REPORT
1997 December 15

CITY OF BURNABY

TRAFFIC AND TRANSPORTATION COMMITTEE
(TRAFFIC SAFETY DIVISION)

HIS WORSHIP, THE MAYOR
AND COUNCILLORS

B. BROADWAY AND UNDERHILL AVENUE

RECOMMENDATION:

1. ***THAT*** Council approve the installation of a traffic signal at the intersection of Broadway and Underhill Avenue with funding from the budget for the urban trail project as described in the *attached* report.

REPORT

The Traffic and Transportation Committee (Traffic Safety Division), at its meeting held on 1997 November 04, adopted the *attached* report advising of the traffic and pedestrian needs at the intersection of Broadway and Underhill Avenue relating to the urban trail crossing.

MEMBERS:

Mr. D. Berardine
Mrs. M. Canessa
Mr. K. Friederici
Mr. E. Fourchalk
Ms. L. Kapp
Mrs. R. Oostlander
Mr. D. MacDonald
Mrs. D. Mumford
Mr. D. Richardson
Mr. B. Robinson

Respectfully submitted,

Councillor J. Young
Chairman

Councillor D. Evans
Member

Councillor N. Volkow
Member

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

City of Burnaby

INTER-OFFICE COMMUNICATION

TO: TRAFFIC SAFETY COMMITTEE **DATE:** 1997 10 23

FROM: ASST. DIRECTOR ENGINEERING, TRAFFIC & ENGINEERING SYSTEMS **FILE:** 55-03-03

SUBJECT: BROADWAY AND UNDERHILL AVENUE

PURPOSE: To advise the Committee of the traffic and pedestrian needs at the intersection of Broadway and Underhill Avenue relating to the urban trail crossing.

RECOMMENDATION:

1. THAT the installation of a traffic signal at the intersection of Broadway and Underhill Avenue be approved with funding from the budget for the urban trail project as described in this report.

REPORT

1.0 BACKGROUND

In conjunction with the extension of the north-east section of the urban trail network, staff have reviewed the configuration of the intersection of Broadway and Underhill Avenue as it relates to pedestrian crossings and traffic movement.

The existing urban trail ends on the northwest corner of the intersection of Broadway and Underhill Avenue. The extension, currently under construction, crosses the north leg of Underhill, continues along the east side of Underhill to Eastlake, where it crosses to the south side and continues to Production Way. The final phase will continue to the Cameron Recreation Centre/Lougheed Mall area.

2.0 PEDESTRIAN SAFETY AND TRAFFIC MOVEMENT

The urban trail system, throughout its length, requires the crossing of many Burnaby streets. At all locations where a street crossing is required, pedestrian crossing facilities have been installed. This includes marked crosswalks, with or without overhead illuminated signing and, in some cases, traffic signals. Traffic conditions at each road crossing point are evaluated to determine the most appropriate level of crossing protection.

A field check of the Broadway and Underhill Avenue intersection was conducted to evaluate the positioning of the marked crossing area. The intersection is unusual in that it is a "T" shape with Broadway making up the west leg and Underhill the crossing north and south legs. The main traffic flow pattern consists of the eastbound to southbound right turns and northbound to westbound left turns moving concurrently with a stop sign for southbound traffic. Southbound to westbound right turning traffic is separated from southbound through traffic by a small traffic island. Eastbound left turns, including bus traffic bound for the Forest Grove Drive bus route, must wait for gaps in the northbound to westbound left turning traffic before proceeding.

The extension of the urban trail across Underhill Avenue has generated two main areas of concern. Firstly, the required crosswalk location will result in the elimination of the traffic island for southbound right turning traffic and the relocation of the existing stop line four metres north of its current position. This greatly reduces visibility to the west for southbound traffic. Eastbound traffic, which has the right-of-way, will now be obscured by the grove of trees on the north side of Broadway. For traffic to proceed safely, a secondary stop would be required resulting in the blocking of the crosswalk and potential conflicts with left turning buses.

Secondly, due the peculiar configuration of the intersection, conflicts between pedestrians and eastbound Broadway to northbound Underhill left turning traffic and northbound Underhill straight through traffic may occur. These movements are not stop sign controlled. Eastbound left turning drivers while waiting for an adequate gap in traffic will be looking in the opposite direction away from the crosswalk on the north leg. Pedestrians crossing west to east may not anticipate a left turning vehicle receiving a gap in traffic to attempt the turn while the pedestrian is crossing. Once the vehicle commences the turn, if a pedestrian is crossing at the same time, the intersection will be blocked. Northbound drivers will not have clear vision of pedestrians on the west side of the intersection due to the high volume of left turning traffic.

3.0 CONCLUSIONS

The introduction of the urban trail at this location has generated the need for a complete re-evaluation of traffic conditions at the intersection. We have examined the intersection in an effort to maintain its existing operation yet include the new requirement of providing a safe crossing for the trail. It has been determined that sight distance for southbound motorists will be compromised and serious conflicts between pedestrians and northbound vehicles will occur in absence of upgraded intersection traffic control.

The installation of a full traffic signal at this location is recommended as it will provide appropriate traffic management to maintain traffic flow and maximum safety for the crossing of the urban trail. A signal phasing scheme has been designed to minimize disruption to the two main traffic movements, provide control for the eastbound left turning buses, and provide full signalized crossing opportunities for those using the trail. The cost of this signal is estimated to be $85,000. Funding for this signal will be included in the estimate for the completion of the Eastlake Drive section of this urban trail project.

ASST. DIRECTOR ENGINEERING,
TRAFFIC & ENG. SYSTEMS

EJ/BB

cc: City Manager
Director Planning & Building