

TRAFFIC AND TRANSPORTATION COMMITTEE
(TRAFFIC SAFETY DIVISION)

HIS WORSHIP, THE MAYOR
AND COUNCILLORS

SUBJECT: BOND STREET AND NELSON AVENUE INTERSECTION

RECOMMENDATION:

1. **THAT** Council forward a copy of this report to Mr. Steve Jeske of 4892 Bond Street, Burnaby.

REPORT

The Traffic and Transportation Committee (Traffic Safety Division), at its meeting held on 2002 June 04 , received and adopted the *attached* report responding to correspondence from Mr. Steve Jeske regarding safety concerns at the Bond Street and Nelson Avenue intersection.

Respectfully submitted,

Councillor D. Evans
Chair

Councillor B. Der
Vice Chair

Councillor G. Begin
Member

COPY: - CITY MANAGER
- DIR. ENGINEERING
- OFFICER-IN-CHARGE, R.C.M.P.

City of Burnaby

INTER-OFFICE COMMUNICATION

TO: TRAFFIC SAFETY COMMITTEE **DATE:** 2002 05 24
FROM: ASST. DIRECTOR ENGINEERING, **FILE:** 55-01-04
TRAFFIC & ENGINEERING SYSTEMS
SUBJECT: BOND STREET AND NELSON AVENUE INTERSECTION
PURPOSE: To respond to correspondence concerning safety at the Bond Street and Nelson Avenue intersection.

RECOMMENDATION:

1. **THAT** a copy of this report be sent to Mr. Steve Jeske of 4892 Bond Street, Burnaby.

R E P O R T

1.0 INTRODUCTION

The 2002 March 05 meeting agenda of the Traffic Safety Committee included correspondence from Mr. Steve Jeske of 4892 Bond Street. His residence occupies the south west corner of the Bond/Nelson junction and he is concerned with the use of Bond Street and Nelson Avenue by commuter traffic. He has observed that motorists travel at an excessive speed and disregard the stop sign control at the Bond Street and Nelson Avenue intersection. Mr. Jeske proposed a number of measures, including speed humps, traffic circles and turn restrictions, all intended to address the concerns for excessive vehicle speed and volume along Bond Street and Nelson Avenue. Mr Jeske's correspondence was referred to staff for review and report.

2.0 BACKGROUND

Bond Street from Willingdon Avenue to Nelson Avenue and Nelson from Bond Street to Grange Street are identified as Local Collectors in the Burnaby Transportation Plan. Bond Street is substantially finished to collector standard (11m curb to curb width) while Nelson Avenue is not although it does have a sidewalk on the west side. Bond Street is relatively flat in comparison to Nelson Avenue which falls steeply to its junction with Bond. Given the right angle alignment for the predominant flow between of Bond Street and Nelson Avenue, stop sign control at this intersection is somewhat non-conventional. The intersecting leg of this 'T' junction (Nelson Avenue Approach) is given priority, while both approaches on Bond Street are required to stop. An illustration of the current intersection configuration and stop sign control has been provided in the *attached* #1. This is the only traffic control on the Bond/Nelson route between it's junction with Willingdon Avenue (STOP on Bond) and the traffic signal at the Dover/Nelson intersection. Side streets entering Bond/Nelson are STOP controlled.

3.0 NEIGHBOURHOOD TRANSPORTATION

A collector designation brings with it the expectation that the Bond/Nelson route will accommodate a greater number of vehicles than a typical residential roadway given that it provides a connection between the residential area and higher order road network elements. However, the connectivity also provides an opportunity for external traffic to travel between Willingdon Avenue, and Grange/Dover Street. The Bond/Nelson linkage is also used by the #110 bus route.

During the early 1990's a resident committee was struck in order to develop a Community Transportation Plan for the area bounded by Willingdon Avenue, Royal Oak Avenue, Moscrop Street, and Grange Street in response to concerns raised by a resident on Bond Street. As a result of this initiative, various traffic calming measures were introduced within the neighbourhood but the Transit route precluded the deployment of impeding devices on the Bond/Nelson collector, the experimental speed hump at the park being a notable exception. The hump served to confirm the Transit Authority's reservations regarding this device. The traffic signal at Dover Street was adjusted to "suboptimize" access to the north leg of Nelson Avenue as deterrence to shortcutting motorists. Early in the process a peak period left prohibition on Willingdon at Bond (excepting buses) was found to divert traffic to hitherto quiet residential streets and was quickly removed. However, the subsequent improvements to the downstream signals on Willingdon Avenue have also reduced the propensity for vehicles to turn left to Bond Street. [In the 1990's, the PM peak the southbound vehicle queue would invariably stretch to Bond Street for extended periods].

4.0 TRAFFIC VOLUME AND SPEED

Vehicle volume and speed data has been collected on Bond Street within the 30 Km/Hr playground zone as well as along Nelson Avenue south of the Bond Street intersection in order to add dimension to the concerns expressed by the correspondent. The data are summarized by graphs in the attached Exhibits #2 and #3.

The 24 hour weekday vehicle volumes along Nelson Avenue [2700 vehicles] and Bond Street [2600 vehicles] are of similar magnitudes which confirms the continuity relationship of the collector in serving the neighbouring residential streets in addition to the potential use by commuter traffic. The 24 hour volumes along both roadways are not inappropriate to their designation as Local Collectors.

During peak periods traffic volumes on both roadways increase, with the northbound to westbound direction handling the majority of volume during the AM peak, while the eastbound to southbound flow is the greater one afternoon commute. This is expected pattern for travel by Burnaby residents. Of the two peak periods, increases during the morning commute are the most noticeable, with a spike in the westbound/northbound volumes between 8:00 am and 9:00 am. This spike in traffic volumes along Bond Street suggests that this route is used by up to 100 vehicles external to the immediate neighbourhood as bypass to the intersection of Willingdon Avenue and Dover/Grange Street. This volume is not indicative of a major "rat-running" problem.

The data collected suggests that the level of compliance with the posted speed limit is related varies to the presence of existing speed or intersection control devices .Along the portion of Bond Street observed, it would appear that traffic does not obey the posted 30Km/Hr speed zone, even with the existence of a speed hump. However, the 85th percentile speeds are consistently below the more traditional benchmark of 50 Km/Hr, suggesting a degree of driver compliance with the zone.

Vehicle speeds along the portion of Nelson Avenue under review are not as uniform based on direction of travel. The 85th percentile data indicates that the northbound traffic consistently exceeds the posted limit by approximately 8 Km/Hr, which is lower than typical for the majority of Burnaby roadways. Southbound traffic is travelling at or below the posted limit during the vast majority of the day. This variation is not surprising given that southbound traffic is required to stop on Bond Street at the Nelson Avenue intersection, turn and the climb the hill.

On the whole, vehicle speeds on Bond Street and Nelson Avenue do not appear that dissimilar to the majority of other Burnaby roadways of a similar designation. However, increased driver education via the Speedwatch Program would have a positive impact on the current extent of driver non compliance with the posted speed limits.

5.0 COLLISION HISTORY

In a telephone discussion with Mr. Jeske, he noted that on occasion northbound vehicles lose control on the way down the 90 degree turn to Bond Street, winding up in the park. As these incidents typically involve a single vehicle that remains driveable they would not appear in our crash history which is based on Police reported collisions. Since 1990 this location lists an average of only 0.5 reported crashes per annum. Previous, archived, records indicate a higher rate of reporting with single vehicle loss of control the predominant circumstance.

6.0 DISCUSSION

As noted, the correspondent posed a number of possible solutions to address the concerns of excessive volume and speed along both of these roadways.

Staff discussed the range of **traffic calming measures** with Mr Jeske. We noted that policy and application guidelines preclude use of speed humps on collector streets. Similarly the severance of continuity to through traffic (except buses) would go counter to the Transportation Plan and have a significant adverse impact on the adjacent residential neighbourhood. Other Traffic calming measures such as bulges, islands, roundabouts and chicanes would need to be designed accommodate transit vehicles and would thus present negligible impedance to automobile traffic.

In discussion, Mr. Jeske also suggested the introduction of a **multi-way stop** at the Nelson/Buxton intersection. Current control at the intersection requires traffic on Buxton Street the lesser travelled roadway to give way to Nelson Avenue traffic. A review of warrants indicates this current arrangement is the appropriate control. The installation of an unwarranted stop control along a higher order roadway such as Nelson Avenue brings with it concerns of driver non-compliance with the unwarranted STOP sign. Mr. Jeske has noted a lack of compliance with the STOP sign on Bond at Nelson where the potential consequences of motorist disregard are less than they would be at Buxton Street.

7.0 CONCLUSION

We believe that the previous Community Area Transportation Plan process addressed many of the concerns in this Neighbourhood. However the options for Traffic calming along the Bond/Nelson route were, and remain, limited by its function. Notwithstanding this observation we believe that Bond /Nelson is operating within the scope expected for a local collector. Mr Jeske has highlighted the concern with loss of control crashes arising from the grade and tight bend encountered by northbound Nelson Avenue to westbound Bond Street flow. The problem is undoubtedly exacerbated during slippery conditions particularly during winter when braking on the down grade is compromised. There are a number of locations in the region where special anti skid pavement coatings have been tested and staff will determine whether the Nelson Avenue approach to Bond Street would benefit from this treatment.



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

AE
Attach.

cc: City Manager



City of
Burnaby
ENGINEERING DEPARTMENT

Figure 1
Nelson Avenue & Bond Street

DRAWN BY: A.K.E	SCALE: N.T.S.
APPRV'D BY: P.L.	DATE: 02/05/22

A

FIGURE #2

Bond Street West of Nelson Avenue

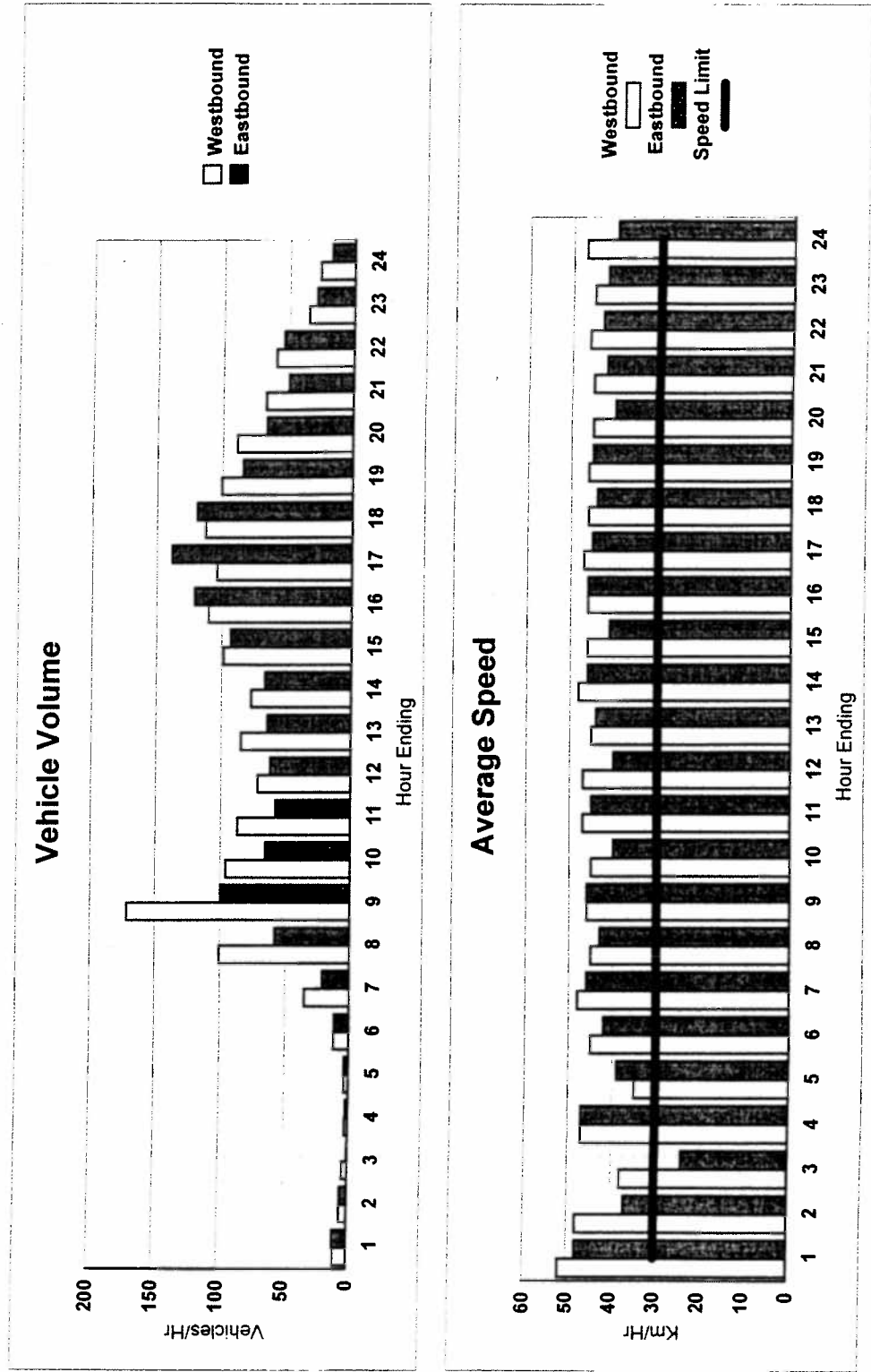


FIGURE #3

Nelson Avenue South of Bond Street

