Agenda - Council - January 29, 2003

Report - Standing Policy Committee on Public Works - January 13, 2003

Item No. 3 Proposed Amendment - Procedure for Installing Speed Humps on Local Residential Streets
File ST (Vol. 4)

STANDING COMMITTEE RECOMMENDATION:

On January 22, 2003, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Public Works, as amended, requested Council to rescind its decision of January 30, 2002, and submits the following to Council:

1. That the Warrant Criteria and Installation Guidelines for the installation of speed humps on local residential streets be approved as follows:

Speed Hump Warrant Criteria:

A. 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.

B. 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.

C. At least one of the following speed 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).

Speed Hump Installation Guidelines:

A. Speed Humps shall be spaced at approximately 100 metre intervals according to the block length.

B. There shall be a minimum distance of 50 metres between a speed hump and an intersecting street or public lane.

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C. 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).

D. 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.

E. In locating speed humps, existing street lighting should be taken advantage of as much as possible to increase nighttime visibility.

F. Speed humps should not be located in horizontal or vertical curves.

G. Speed humps should be placed at higher elevation points to accommodate proper drainage.

H. If possible, speed humps should be placed in line with property lines for noise abatement and aesthetic reasons.

I. Speed humps should not be placed on major emergency vehicle response routes.

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 the evaluation of the Haney Street speed hump experimental installation.

3. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

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DECISION MAKING HISTORY:

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On January 22, 2003, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Public Works as amended, requested Council to rescind its decision of January 30, 2002, and submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On January 13, 2003, the Standing Policy Committee on Public Works concurred in the administrative recommendations, as amended, namely: that Speed Hump Warrant Criteria 1., 2., and 3 (i), as contained in the administrative report be concurred in and that Warrant Criteria 3. (ii) and (iii) be amended as follows:

- Amend Criteria 3. (ii) by deleting the word “30%” and substituting the word “15%”

- Amend Criteria 3. (iii) by deleting the word “15%” and substituting the word “10%”

That Speed Hump Installation Guidelines (i) through (ix) inclusive, as contained in the administrative report be concurred in.

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 the evaluation of the Haney Street speed hump experimental installation.

and submitted its recommendation to Executive Policy Committee and Council.

The Standing Policy Committee on Public Works also recommended that the Administration address concerns on Haney Street as well limit the installation to 3 speed humps on Charleswood Road in 2003, and in addition, directed that no further speed humps be installed on gravel roads until the existing ones are verified.

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COMMUNICATION:

Councillor Steek, River Heights Ward, submits a communication regarding a Centennial Street speed study conducted in April 2002.

STANDING COMMITTEE RECOMMENDATION:

On December 10, 2002, the Standing Policy Committee on Public Works directed that the Administration report back to the meeting scheduled for January 13, 2003.

On June 25, 2002, the Standing Policy Committee on Public Works directed the Administration to review the warrant criteria and installation guidelines with respect to the procedure for installing speed humps on local residential streets and give consideration to include other criteria such as cost-sharing with area residents in the form of a local improvement and installation on gravel roads.

COUNCIL:

On January 30, 2002, Council adopted the Warrant Criteria and Installation Guidelines pertaining to the Procedure for the Installation of Speed Humps on Local Residential Streets and further recommended that the policy be reviewed every two (2) years.

OG-02B

Public Works Department

Re: PROPOSED AMENDMENT - PROCEDURE FOR INSTALLING SPEED HUMPS ON LOCAL RESIDENTIAL STREETS

For submission to: **STANDING POLICY COMMITTEE ON PUBLIC WORKS**

Original report signed by: **J.A. Thomson, P. Eng., Director of Public Works**

Report date: **November 28, 2002**

In Camera item: ☐ **Yes** ☒ **No**

Recommendation(s):

1. That the *Warrant Criteria and Installation Guidelines* for installation of speed humps on local residential streets be amended as per the attachment.

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 the evaluation of the Haney Street speed hump experimental installation.

Report Summary

Key Issues:

Review of the *Warrant Criteria and Installation Guidelines* for installing speed humps on local residential streets approved by the Standing Policy Committee on Public Works on January 11, 2002 and adopted by Council on January 30, 2002.

Implications of the Recommendation(s):

General Implications

- ☒ None
- ☐ For the organization overall and/or for other Departments
- ☐ For the community and/or organizations external to the City of Winnipeg
- ☐ Involves a multi-year contract

Comment:

Policy Implications

☐ No
☒ Yes

Comment: Recommendation #1 amends the previously adopted policy for installation of speed humps on local residential streets.

Financial Implications

☒ Within approved current and/or capital budget
☐ Current and/or capital budget adjustment required

Comment: There is no related financial impact to the recommendations outlined in this report.

Report

Recommendation(s):

1. That the *Warrant Criteria and Installation Guidelines* for installation of speed humps on local residential streets be amended as per the attachment.

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 the evaluation of the Haney Street speed hump experimental installation.

Reason for the Report:

At the June 25, 2002 meeting of the Standing Policy Committee on Public Works, the following motion was passed:

> *That the Administration be directed to review the warrant criteria and installation guidelines with respect to the procedure for installing speed humps on local residential streets and give consideration to include other criteria such as cost-sharing with area residents in the form of a local improvement and installation on gravel roads.*

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. These were subsequently adopted by City Council on January 30, 2002. The 2002 construction season was the first year of the speed hump installation program for streets and provided an opportunity to assess the effectiveness of the existing set of *Warrant Criteria and Installation Guidelines*.

Discussion:

The *Warrant Criteria and Installation Guidelines* for installing speed humps on local residential streets approved by the Standing Policy Committee on Public Works on January 11, 2002, and subsequently adopted by City Council on January 30, 2002, are summarized below:

Warrant Criteria

Warrant #1: Submission of a petition representing a minimum of 70% of the residents on both sides of the street in the block in question supporting the installation of speed humps.

Warrant #2: Speed studies indicating a minimum 85th Percentile Speed* of 60 km/hour.

Warrant #3: A minimum block length of 200 metres.

Warrant #4: The street is a residential street with an urban cross-section (curb and gutter)** and is not a Transit route, snow route or a residential collector street.

Installation Guidelines

(i) Speed humps shall be placed in series for blocks longer than 300 metres in length and where placed in series, shall be spaced at approximate 100 metre intervals.
(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.

Review of Existing Warrant Criteria & Installation Guidelines

Warrant #1: Resident Support Requirement

* The 85th Percentile Speed is a common transportation engineering indicator which refers to the speed at which 85% of vehicles are traveling at or below. An 85th Percentile Speed of 60 km/hour or greater in a residential area clearly demonstrates the existence of a speed problem.
** 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.

A signed petition representing at least 70% of the residents in the block in support of having speed humps installed on the street is necessary to ensure a strong majority of residents in favor of speed humps and therefore, no changes to this warrant are recommended.

Warrant #2: Speed Criteria

In developing the existing warrant criteria, consideration was given to ensuring that speed humps are only approved for use on local residential streets with demonstrated speeding problems. The speed criteria was set at an 85th Percentile Speed of 60 km/hour. This refers to a level of at least 15% of motorists travelling 60 km/hour or faster (85% travelling less than 60 km/hour). This level would clearly indicate a speeding problem on local residential streets.

In the first year of the speed hump program, it has become evident that the current speed threshold below which speed humps will not be approved (as described above) is perceived by the public as too restrictive. In addition, it appears that some people misinterpret this warrant to mean that it is only met when 85% of the traffic is traveling 60 km/hour or faster rather than when 15% are traveling 60 km/hour or faster. In considering revisions to the existing warrant criteria, it is recognized that caution must be exercised so as to not create a policy which would result in streets which do not have a speeding problem becoming eligible for installation of speed humps. Therefore, the objectives for revising the speed warrant for installation of speed humps are as follows:

(i) To create warrant criteria that are easier to understand,
(ii) To create a more flexible warrant system for identifying which streets qualify, and
(iii) To develop a system for determining whether a street has a speeding problem.

Since speeding is defined as exceeding the legal speed limit, it is reasonable that the speed limit be used as a basis for establishing a warrant system. (A discussion on the current urban speed limit is provided below under the heading “Additional Considerations”.) However, it would not be reasonable or financially feasible to suggest that a street become eligible for speed humps if there is any amount of traffic which exceeds the speed limit. Therefore, it is necessary to consider either the speed of the majority of traffic on the street and/or the severity of the speeding occurring (amount over the speed limit). Considering this, and through a review of the practices of other jurisdictions, the following is a proposal to create a more flexible and understandable warrant system based on identifying which streets have speeding problems and could therefore, benefit by having speed humps installed.

1. Average Speed exceeds the speed limit (50 km/hour); <u>or</u>

2. At least 30% of the vehicles exceed the speed limit by 5 km/hour or more (55 km/hour); or
3. At least 15% of the vehicles exceed the speed limit by 10 km/hour or more (60 km/hour).

There are three possible ways the speed warrant can be met. This is to (i) increase the flexibility of the warrant system and (ii) ensure that both the amount of traffic speeding and the level of the speeding occurring (amount over the speed limit) are considered. In order to become eligible, a street would only have to meet one of the three speed warrants.

The first speed warrant was developed on the basis that an average speed greater than the speed limit would suggest the existence of a general speeding problem on the street (approximately half of the traffic exceeding the speed limit by any amount). The second warrant is suggested in order to capture streets for which the speeding may not be by an excessive amount (5 km/hour over the speed limit), but the occurrence of speeding is moderately high (30% of motorists). The third warrant is suggested in order to capture streets for which speeding may be less frequent (only 15% of motorists), but the level of speeding is great (10 km/hour over the speed limit).

The combination of the three speed warrants is expected to cover speeding problems ranging from streets where the overall speed of most traffic is in excess of the speed limit (an therefore, constitutes “speeding”), to streets with a moderate amount of traffic speeding by a moderate amount and finally, to streets with a small amount of traffic speeding by a significant amount.

Warrant #3: Block Length Requirement

In the first year of the speed hump program, many residents suggested that the minimum block length criteria was too restrictive. The minimum block length of 200 metres was included to further ensure that speed humps are only approved for streets where there is a speeding problem (since it is difficult to achieve high speeds in shorter distances). However, since levels of speed are already part of the warrant system, the block length criteria is redundant. Therefore, it is recommended that the block length criteria be deleted from the warrant criteria entirely.

Warrant #4: Type of Street

It is not recommended that any change be made to the exclusion of Transit routes, snow routes or residential collector streets. (Speed humps are not recommended on Transit routes due to potential impacts to Transit vehicles and rider comfort. They are not recommended on snow routes because of their role as emergency response routes and potential damage to snow clearing equipment. They are not recommended on residential collector streets because of the higher volumes of traffic these streets carry and their role as emergency response routes).

Discussion of the appropriateness of speed humps on streets with ditch drainage is provided below under the heading “Additional Considerations”.

Installation Guidelines

The wording of the first Installation Guideline (see page 4) should be revised to clarify the intent of this guideline, as follows:

> *Speed humps shall be placed in series at approximate 100 metre intervals according to the block length.*

No other revisions are suggested for any of the other Installation Guidelines.

Additional Considerations

Review of Speed Hump Installations on Streets Other Than Concrete Roadways

Speed humps are not recommended on gravel roads, as there is no means by which to adhere the speed hump to the gravel surface. The Public Works Department is currently undergoing an experimental installation of three speed humps on Haney Street to determine whether speed humps are appropriate for streets with oil treated/chip-seal surfaces and ditch drainage. Speed studies conducted on Haney Street between Eldridge Avenue and Ridgewood Avenue indicated an 85th Percentile Speed of 60 km/hour. Due to the length of the block, eight speed humps would be required to complete a speed hump installation at this location. However, only three speed humps were installed in September 2002 on an experimental basis in order to assess the validity of concerns related to adhesion to the road surface, effect of snow clearing equipment and motorists driving around the speed humps due to there not being a defined edge of roadway. In spring 2003, an evaluation will be completed to assess the validity of these concerns and a report will be submitted to the Standing Policy Committee on Public Works with the findings. Should the concerns not be proven valid, a recommendation will be made that the remaining speed humps in this block be installed to complete the installation

Cost Sharing With Area Residents

Without a speed warrant criteria, allowing residents the option of paying for or sharing in the costs to have speed humps installed on their street would create a potential for streets that do not have an actual speeding problem to receive speed humps. Since speed humps are not intended to address issues other than speeding, installing them where there is no real speeding problem is not recommended.

Also, the potential would exist for streets in more prosperous areas with less actual speeding to get speed humps while streets with comparatively higher speeds in less prosperous areas would not.

For these reasons, it is not recommended that a program be established through which residents can opt to pay for or cost share the installation of speed humps.

50 km/hour Urban Speed Limit

The Province of Manitoba Highway Traffic board has jurisdiction over speed limits within the City of Winnipeg. All streets in the City have a speed limit of 50 km/hour unless otherwise posted. All local residential streets in Winnipeg have a speed limit of 50 km/hour. The Board has previously taken the position that the maximum speed limit should be maintained at 50 km/hour stating that there is no evidence to suggest that a lower speed limit is safer or would be complied with. Many studies of the impact of lower residential speed limits conducted in cities throughout North America have shown that lower posted speed limits have very little effect on travel speeds, drivers do not significantly change their driving habits when speeds are reduced and unrealistically low speed limits invite violation by responsible drivers and are portrayed as “speed traps” by the public.

As part of the research into warrant criteria for installing speed humps on local residential streets, this Department conducted an informal e-mail canvas of other Canadian jurisdictions to determine what urban speed limits have been established in other Canadian jurisdictions. Based on this research, the accepted residential speed limit in Canadian urban jurisdictions appears to be 50 km/hour. Some jurisdictions post school and playground zones at 30 km/hour or 40 km/hour (some of which are only in effect Monday to Friday during school hours while school is in session). The City of Hamilton recently passed a new policy for speed limits as follows: all residential streets are 50 km/hour unless otherwise posted with the exception of streets meeting specific criteria (no sidewalks, substandard geometry with evidence of collision problems, or around schools) which are posted at 40 km/hour. Representatives from the City of Ottawa indicated that they have some residential streets with posted 40 km/hour speed limits due to pre-existing by-laws that had been passed prior to the amalgamation of several municipalities into the current City of Ottawa. They have conducted speed studies and determined that operating speeds are virtually the same on their residential streets with 40 km/hour and 50 km/hour speed limits.

Speed Humps and Volume of Traffic

As defined by the Transportation Association of Canada in their *Canadian Guide to Neighbourhood Traffic Calming*, “the purpose of a speed hump is to reduce vehicle speeds.” Speed humps are not intended to, nor is their evidence to suggest that they, effectively reduce traffic volume on a street. In Winnipeg, to date, there have been two installations of speed humps on public streets, Thatcher Drive and Haney Street. In the case of Thatcher Drive, weekday traffic volumes ranged from 760 to 820 vehicles per day before the speed hump installation (based on two studies) and 790 to 825 vehicles per day after (based on several studies). Therefore, traffic volumes remained relatively

constant. On Haney Street, weekday traffic volumes were 1,055 vehicles per day and 933 vehicles per day before and after installation of speed humps, respectively. It is noted that it is normal for daily traffic volumes to fluctuate due to the effect of seasonal considerations. Also, the extension of Moray Street from Roblin Boulevard to Grant Avenue was opened during the fall of 2002 when the speed humps were installed on Haney Street. The opening of the extension may have had some effect on traffic volumes on Haney Street. Therefore, since the volume change was relatively small and the extension of Moray Street may have had some effect on traffic volumes on Haney Street, it does not appear that installing speed humps had any significant effect on traffic volume.

Revised *Warrant Criteria and Installation Guidelines*

A revised *Warrant Criteria and Installation Guidelines* reflecting the above recommendations is proposed in the attachment entitled *Speed Humps on Local Residential Streets: Warrant Criteria & Installation Guidelines*.

Recommendations

1. That the *Warrant Criteria and Installation Guidelines* for installation of speed humps on local residential streets be amended as per the attachment.

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 the evaluation of the Haney Street speed hump experimental installation.

In preparing the report, there was consultation with and concurrence by: n/a

This Report Submitted by:

Department:	Public Works Department	
Division:	Transportation Division	
Prepared by:	Diana Emerson, Community Traffic Engineer	Phone No: 986-5900
Processed by:	Suzanne Hillyard.....	Phone No: 986-2744
File name:	SPEED HUMP REPORT - 1102.DOC	

Speed Humps on Local Residential Streets:
Warrant Criteria & Installation Guidelines
(Revised November 2002)

Speed Hump 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 speed criteria is met: (i) Average Speed exceeds the speed limit (50 km/hour); or (ii) At least 30% of vehicles exceed the speed limit by 5 km/hour or more (55 km/hour); or (iii) At least 15% of vehicles exceed the speed limit by 10 km/hour or more (60 km/hour).
Speed Hump 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.

Financial Impact Statement

Date: December 16, 2002

Project Name: Proposed amendment - procedure for installing speed humps on local residental streets

COMMENTS:

The recommendations outlined in this report have no financial impact to the City at this time. The recommended changes to the policy will not result in any additional costs over the existing costs of the Warrant Criteria and Installation Guidelines.

Original approved by Darcy Stewart, CA
Manager of Finance & Administration

Approved by Divisional Accountant Trainee: ✔

Centennial Street

Date of speed study-April 2002

* Total number of vehicles daily-	**2450**
*Total number of vehicles travelling 55-59K 16%	**392**
*Total number of vehicles travelling 60K+ 7%	**171**
Therefore: total number of vehicles exceeding limit daily-	**563**
*Average number per hour speeding-	**24**
*Total traffic volume-	**2450**
* Volume between 12-6 pm-	**1632**
* % of total traffic-	**66**
* Number of cars per 6 hour (12-6pm) 1632/6-	**371**
* Number of cars speeding per hour (12-6pm)-	**62**