REPORT
1999 June 21

CITY OF BURNABY

TRAFFIC AND TRANSPORTATION COMMITTEE
(TRAFFIC SAFETY DIVISION)

HIS WORSHIP, THE MAYOR
AND COUNCILLORS

CROSSWALK ON DOVER BETWEEN ROYAL OAK AND NELSON

RECOMMENDATIONS:

1. ***THAT*** Council authorize staff to participate in an ICBC funded test program to evaluate the effectiveness of in pavement lighting system at crosswalks.

2. ***THAT*** the installation of the in pavement lighting devices be installed at the midblock crosswalk on Dover Street between Royal Oak Avenue and Nelson Avenue.

REPORT

The Traffic and Transportation Committee (Traffic Safety Division), at its meeting held on 1999 June 01, received and adopted the *attached* report to seek approval for a trial evaluation of an in pavement crosswalk lighting system at this location.

Respectfully submitted,

Mr. D. Berardine
Mr. K. Friederici
Mr. E. Fourchalk
Mr. P. Herring
Ms. L. Kapp
Mrs. D. Mumford
Mrs. R. Oostlander
Mr. J. Parminter
Mr. D. Richardson

Councillor J. Young
Chair

Councillor D. Evans
Member

Councillor N. Volkow
Member

:COPY- CITY MANAGER
- DIRECTOR ENGINEERING
- DIRECTOR FINANCE

City of Burnaby

INTER-OFFICE COMMUNICATION

TO: TRAFFIC SAFETY COMMITTEE **DATE:** 1999 05 21

FROM: ASST. DIRECTOR ENGINEERING, TRAFFIC & ENGINEERING SYSTEMS **FILE:**

SUBJECT: Crosswalk on Dover Between Royal Oak and Nelson

PURPOSE: To seek approval for a trial evaluation of an in pavement crosswalk lighting system at this location

---

RECOMMENDATION:

1. **THAT** staff be authorized to participate in an ICBC funded test program to evaluate the effectiveness of in pavement lighting system at crosswalks.

2. **THAT** the installation of the in pavement lighting devices be installed at the mid-block crosswalk on Dover Street between Royal Oak Avenue and Nelson Avenue.

REPORT

1.0 BACKGROUND

Recently, staff were contacted by representatives from the ICBC Road Improvement Program, inquiring about the City's willingness to participate in a pilot study of a crosswalk illuminating system using lights embedded in the road surface along the edge of the crosswalk marking. We understand that ICBC is discussing similar tests in three to four other cities.

The proposed devices are derived from the runway lighting used at airports and are therefore not subject to damage by snow cleaning or street sweeping operations. The primary intent of the system is to increase the visibility of a pedestrian crossing while occupied by a pedestrian. Similar to a special crosswalk, activation buttons are mounted at either end of the crossing. The two rows of yellow caution lights embedded in the street directly in the motorists' line of vision flash once per second in both directions for a predetermined duration.

The motorists' duty remains the same as at any crosswalk and the lighting is there to provide motorists additional awareness of the occupied crosswalk. Similarly, after the device is actuated, pedestrians are still required to ensure that a sufficient safe gap in traffic exists or vehicles have come to a halt to allow them to complete the crossing. The attached Diagram #1 is an illustration of the devices as they would appear on the roadway.

2.0 CHOICE OF LOCATION

In order to evaluate the effectiveness of this device, the ideal location must have a consistent level of pedestrian activity, complete with the appropriate level of crossing protection. In addition, the crossing must be located on a roadway with sufficient traffic volume to gauge the effects on vehicle speed as well as driver reaction to the device.

Because they are not a common sight within the City, a marked mid-block crosswalk appears to be the ideal location for evaluation. This will also allow us to properly gauge vehicle approach and departure speeds, as well as driver reaction to the devices.

The mid block crossings which have been considered are listed in the table below, along with the corresponding roadway classification and total pedestrian crossing distance.

Location		Roadway Classification	Crossing Distance
On	**Between**		
Dover St.	Royal Oak - Nelson	Sec. Arterial (Secondary)	14 metres
Imperial St.	Waltham - Randolph	Major Collector (Secondary)	11 metres
Beta Ave.	N. of Albert St.	Local Residential	6 metres
Union St.	Calvin Ct - Duthie Ave.	Local Residential	8.5 metres
Forest Grove Dr.	in front of Forest Grove Elementary School	Local Collector	11 metres
Forest Grove Dr.	9100 block	Local Collector	11 metres
Oakmont Cr	Royal Oak - Oakdale	Local Residential	11 metres
Oakmont Cr	E of Royal Oak	Local Residential	11 metres
Gilmore	Kitchener - Charles	Major Collector (Secondary)	6 metres
Piper	N of Government	Local Residential	8.5 metres
Balmoral	Sperling - Gilley	Local Residential	8.5 metres
Duncan	Hastings - Union	Local Residential	8.5 metres
Patterson	Mayberry - Willingdon	Local Collector	11 metres
Strathford			
Delta	Southlawn - Northlawn	Local Collector	11 metres
Buckingham	Burris - Buckingham Pl.	Local Collector	11 metres
Eglinton	in front of Gilpin School	Local Residential	11 metres

We believe the Dover Street crossing appears to the most logical location given the volume of traffic approaching the crossing, the road width as well as the consistent level of pedestrian use given the direct link to Marlborough Elementary School. We note that this location would not meet the application guidelines for a pedestrian signal even if it otherwise met warrants because of its proximity to adjacent full signals.

3.0 IMPLEMENTATION

It has been noted that there is a similarity between the proposed system and a special crosswalk. As the Committee will recall there was some confusion on the part of both pedestrians and motorists as to how a special crosswalk works when one was implemented on royal Oak and Beresford. In this case the crossing would be used by the children en route to Marlborough Elementary School. Accordingly, staff would work with school representatives to ensure that the differences at this crossing location are clearly understood by both students and parents who are most likely to utilize this crossing location. Similarly we would seek to educate motorists, preferably in concert with any ICBC media initiative.

Vehicle volume, and speeds will be monitored on the approaches to the crosswalk both before and after installation for evaluation purposes. In addition, driver reaction and behaviour will also be observed during the peak activity periods.

4.0 FUNDING

As part of the regional evaluation of this device, ICBC has committed to providing funding to purchase the hardware, while the City would be required to pay the costs associated with their installation. Sufficient funds exist in the Engineering budget to accommodate this cost.

5.0 CONCLUSION & DISCUSSION

The effectiveness of new crosswalk lighting system remains to be determined in terms of local effectiveness. While the reports regarding installations elsewhere all appear positive we have some reservations given our previous, albeit limited, experience with special crosswalks in Burnaby notwithstanding their effectiveness elsewhere. At the same time we believe this enhanced crossing has the potential for being beneficial and certainly not detrimental in terms of safety.

ASST. DIRECTOR ENGINEERING,
TRAFFIC & ENG. SYSTEMS

AE:
cc: City Manager

AGI Astrographic Industries Ltd.
7541 West 134A Street
Surrey, BC V3W 7B3
1-800-663-6551
(604) 596-1731

The Glendale

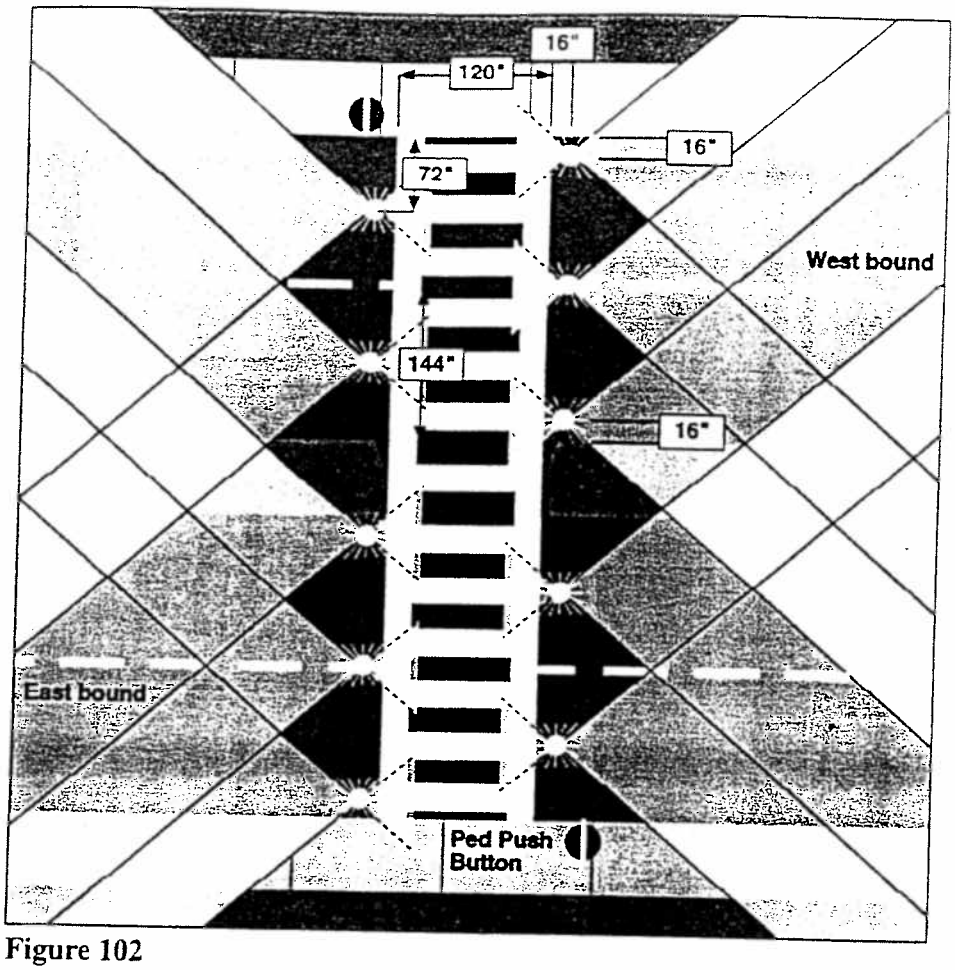

Figure 102

ZA280 Light Pattern

Dimen. of Highway		Location of Fixture			
		Approach to Crosswalk		Exit from Crosswalk	
Lane 1 Width	144 inches	To Sidewalk	16 inches	To Sidewalk	72 inches
Lane 2 Width	144 inches	To Center	0 inches		
Island Width	60 inches	To Island	16 inches	To Island	72 inches
Crosswalk Width	120 inches	To Crosswalk	16 inches	To Crosswalk	16 inches

CAT:Fig102
11/13/98