Report - Standing Policy Committee on Public Works - June 10, 2003

Item No. 5 Installation of Speed Humps on Haney Street South of Eldridge Avenue File ST-5

STANDING COMMITTEE RECOMMENDATION:

On June 18, 2003, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Public Works, and submits the following to Council:

1. That the Administration be directed to proceed with the installation of the remaining speed humps on Haney Street south of Eldridge Avenue.

2. That the current Council Policy with respect to the Warrant Criteria and Installation Guidelines for the Installation of Speed Humps on Local Residential Streets be amended by adding "Installation of speed humps on streets with a rural cross-section (ditch drainage) and oil sealed/chip-seal surfaces".

3. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing, including the execution of any documents related thereto.

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DECISION MAKING HISTORY:

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On June 18, 2003, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Public Works and submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On June 10, 2003, the Standing Policy Committee on Public Works did not concur in the administrative recommendation and submitted the matter to Executive Policy Committee and Council.

Re:	Installation of Speed Humps on Haney Street South of Eldridge Avenue
For Submission To:	The Standing Policy Committee on Public Works
Original Report Signed By:	J. A. Thomson, P. Eng. Director of Public Works
Report Date:	May 15, 2003
Recommendations:	That the speed humps on Haney Street be studied for another winter season before making any conclusions about future installations on oil treated/chip-seal roadways with ditch drainage.

REPORT SUMMARY:

Key Issues:

- Installation of speed humps on streets with a rural cross-section and oil sealed/chip-seal surfaces.

IMPLICATIONS OF THE RECOMMENDATION(S):

General Implications:

	None
X	For the organization overall and/or other departments
	For the community and/or organizations external to the City
	Involves a multi-year phase in process

Comments: Extending the review period for the Haney Street speed humps will allow a more informed decision to be made regarding the use of speed humps on streets with a rural cross section and oil-treated/chip-seal surfaces.

Policy Implications:

[X] No
[ ] Yes

Comments: No change to the speed hump policy is recommended at this time.

Environmental Implications:

[X] No
[ ] Yes

Comments: There are no environmental implications associated with the recommendation of this report.

Human Resource Implications:

[X] No
[ ] Yes

Comments: There are no human resource implications associated with the recommendation of this report.

Financial Implications:

[X] Within approved current and/or capital budget
[ ] Current and/or capital budget adjustment needed

Comment: There are no financial implications associated with the recommendation of this report.

REPORT

REASON FOR THE REPORT:

At the January 13, 2003 meeting of the Standing Policy Committee on Public Works, the following motion was passed:

> 2. That speed humps continue to not be considered for use on gravel roads and that the practice of installing speed humps on local residential streets with oil treated/chip-sealed surfaces or with ditch drainage be reviewed in a report to the Standing Policy Committee on Public Works in spring 2003 following evaluation of the Haney Street speed hump experimental installation.

HISTORY:

On January 11, 2002, the Standing Policy Committee on Public Works approved a set of Warrant Criteria and Installation Guidelines for installing speed humps on local residential streets, which was adopted by Council on January 30, 2002. Following review of the Warrant Criteria and Installation Guidelines after the 2002 construction season, an amended set of Warrant Criteria and Installation Guidelines were approved by the Standing Policy Committee on Public Works on January 13, 2003 and subsequently adopted by Council on January 29, 2003. These are included in Attachment 1 at the end of this report.

DISCUSSION:

A set of three speed humps was installed on Haney Street between Eldridge Avenue and Ridgewood Avenue in September 2002 (see Figure 1). According to the approved Warrant Criteria and Installation Guidelines, speed humps are not recommended on streets with a rural cross-section (ditch drainage) due to concerns of motorists being able to simply drive around the speed hump without a defined edge of roadway provided by a curb. Another concern was installing speed humps on streets with oil treated/chip-seal surfaces (since the surface is softer, the concern was in obtaining sufficient adhesion between the speed hump and the road surface as well as the effect of snow clearing operations on the speed hump). In order to evaluate whether these concerns are valid, three experimental speed humps were installed on Haney Street. (To comply with the Warrant Criteria and Installation Guidelines, seven or eight speed humps would be required in this block at a spacing interval of approximately 100 metres. However, as this was an experimental installation, only three speed humps were installed.)

Advance “bump” signs with 30 km/hour advisory speed tabs were installed approximately 100 metres in advance of the first speed hump in each direction. Object markers were installed on both sides of each speed hump to mark their location on the roadway. Each speed hump has solid white triangular reflective pavement markings to further indicate their location on the roadway as per the Transportation Association of Canada’s Canadian Guide to Neighbourhood Traffic Calming.



Figure 1: Haney Street Speed Hump

Observations

Traffic Studies

Traffic studies were conducted before and after the installation of the speed humps in order to determine their effectiveness in reducing vehicle speeds. Attachment 2 at the end of this report summarizes the traffic studies conducted.

The traffic studies showed that vehicle speeds were effectively reduced in the section of the street with the speed humps. Vehicle speeds between Eldridge Avenue and the most northerly speed hump (a distance of approximately 250 metres) were reduced moderately while speeds between Ridgewood Avenue and the most southerly speed hump (a distance of approximately 350 metres) were relatively unchanged.

Traffic volumes were approximately 1,055 vehicles per day before the speed humps were installed and approximately 933 vehicles per day after. However, the opening of the Moray Street extension between Roblin Boulevard and Grant Avenue in late September 2002 was expected to result in a traffic volume reduction on Haney Street.

Traffic Safety

The City's On-Trac Motor Vehicle Collision Database shows no reported collisions on Haney Street between Eldridge Avenue and Ridgewood Avenue since the installation of the speed humps. The Public Works Department received only a few calls from concerned citizens after installation of the speed humps. Most of these individuals indicated they opposed speed humps in general. One individual called to report a family member had driven off the roadway after going over one of the speed humps under icy road conditions. However, this incident was not reported in the On-Trac system.

This Department has observed many motorists traversing the speed humps with one wheel on the shoulder. Evidence of repeated activity of this type is visible along the shoulders on either side of each speed hump. Figure 2: View of Speed Hump and Shoulder and Figure 3: Shoulder Immediately Past Speed Hump illustrate this.



Figure 2: View of Speed Hump and Shoulder


Figure 3: Shoulder Immediately Past Speed Hump

Streets Maintenance

There was no evidence that the snowplows had damaged the speed humps on Haney Street during the 2002/2003 winter season. However, Streets Maintenance indicates that due to less than average snowfall amounts, the plows were only on this street three times this year. They indicate that in years with an average or greater snowfall, the plows would be out more often and as a result, there may be more damage to these speed humps. Since this winter had less than average snowfall, a second winter season would be required to make any conclusion with respect to the concern regarding the effect of snowplowing operations on speed humps on this type of roadway.

The Streets Maintenance Division reports that snow-clearing time was increased as plow operators had to slow down as they approached each speed hump to avoid damaging the speed hump surface and/or the plow equipment. Similar concerns were expressed for the use of sand trucks. Although it was not observed this past winter because of below normal snowfalls, it was also indicated that the loss of momentum by the snowplow could result in a heavier windrow being left adjacent to the speed hump on streets with a rural cross-section, adding the requirement for a loader to then remove the windrow. This may increase the cost to plow streets with speed humps. Again, further experience under heavier snowfall conditions is required to verify these operational issues.

The effect of motorists traversing the speed humps with one wheel on the shoulder is “edge raveling” of the existing seal coat surface. (There is evidence of the road surface beginning to crumble away adjacent to the speed humps.) Streets Maintenance reports that as the edge breaks

away, it will eventually leave an abrupt drop-off and require hand placement of materials to repair. They estimate this work will cost approximately $500 per speed hump including restoration of the gravel shoulder. They indicate that this could be an annual cost for each speed hump on this type of road surface. However, with less than one year's experience with these speed humps, it is difficult to predict how frequent this maintenance will be required. There is also evidence of low spots on the shoulders on each side of the speed humps formed from vehicles traveling with one wheel on the shoulder. These may become of concern particularly if they deepen and fill with water. Again, more time would be required to assess this.

Small cracks were observed on the roadway which extend into the speed humps in some locations. The cracks in the speed humps were wider during the cold weather and have self-sealed with the warmer temperatures. It is expected that in the fall these will re-open. These may eventually be of concern if the cracks fill with debris before resealing the following spring. Streets Maintenance indicates that more time would be required to estimate the extent to which these cracks may compromise the integrity of the speed humps.

Streets Maintenance reports that these types of streets are resealed every 5 to 10 years. When the roadway is resealed, the speed humps will have to be removed and reinstalled following resealing or sections of roadway on each side of each speed hump will have to be cut out and patched over. Either option will result in an increased cost associated with resealing streets with this type of surface that have speed humps.

Emergency Response Services

Fire Paramedic Service reports that, as with speed humps installed on any street, their presence causes their vehicles to slow down, resulting in increased response times. As a result, they stress that speed humps should not be used on collector streets or emergency response routes.

Winnipeg Police Service indicates they have received no reports from their officers with any concerns about the speed humps on Haney Street.

Other

The resident at 806 Haney Street complained about vibration of his house following installation of the speed humps. The most southerly speed hump is installed just north of the north property line of 806 Haney Street (see Figure 4: 806 Haney Street). The homeowner indicated that the vibration occurs when a heavier vehicle such as a large truck goes over the speed hump. No similar concerns have been reported by any of the other residents of the street.



Figure 4: 806 Haney Street

Conclusions

The speed humps on Haney Street were effective in achieving reduced vehicle speeds (at least in the section of the block with the speed humps). However, the concerns regarding damage to the speed humps by snow plows, damage to the roadway due to vehicles driving over the speed humps with one wheel on the shoulder and general structural integrity (cracking) of the speed humps require at least a second winter season before an informed decision can be made with respect to the use of speed humps on these types of streets city wide. As a result the following recommendation is made:

Recommendation: That the speed humps on Haney Street be studied for another winter season before making any conclusions about future installations on oil-treated/chip-seal roadways with ditch drainage.

Financial Impact Statement **Date:** May 16, 2003

Project Name:

Installation of Speed Humps on Haney Street South of Eldridge Avenue

COMMENTS:

There is no financial impact to the city as the recommendation is to study the speed humps on Haney Street for another winter season before making any conclusion about future installations on oil-treated/chip seal roadways with ditch drainage.

approved by D.Stewart, CA
Manager of Finance & Administration

Approved by Divisional Accountant Trainee: ☒
In preparing this report, there was consultation with and concurrence by: Winnipeg Police Service, Emergency Response Services, The Streets Maintenance Division

This Report Submitted by:

Department: Public Works
Division: Transportation
Prepared by: D. Emerson, Community Traffic Engineer (986-5900)
Processed by: D. Thomas (986-2745)

ATTACHMENT 1

Speed Humps on Local Residential Streets:
Warrant Criteria & Installation Guidelines

(Approved by the Standing Policy Committee on Public Works on January 13, 2003 and adopted by City Council on January 29, 2003)

Warrant Criteria	1	The street is a local residential street with an urban cross-section* (curb and gutter) and is not a Transit route, snow route or a residential collector street.
	2	Submission of a petition representing a minimum of 70% of the residents in the block on both sides of the street supporting the installation of speed humps.
	3	At least one of the following criteria is met: (i) Average Speed exceeds the speed limit (50 km/hour); or (ii) At least 15% of vehicles exceed the speed limit by 5 km/hour or more (55 km/hour); or (iii) At least 10% of vehicles exceed the speed limit by 10 km/hour or more (60 km/hour).
Installation Guidelines	(i)	Speed humps shall be spaced at approximately 100 metre intervals according to the block length.
	(ii)	There shall be a minimum distance of 50 metres between a speed hump and an intersecting street or public lane.
	(iii)	Object markers shall accompany each speed hump and a "bump ahead" sign and advisory speed tab (30 km/hour) shall be placed in advance of each series of speed humps in a block (in both directions).
	(iv)	Speed humps should not be placed in front of driveways or installed over, or contain, manholes or water valves or be located adjacent to fire hydrants.
	(v)	In locating speed humps, existing street lighting should be taken advantage of as much as possible to increase nighttime visibility.
	(vi)	Speed humps should not be located in horizontal or vertical curves.
	(vii)	Speed humps should be placed at higher elevation points to accommodate proper drainage.
	(viii)	If possible, speed humps should be placed in line with property lines for noise abatement and aesthetic reasons.
	(ix)	Speed humps should not be placed on major emergency vehicle response routes.

* Speed humps are not recommended on streets with a rural cross-section (ditch drainage) because without a defined edge of roadway, motorists could avoid the speed hump by simply driving around them.

ATTACHMENT 2
Review of Traffic Conditions Before and After Speed Hump Installation[1]

	Before Study (April 2002)	After Study (October 2002)		
		Location 1[2]	Location 2[3]	Location 3[4]
85th Percentile Speed	60 km/hour	54 km/hour	41 km/hour	59 km/hour
50th Percentile Speed	50 km/hour	46 km/hour	33 km/hour	49 km/hour
Percentage of Vehicles Exceeding 50 km/hour	54%	37%	3%	45%
Average Weekday Traffic Volume[5]	1,055 vpd	933 vpd		

Notes:

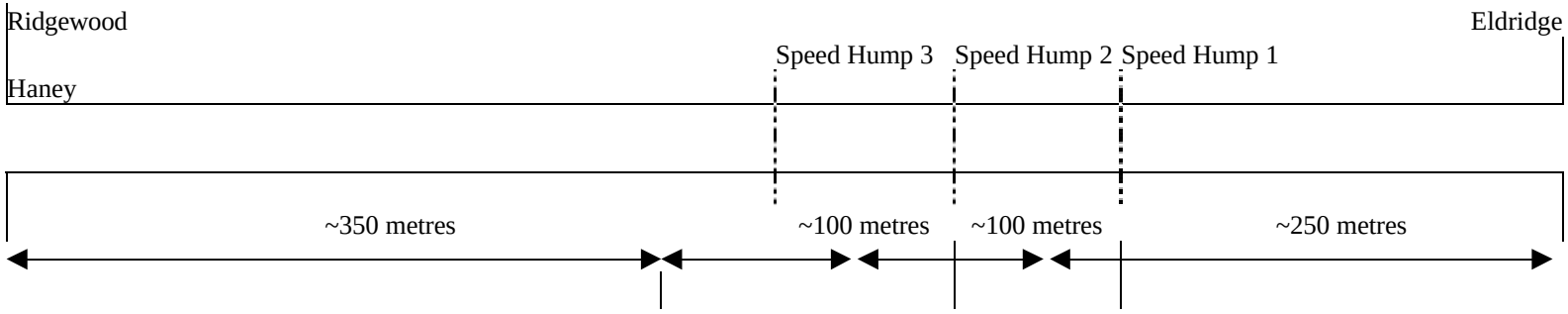
[1] 3 speed humps were installed on Haney Street in September 2002 at the following locations: (i) approximately 250 metres south of Eldridge Avenue, (ii) approximately 350 metres south of Eldridge Avenue, and (iii) approximately 450 metres south of Eldridge Avenue.

[2] Location 1 is approximately half way between Eldridge Avenue and the first speed hump south of Eldridge Avenue.

[3] Location 2 is approximately half way between Speed Hump 2 and Speed Hump 3.

[4] Location 3 is approximately half way between Ridgewood Avenue and the first speed hump north of Ridgewood Avenue.

[5] Difference in traffic volume shown before and after installation of speed humps cannot be attributed to speed humps as the Moray Street Extension from Roblin Boulevard to Grant Avenue opened in late September 2002.



North ⟶

(Not to Scale)