

CITY OF BURNABY

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TRAFFIC SAFETY COMMITTEE

*HIS WORSHIP, THE MAYOR
AND COUNCILLORS*

**SUBJECT: REVIEW OF STOP SIGN CONTROL AT
 UNION STREET & ALPHA AVENUE**

RECOMMENDATIONS:

1. **THAT** Council approve the installation of a marked school crosswalk across Union Street on the west side of Alpha Avenue.
2. **THAT** Council forward a copy of this report to Dale & Deanna Bracewell of 4578 Union Street, Burnaby BC, V5C 3B5.

REPORT

The Traffic Safety Committee, at its meeting held on 2004 December 07, received and adopted the *attached* report ensuring right of way control at the intersection reflects the needs of present vehicle and pedestrian volumes and to review traffic data on Union Street between Willingdon and Alpha.

Respectfully submitted,

Councillor Doug Evans
Chair

Councillor Nick Volkow
Vice Chair

Councillor Lee Rankin
Member

COPY: CITY MANAGER
 DIRECTOR ENGINEERING

TO: TRAFFIC SAFETY COMMITTEE **DATE:** 2004 11 24
FROM: ASST. DIRECTOR ENGINEERING, **FILE:** 38000-07
TRAFFIC & ENGINEERING SYSTEMS 38000-03
SUBJECT: REVIEW OF STOP SIGN CONTROL AT
UNION STREET & ALPHA AVENUE
PURPOSE: To ensure right of way control at the intersection reflects the needs of present
vehicle and pedestrian volumes and to review traffic data on Union St between
Willingdon and Alpha.

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R E P O R T

1.0 INTRODUCTION

On August 4, 2004 Mayor & Council received correspondence from Dale Bracewell citing concerns over traffic volumes and speeds along Union Street. The correspondence was forwarded to the Committee. In his correspondence Mr. Bracewell requested that a neighbourhood traffic calming plan be undertaken and that a four-way stop be installed on Union at Alpha. Staff contacted Mr. Bracewell and discussed the issues with him. He agreed to completing an application under the City's Local Area Service Program for speed humps. Staff undertook to review of the intersection of Alpha and Union for four way stop control, which is the prime focus of this report.

2.0 BACKGROUND REVIEW

The right of way control at the intersection of Union Street & Alpha Avenue consists of stop signs located on Alpha which were originally installed as part of the alternating stop sign scheme in the neighbourhood. A map showing the surrounding intersections and their stop signs is attached.

To ascertain the level of right of way control required at Alpha and Union the following data was collected while Alpha Secondary School was in session: traffic volumes for both Alpha and Union, with a speed study on Union, a pedestrian count at Alpha and a review of the accident record history.

The table below provides a summary of the traffic count studies taken from a full week counts. The day with the greatest volumes was taken to evaluate the critical times when conflicts would be at their most severe.

	24 hr Volume	AM Peak Hr	PM Peak Hr	Pedestrians
Alpha Ave	2253	339	599	104 (EW)
Union St	1660	365	186	167 (NS)

The traffic volumes were found to be comparable to other local residential streets in Burnaby and lower than many that are located so close to a school. Likewise, the measured traffic speeds on Union Street were found to be in line with similar locations, with the 85th percentile being below the threshold that would normally trigger a request for enforcement by the RCMP. Median speeds were 45km/h, with the 85th percentile speeds at 55km/h. These speed parameters are lower than we typically record.

3.0 FOUR-WAY STOP REVIEW

Multi-way stops are appropriate where poor level of service is experienced due to heavy conflicting flows of traffic. The installation thresholds warrant are:

- where traffic volumes on the intersecting roads are approximately equal and the combined vehicle and pedestrian volumes on the minor leg average over 200 per hour for an 8 hour period,
- where the average delay to the minor road exceeds 30 seconds per vehicle during the peak hour,
- where traffic signals are not warranted and a collision problem exists as demonstrated by 5 or more reported collisions per year of a right-angle or turning movement type.

A total of six collisions are on record over the last five years with at least one of those not being attributable to the right of way control at the intersection. This, combined with the light traffic volumes and lack of any significant delays for cross street vehicle or pedestrian traffic on Alpha means the warrant for additional stop signs on Union is not met.

4.0 PEDESTRIAN CROSSING REVIEW

The pedestrian counts at the intersection, conducted when Alpha Secondary School was in session, show a significant number pedestrians crossing on the west (126) and south (96) legs during the morning peak hour, when concentrations are highest. However, with the relatively low traffic volumes on Union there were still plenty of crossing opportunities to accommodate their needs.

While the number of pedestrians counted warrants consideration of a marked crosswalk, the number of crossing opportunities is above the warrant threshold. However given the number of students routinely using this route, a marked school crosswalk is recommended for the west leg of Alpha crossing Union. A twin parallel line crosswalk on the south leg crossing to supplement the stop bar and complement the overall routing is also proposed.

5.0 CONCLUSIONS

The current two way stop control at the intersection of Union Street & Alpha Avenue provides the necessary orderly and predictable right of way control and is in keeping with the City's practice of alternating stop control. Traffic volume and pedestrian counts do not indicate need for a four way stop relative to warrant guidelines. Further there is no crash history out of the ordinary or problems with sight lines.

However, the number of students crossing at the intersection is significant given the proximity to Alpha School. Accordingly, marking a school crosswalk across Union at Alpha is recommended.



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

MDS:
Attach.

cc: City Manager



This information has been gathered and assembled on the City of Burnaby's computer systems. Data provided herein is derived from a number of sources with varying levels of accuracy. The City of Burnaby disclaims all responsibility for the accuracy or completeness of information contained herein.

Stop Sign Locations
Adjacent Alpha Ave & Union St



- | | |
|-----------------------|--------------|
| Places | Roads |
| Golf 1 | Local |
| Parks P | Collector |
| Fire F | Arterial |
| Utility U | Freeway |
| Cemetery C | Hydrology |
| School S | Parks |
| Civic C | Parks |
| Library L | Colour |
| Hospital H | Boundary |
| Mall M | |
| Parks and Rec R | |
| Skytrain Stations | |
| Skytrain Lines | |
| Street Intersection 5 | |
| Traffic Signal | |
| Speed Humps | |

Map Scale
1 : 3181

