Supports Item No. 1
T&T Committee Agenda
May 16, 2006

CITY OF **VANCOUVER**

ADMINISTRATIVE REPORT

Date:	April 21, 2006
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Meeting Date:	May 16, 2006

TO: Standing Committee on Transportation and Traffic

FROM: General Manager of Engineering Services

SUBJECT: Annual Speed Hump Installation Program, 2006

RECOMMENDATION

A. THAT speed humps be installed on the local residential streets specified in this report subject to approval from a resident survey, with funding of $135,000 from the Local Area Traffic Plans and Other Improvements program (A5a), subject to approval of the 2006 Streets Basic Capital Budget.

B. THAT commencing in 2007, the Traffic Operating Budget be increased by $4,000, subject to review as part of the 2007 Operating Budget without offset.

COUNCIL POLICY

In November 1999, Council approved an annual speed hump installation program that would identify the highest ranking local, residential street segments for speed hump installation.

PURPOSE

This report seeks approval and funding for the 2006 Annual Speed Hump Installation Program. It identifies the proposed speed hump locations and outlines a method for public consultation.

BACKGROUND

In 1999 the City completed the Speed Hump Pilot Project. The results of that project indicated that speed humps are an effective device for decreasing speeds on local residential streets while not diverting traffic to other streets. In the subsequent six years, Council has approved the installation of speed humps on 155 street segments throughout the city.

Prior to and following the installation of speed humps in 2001, traffic was monitored on the street segments which received speed humps, as well as on adjacent streets. In every location where speed humps were installed, speeds were reduced. A typical school or playground zone which previously had an 85th percentile speed over 50 km/h has seen this reduced to between 30 and 40 km/h. Residential streets which had 85th percentile speeds over 60 km/h now experience speeds between 40 and 50 km/h.

Diversion of traffic to adjacent residential streets is often a concern when implementing traffic calming measures. Traffic data collected before and after the installation of speed humps in 2001 show that, in the vast majority of applications, speed humps produce no appreciable diversion of traffic to adjacent streets.

The process for selecting the eligible street segments for speed humps involves receiving a complaint by a resident, conducting a follow up speed check at the location in question and using an objective ranking system. To date a total of 1775 speed checks have been conducted in response to resident requests and imputed into the Speed Hump database, where each segment is assigned a rank. Each year, the top 30 ranked segments become eligible for speed humps pending Fire and Rescue Services, Council, and resident approval.

In order to choose the streets to receive speed humps, an objective scoring calculation is used, adapted from a successful program in Portland, Oregon (see Appendix A). This calculation was approved by Council in November 1999 and used to identify the priority, or top ranked, streets for speed hump installation. The calculation considers the number and speed of vehicles using the block, as well as attributes of the street, such as nearby pedestrian generators or its status as a greenway or bikeway. The speed measure used is the 85th percentile speed.

DISCUSSION

Twenty four street segments are recommended for speed hump installation this year. Of these segments, 13 are adjacent to parks and 11 are in school zones. All 24 segments are in 30 km/h school or playground zones. Table 1 on the following page lists the street segments with information about their ranking and the approximate number of humps to be installed.

Two highly ranked street segments, Trimble Street between W 8th Avenue and W 6th Avenue, and Chestnut Street between Greer Avenue and Cornwall Avenue have been omitted from the list of recommended sites at the request of Fire and Rescue Services. These streets receive frequent use by emergency vehicles and the installation of speed humps would interfere with timely response to emergencies.

Experience shows that speed humps rarely produce significant diversion of traffic to adjacent streets. However, staff recommend that traffic volumes be monitored before and, where diversion of traffic is suspected, after the installation of speed humps and that they report back in the case that diversion of traffic is observed.

Street Segment	Score	85th Percentile Speed	Traffic Volume (veh/day)	Estimated Number of Speed Humps
East 7th , Kaslo to Renfrew	166	55 km/h	1200	2
East 48th, Killarney to Raleigh	155	54 km/h	1200	2
Sidney, E 23rd to E 25th	114	52 km/h	2400	2
Dumfries, E 33rd to E 36th	106	50 km/h	2000	3
West 26th, Laurel to Willow	99	51 km/h	1300	2
Mclean, Frances to Adanac	80	48 km/h	800	4
Pender, Princess to Heathley	74	44 km/h	900	2
Camosun, W 27th to W 29th	72	48km/h	700	2
East 32nd, Main to Sophia	68	48 km/h	800	2
Taunton, Euclid to McHardy	59	48 km/h	400	2
Maple, W 45th to W 46th	59	46 km/h	900	4
East 8th, St. George to Prince Edward	59	44 km/h	1200	3
Commercial, E 49th to E 50th	58	42 km/h	3700	2
Ross, E 59th to E 61st	58	45 km/h	1700	3
Nootka, E 22nd to E 19th	58	43 km/h	1700	4
East 37th, Nanaimo to Clarendon	57	46 km/h	900	3
Dumfries, E 27th to King Edward	57	47 km/h	700	2
Prince Edward, E 50th to E 51st	56	45 km/h	900	3
Camosun, W 17th to W 18th	56	46 km/h	600	2
McKinnon, Euclid to Kingsway	55	46 km/h	1100	2
West 43rd, Yew to West Boulevard	54	46 km/h	800	2
Price, McHardy to Joyce	52	46 km/h	600	2
Dumfries, E 19th to E 20th	52	44 km/h	1000	2
Maddams, E 14th to E 15th	52	44 km/h	1300	2

Table 1: Proposed Speed Humps Locations, 2006

Resident consultation and subsequent approval is an important part of the Speed Hump program. Staff propose that all residents living on the same street segments as the proposed speed humps be surveyed for their opinions. The surveys would ask two questions (see Appendix C for an example) about whether the residents are concerned about a speeding problem on their street and whether they approve of speed humps. Installation of speed humps on each street segment will be subject to a survey response rate greater than 30% and an approval rate greater than 50%. Staff recommend that speed humps be installed on all of the proposed streets that meet these criteria and that staff report back on any locations that do not for further consideration.

Of the more than 100 residential blocks which were surveyed as part of the 2000 through 2003 Speed Hump Programs, six did not support the installation of speed humps. In 2004 and 2005, all the recommended speed humps were supported by local residents and have been installed.

FINANCIAL IMPLICATIONS

The estimated capital cost of installing speed humps, as specified in this report, is $135,000 for the 24 proposed locations. This includes the construction of the asphalt humps, paint markings on the asphalt humps, signage, traffic monitoring and public consultation. Funding is to be provided from the Local Area Traffic Plans and Other Improvements program (A5a), subject to approval of the 2006 Streets Basic Capital Budget.

In addition to the capital costs for this project there will be maintenance costs associated with the signing and paint marking of the speed humps. Staff recommend that the Traffic Operating Budget be increased by $4,000 per annum, subject to review in the 2007 budget process.

CONCLUSION

Speed humps are an effective means by which to slow vehicles on local streets and the locations identified in this report are the highest ranking, highest priority locations, in accordance with the ranking system approved by Council in November 1999. Staff recommend that speed humps be installed in 24 locations, subject to resident approval. Staff will report back on any locations that are not approved by the survey and will monitor traffic on subject and adjacent streets.

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APPENDIX A - SPEED HUMP SAMPLE SCORE CALCULATION

e.g. Vanness Avenue 3400 block

Raw Data

Sample size =	98 vehicle speeds
Average Daily Traffic (ADT) volume =	3000
85th percentile speed (calculated) =	52 km/h
Design speed limit =	40 km/h

Primary Score

Speed Points:
3 points for each km/h over 8 km/h above the design speed (max. 50)
(52 - (40 + 8)) x 3 = 12 points

Volume Points:
1 point for every 100 vehicles ADT
(3000/100) = 30 points

Primary subtotal = **42 points**

Is the primary subtotal greater than 40? If NO, Stop.
If YES, proceed to secondary scoring.

Secondary Score

Additional Speed Points for **excessive speed**
(percentage of vehicles travelling over
16 km/h above the design speed)
percent travelling > 40 + 16 = 56km/h) : 8% 8 points

5 points for each school zone (maximum 10) 0 points

5 points for each pedestrian generator (maximum 15)
(2 pedestrian generators SkyTrain Station and retail area) 10 points

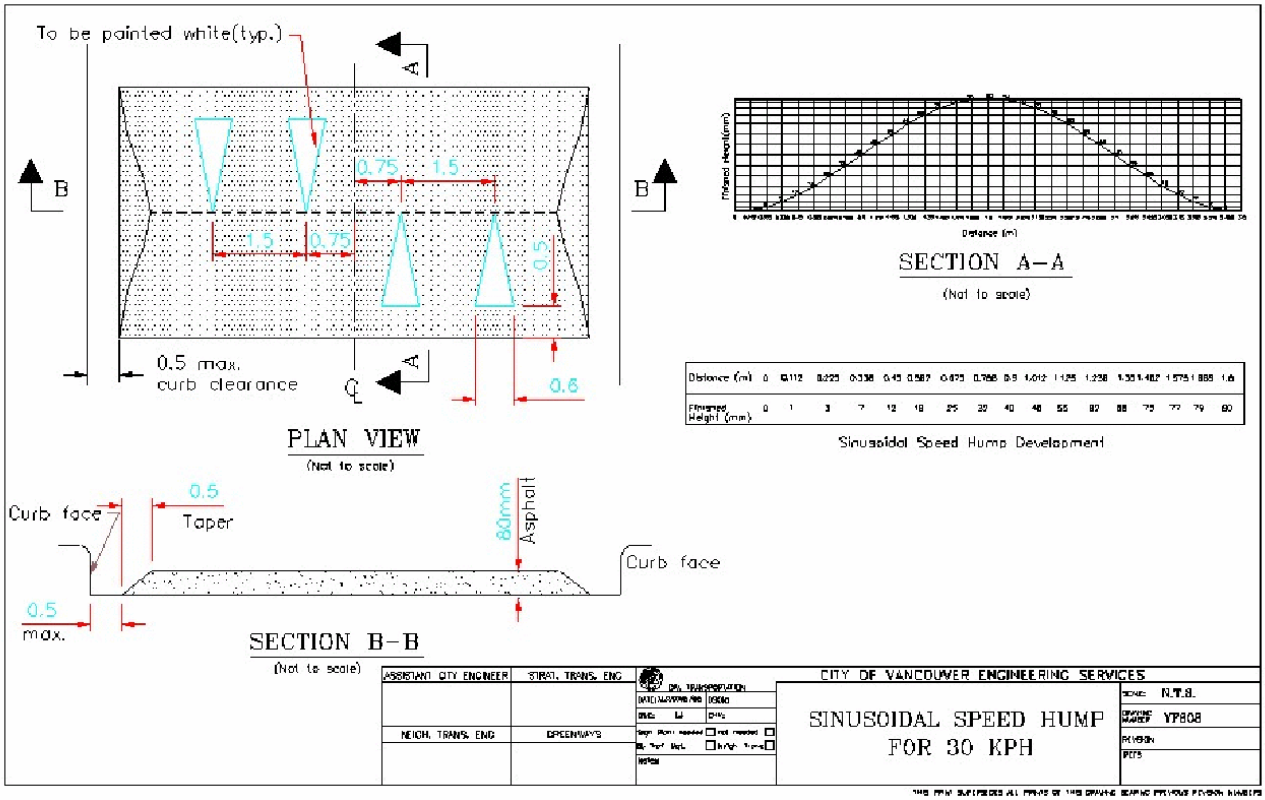
5 points if adjacent to a Greenway (is part of the BC Parkway) 5 points

5 points if the street segment is part of a Bikeway 5 points

5 points if the street segment lacks a continuous sidewalk 5 points

Secondary subtotal = **33 points**

TOTAL SCORE (Primary + Secondary) = **75 points**


To be painted white(typ.)
A
B
0.75
1.5
1.5
0.75
0.5
0.5 max.
curb clearance
0.6
PLAN VIEW
(Not to scale)
Distance (m)
SECTION A–A
(Not to scale)
Distance (m) 0 0.112 0.225 0.338 0.45 0.562 0.675 0.788 0.9 1.012 1.125 1.238 1.35 1.462 1.575 1.688 1.8
Finished Height (mm) 0 1 3 7 12 18 25 32 40 48 55 62 68 73 77 79 80
Sinusoidal Speed Hump Development
Curb face
0.5
Taper
80mm
Asphalt
Curb face
0.5
max.
SECTION B–B
(Not to scale)
ASSISTANT CITY ENGINEER
STRAT. TRANS. ENG
NEIGH. TRANS. ENG
GREENWAYS
CITY OF VANCOUVER ENGINEERING SERVICES
SINUSOIDAL SPEED HUMP
FOR 30 KPH
N.T.S.
YP808

CITY OF **VANCOUVER**
ENGINEERING SERVICES
Neighbourhood Transportation

May 2006

Dear Resident:

RE: Speed Hump Program

This survey seeks your opinion of vehicle speed on your street and whether or not you approve of the installation of speed humps.

Speed humps are proven as an effective means by which to decrease vehicle speeds on local, residential streets. In response to a neighbourhood complaint about speeds on your street, the City has taken field measurements and confirmed that vehicle speeds are high on your street and that your street is a good candidate for speed humps. City Council has therefore approved speed humps for your street, **subject to your approval**.

At least 30% of the residences on your street must respond to this survey and 50% of the responses must support the installation of speed humps. Should you approve speed humps, you can expect them to be placed 50-70 m (160-230 ft) apart. They should not affect parking. A typical design showing the dimensions of the humps is shown on the reverse side of this letter, for your information.

The Speed Hump Program is funded by the City of Vancouver's capital budget and funding for the construction of the speed humps will not increase your taxes.

Please give this survey your consideration and return it in the addressed, postage paid envelope provided by **June 9, 2006**. Alternatively, you may fax the completed survey to 604-871-6192. Your name and address must be included on the survey in order to validate your response; however, individual replies will be kept confidential.

The results of this survey will determine whether speed humps will be installed on your street. If you have any questions about speed humps in general, or how they will be installed on your street, please call me at 604-873-7343 or e-mail me at david.rawsthorne@vancouver.ca.

Yours truly,

David Rawsthorne, P.Eng.
Neighbourhood Transportation Branch