffic calming devices as an approved measure in the Traffic Calming Policy. The Administration does not recommend this as the impact to traffic during the pilot project was inconclusive and the feedback from the community was mixed. If City Council were to proceed with including vertical devices as an approved traffic calming measure in Saskatoon, installation would need to align with best practices identified within the latest edition of the Canadian Guide to Traffic Calming Transportation Association of Canada (2017).

Public and/or Stakeholder Involvement

Saskatoon Transit, Roadways, Fleet & Support, and the Saskatoon Fire Department do not support the use of speed humps, while Medavie Health Services West is in support of vertical traffic calming devices. Both Saskatoon Transit and the Saskatoon Fire Department indicated that if vertical traffic calming measures were utilized, their preference would be for the use of speed cushions since they could be designed to accommodate the wheelbase of their vehicles. Detailed comments are provided in Attachment 4.

Communication Plan

Prior to installation of the pilot project devices, residents along the street fronts where a speed hump was installed were notified via a flyer. The respective Community Associations where a speed hump was installed were notified via e-mail. During the course of the pilot project, electronic variable message boards were placed at each of the four pilot project locations asking residents to provide input via the online survey.

The outcome of the pilot project will be shared via flyer notices to the residents along the street fronts where a speed hump was installed, email to the respective Community Associations, and a notice provided to the survey participants who requested a follow-up on the outcome of the pilot project.

Financial Implications

The total cost of the pilot project was \$124,000 which includes labour and material to design, install, maintain, remove and store the temporary vertical traffic calming devices.

Temporary installation and removal on a yearly basis is expected to cost approximately \$30,000 per device, while permanent installation is estimated at approximately \$10,000 to \$20,000 per device.

Environmental Implications

Braking and accelerating can result in increased gas consumption and emissions; however, these effects have not been quantified. The effects would vary by location, depending on the traffic volumes, operating speeds, and number of devices installed.

Other Considerations/Implications

There are no policy, privacy or CPTED considerations or implications.

Public Notice

Public Notice, pursuant to Section 3 of Policy No. C01-021, Public Notice Policy, is not required.

Attachments

1. Speed Hump Pilot Project Locations
2. Online Survey Summary
3. Resident Feedback
4. Stakeholder Feedback

Report Approval

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