REPORT
1996 June 17

CITY OF BURNABY

TRAFFIC AND TRANSPORTATION COMMITTEE
(TRAFFIC SAFETY DIVISION)

HIS WORSHIP, THE MAYOR
AND COUNCILLORS

F. EXPERIMENTAL SPEED BUMPS ON ELWELL STREET

RECOMMENDATIONS:

1. ***THAT*** Council authorize the modified low profile speed bump as discussed in this report to be further tried on a one year experimental basis, on local collector streets that are not bus routes.

2. ***THAT*** the speed bump installations be fully resident funded through the Local Improvement Program process unless otherwise directed by Council.

3. ***THAT*** a copy of this report be sent to Ms. Shairry Tanquary of 7607 Elwell Street, Burnaby, B.C.

REPORT

The Traffic and Transportation Committee (Traffic Safety Division), at its meeting held on 1996 June 04, adopted the *attached* staff report reviewing the testing of experimental low profile speed bumps on Elwell Street. The report concluded by recommending further testing of modified low profile speed bump installations on local collector streets which are not bus routes.

MEMBERS:

Mr. N. Smith
Mr. M. Bloomfield
Mrs. M. Canessa
Mr. E. Fourchalk
Ms. L. Kapp
Mrs. D. Mumford
Mr. D. Ramsbotham
Mr. D. Richardson
Mr. A. MacDonald

Respectfully submitted,

Councillor J. Young
Chairman

Councillor D. Evans
Member

: COPY - CITY MANAGER
- DIRECTOR ENGINEERING
- DIR. PLNG. & BLDG.

City of Burnaby

INTER-OFFICE MEMORANDUM

TO: TRAFFIC SAFETY COMMITTEE **DATE:** 1996 05 27

FROM: ASST. DIRECTOR ENGINEERING, TRAFFIC AND ENGINEERING SYSTEMS **FILE:** 50 01 10

SUBJECT: EXPERIMENTAL SPEED BUMPS ON ELWELL STREET

PURPOSE: To review the testing of an experimental low profile speed bump design to determine its applicability to local collector streets.

RECOMMENDATION:

1. That the modified low profile speed bump as discussed in this report be further tried on a one year experimental basis, on *local* collector streets that are not bus routes.

2. That the speed bump installations be fully resident funded through the Local Improvement Program process unless otherwise directed by Council.

3. That a copy of this report be sent to Ms. Shairry Tanquary of 7607 Elwell Street, Burnaby, B.C.

REPORT

1.0 INTRODUCTION

Early in 1995 the Traffic Safety Committee received a report on the post implementation evaluation of the "Speed Hump Test Program". Subsequently on 1995 April 10 Council adopted this committee's recommendations arising from the report as follows:

"1. THAT the speed hump test program be extended for one year of further evaluation as discussed in this report.

2. THAT the speed hump installations be fully resident funded through the Local Improvement Program petition process unless otherwise directed by Council.

3. THAT any further applications of speed humps be restricted to *local* residential streets that are not transit routes.

4. THAT a test installation of lower profile bumps on a minor local collector street be carried out for evaluation purposes subject to residential support.

5. THAT a copy of this report be sent to the Transportation and Transit Division of the Committee for consideration relative to Community Transportation Plan initiatives."

On the basis of recommendations 3 and 4 Council at a later date approved the testing of low profile speed bumps on Elwell Street between Canada Way and Humphries.

In October of 1995 staff reported that "after these low profile bumps were installed we received a number of complaints regarding these bumps from residents on tributary streets to Elwell Street, as well as Elwell Street. While the Elwell residents indicated they were pleased with the bumps others noted that they were much too abrupt and inappropriate for a collector street.

In our initial report regarding speed bumps we noted that the standard hump profile that we had tested on local residential streets was too abrupt a device to be considered a passive enforcement of the 50km/h urban speed limit. It was hoped that the lower profile bump would provide for the appropriate speed control on local collector streets without compromising street function of safety."

Our asphalt crews revisited Elwell Street to "feather" out the 4 western most bumps (at the Canada Way end) on Elwell. Subsequently Elwell was field tested by B.C. Transit to determine the acceptability of the bumps from their operations perspective and more recently a survey was carried out of Elwell Street residents as well as those residing on tributary streets. Staff also carried out a number of automatic counts to determine speeds and traffic flows and solicited anecdotal observations from persons "driving" the bumps. This report summarizes this evaluation exercise.

2.0 TRANSIT USAGE

B.C. Transit used a regular bus with an experienced operator to drive the bumps along Elwell at varying speeds. As passengers the bus carried management staff from B.C. Transit head office and the Burnaby operating centre and representatives of the Union and local Safety Committee as well as Burnaby staff. The consensus, by B.C. Transit was that even the feathered low profile bumps on Elwell were considered unacceptable for safe operations.

3.0 RESIDENT SURVEY

In March of this year we surveyed the residents along Elwell and tributary streets including Noelani, Koala, Humphries, Rosewood, Hersham and Acacia. The survey was introduced by the letter attached as Exhibit "A". Approximately 50% of Elwell Street residents responded to the survey (a very high rate of return for a mail back questionnaire) while only 20% of side street residents replied (a more typical response rate). The results of the survey are tabulated in Exhibit "B". Our commentary relative to the questionnaire responses is as follows:

Question 1 Perhaps not surprisingly Elwell Street residents observed that traffic on Elwell had decreased while tributary street residents were split as to whether traffic on their street had remained the same or had increased.

Question 2 Only a minority of residents thought the speed bumps had a traffic calming effect that extended beyond Elwell itself.

Question 3 A majority of respondents expressing a preference (even on Elwell Street) thought the "feathered" speed bumps to be more appropriate. Only 12% of total respondents were unhappy with either of the bumps.

Question 4 Because these low profile bumps were closer together than the standard speed humps employed elsewhere we only signed the entry points to the project and not each individual bump. This was thought to be adequate by most respondents with only a few people suggesting more or less signing and marking.

Question 5 The majority of Elwell Street respondents (70%) and almost half of the side street respondents were satisfied/very satisfied with the project. Less than a quarter of the respondents, drawn almost exclusively from side streets, were dissatisfied/very dissatisfied with the project.

4.0 TRAFFIC SPEED AND FLOW

Our review of traffic data is inconclusive as to the effect of the speed bump in reducing traffic on Elwell. There has been a reduction in traffic on Elwell but most of this has accrued from the concurrent turn restrictions implemented at Canada Way.

The data on vehicle speeds does not show a significant difference in the behaviour of drivers between the feathered low profile bumps and the remaining original profile bumps installed (east of Humphries). This may be due to drivers not realizing the difference between the bumps as our field tests indicate that the feathered bumps have a lesser impact than the initial installations. Our observations of driver behaviour indicate that many drivers overreact and slow to a rolling stop before proceeding over the bumps. Our measurements of speed indicate that the median speed of vehicles between bumps is under 30km/h with less than 5% of drivers exceeding 40km/h.

5.0 DISCUSSION/CONCLUSION

Our evaluation of the low profile speed bumps on Elwell tends to indicate that they are not effective in meeting our objective of limiting vehicle speeds to the urban speed limit of 50 km/h but not overly curtailing travel speeds. The data gathered suggests that these bumps enforce a notional speed limit of 30 km/h or less. Thus they would be effective in park zones or even on minor local streets but not necessarily on collector streets.

However there is scope and merit for some further testing and investigation. This would include added effort to moderate the bump effect at installation. We would also propose increasing the distance between bumps.

Accordingly we recommend further testing of modified low profile speed hump installations on the same limited experimental basis as Council's previous approval for the trial extension of the "standard" speed hump program(Section 1.0).

We do not recommend any expenditure on removal or modification of the low profile bumps on Elwell as the residents are content with them.

ASST. DIRECTOR ENGINEERING,
TRAFFIC & ENG. SYSTEMS

PL:lm

cc: City Manager

EXHIBIT A

City of Burnaby

4949 Canada Way, Burnaby, B.C. V5G 1M2
Engineering Department

Telephone: (604) 294-7460
Fax: (604) 294-7425

File:

1996 03 25

Dear Resident:

Re: Elwell Street Speed Bumps

Last year we placed 8 experimental speed bumps on Elwell Street between Canada Way and Humphries. Our objective was to test a speed bump design that slowed traffic but was more "gentle" than the larger speed bumps we've used on local residential streets.

To better meet this objective, we subsequently modified the 4 bumps at the Canada Way end of Elwell. We are now asking for feedback on this project from Elwell street residents as well as other residents in the neighbourhood who use Elwell to access their street.

Please take the time to fill in the questionnaire on the reverse side and return it to us. Any additional comments that you may have on this test project would be most welcome. Thank you for your help.

Yours truly,

W.C. Sinclair, P. Eng.
DIRECTOR ENGINEERING

by: P. Liivamagi, P. Eng.
ASST. DIRECTOR ENGINEERING,
TRAFFIC & ENGINEERING SYSTEMS

PL:nh

EXHIBIT B: ELWELL SPEED BUMP SURVEY RESULTS

Question	Elwell	Side Streets	Total
1. "Has the traffic on your street changed since the bumps were installed?"			
Decreased	20	7	27
No Change	5	23	28
Increased	2	21	23
2. "Have the speed bumps been effective in slowing down traffic on a wider neighbourhood basis?"			
Yes	7	7	14
No	12	39	51
Not Sure	8	5	13
3. "Which bump design is more appropriate?"			
4 Canada Way End	13	24	37
4 Humphries End	10	9	19
Either	3	6	9
Neither	1	9	10
4. "Do you think the bump related signage and road marking is appropriate?"			
Too Much	3	3	6
Adequate	22	45	67
Not Enough	2	2	4
5. "What is your overall level of satisfaction with the Elwell speed bumps?"			
Very Satisfied	6	3	9
Satisfied	13	21	34
Indifferent	6	7	13
Dissatisfied	1	5	6
Very Dissatisfied	1	12	13
TOTAL RESPONDENTS	27	51	78