

REPORT  
REGULAR COUNCIL MEETING  
1983 November 28  
File: 20-2

THE CORPORATION OF THE DISTRICT OF BURNABY

TRAFFIC SAFETY COMMITTEE

HIS WORSHIP, THE MAYOR  
AND MEMBERS OF COUNCIL

Madam/Gentlemen:

REPORT OF THE TRAFFIC SAFETY COMMITTEE

1. Traffic Safety at Cascade Heights School

Recommendations:

- (a) "THAT the existing school crosswalk policy be amended such that in locations where a previously marked and patrolled crosswalk is relocated to within 100 metres of its original location that the pavement markings be re-established at the new location.
- (b) THAT the action of the Director Engineering in installing school crosswalk signs and no stopping anytime zones bracketing the patrolled legal crosswalk on Smith Avenue at Pine Street be endorsed.
- (c) THAT no additional traffic control devices be installed on Smith Avenue, nor any existing ones relocated, other than those noted in recommendation (b) above-mentioned.
- (d) THAT Mrs. J. Wild and Mrs. J. Smith, Traffic Committee, Cascade Heights Parent Council, 4719 Patterson Avenue, Burnaby, B.C., V5G 3A5 be notified of Council's decision.
- (e) THAT the Burnaby Detachment, R.C.M.P. be directed to rigidly enforce no stopping anytime zones recently signed on Smith Avenue at Pine Street."

R E P O R T

The Traffic Safety Committee, at its meeting held on 1983 November 22 heard a delegation, Mrs. Joy Wild, Traffic Committee, Cascade Heights Parent Teacher Council, 4719 Patterson Avenue, Burnaby, B.C., V5G 3A5 regarding traffic safety at Cascade Heights Elementary School and requesting that the relocated crosswalk on Smith Avenue be painted to ensure the safety of both traffic and pedestrians.

A report dated 1983 November 17 was received from the Director Engineering respecting this matter, the contents of which is contained hereunder:

"As stated in our report of 83 11 04 to the Committee a further report would be submitted upon completion of a second meeting with the Cascade Heights School Traffic Sub-Committee. This second meeting occurred on 83 11 17 at which time the Engineering Department representative agreed to make a recommendation to this Committee to amend the current crosswalk policy in situations where a crosswalk is relocated rather than a new intallation.

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The reason for this recommendation is that where the public has become accustomed to the existence of a marked crosswalk its relocation a short distance, in this case approximately 15 metres, to an unmarked legal crosswalk creates a degree of confusion.

In addition to the above recommendation this Department has already installed two school crosswalk signs at the existing crosswalk location and designated two 'No Stopping Anytime' zones bracketing the legal crosswalk, one on either side of Smith Avenue. These signs were deemed necessary due to the 'T' configuration of the Pine-Smith intersection which to some motorists does not obviously have a legal crosswalk within. These actions have met with the approval of the Cascade Heights School Parent Council and we have emphasized to them that there is still a major requirement for education of their children in traffic safety and the continued maintenance of a well-disciplined student school patrol.

STAFF RECOMMENDATIONS TO THE TRAFFIC SAFETY COMMITTEE:

1. THAT the existing school crosswalk policy be amended such that in locations where a previously marked and patrolled crosswalk is relocated to within 100 metres of its original location that the pavement markings be re-established at the new location.
2. THAT the action of the Director Engineering in installing school crosswalk signs and no stopping anytime zones bracketing the patrolled legal crosswalk on Smith Avenue at Pine Street be endorsed.
3. THAT the Parent Council of Cascade Heights School be notified of the Committee's decision.
4. THAT the R.C.M.P. be directed to rigidly enforce the no stopping anytime zones recently signed on Smith Avenue at Pine Street."

2. Petition for Traffic Lights or Four Way Stop at the Intersection of Patterson Avenue and Rumble Street

Recommendations:

- (a) "THAT the request for a traffic signal or four way stop be denied.
- (b) THAT staff take the necessary steps to have the hedge at the southeast corner of Patterson Avenue and Rumble Street trimmed back, and further that staff contact B.C.Hydro and Power Authority and request they examine the feasibility of relocating the power pole which is also located at the southeast corner of this intersection, and further that staff submit a report in one year reviewing the traffic volumes and any improvements made to the subject intersection.
- (c) THAT Mrs. L. Straccini, 7657 Patterson Avenue, Burnaby, B.C., V5J 3P3 be sent a copy of this report."

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R E P O R T

A letter and petition containing approximately 318 signatures dated 1983 October 12 was received from Mrs. L. Straccini, 7657 Patterson Avenue, Burnaby, B.C., V5G 3P3 requesting the installation of traffic lights or a four way stop at the intersection of Patterson Avenue and Rumble Street.

A report dated 1983 November 15 was received from the Director Engineering respecting this matter, the contents of which is contained hereunder:

"In response to the petition submitted by Mrs. L. Straccini of 7657 Patterson Avenue, we have evaluated the warrants for both four way stop signs and traffic signals at Patterson Avenue and Rumble Street.

I. FOUR-WAY STOP WARRANT

The four way stop warrant, as outlined in the Institute of Transportation Engineers (ITE) Handbook, requires the following:

1. Traffic volumes on the intersecting streets must be approximately equal.
2. An accident problem indicated by five or more reported accidents in a 12 month period of a type that could be corrected by four way stop installation.
3. A minimum of 500 vehicles per hour entering the intersection from all approaches for any 8 hours of an average day. During the same 8 hours, the minor street must have at least 200 vehicles per hour.

At this intersection we found the approach traffic volumes on Rumble Street to be almost four times as high as the approach traffic volumes on Patterson Avenue with 9,943 vehicles per day on Rumble to 2,699 vehicles per day on Patterson Avenue.

The intersection does meet the accident portion of the warrant with 5 reported accidents that would be considered correctable by four way stop sign installation during the period 82 11 01 to 83 10 31. These accidents were all right-angle collisions which are generally assumed to be correctable accidents.

The intersection does not satisfy the requirements of Section 3 of this warrant because of the relatively low traffic volumes on Patterson Avenue. The volumes on Patterson meet or exceed 200 vehicles per hour for only four of the eight required hours.

Based on the above information, we have concluded that four way stop control is not warranted at this intersection and would be very disruptive to the flow of traffic on Rumble Street. Installation of these unwarranted signs could lead to a high violation rate on Rumble Street and could encourage frustrated drivers to speed away from the stop signs to make up for the unreasonable delay resulting from the backup that would be caused by the stop signs.

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II. TRAFFIC SIGNAL WARRANTS

Based on automatic traffic counts taken on 83 09 08 and the last three years accident statistics for this intersection, we have calculated the priority point rating for the traffic signal warrant outlined in the Roads and Transportation Association of Canada (RTAC) Uniform Traffic Control Devices Manual. We found that this intersection rated 73 points out of 100 points required to meet a minimum signal warrant. As an additional check, we also consulted the I.T.E. Traffic Engineering Handbook which contains traffic signal warrants based on vehicles volumes, pedestrian volumes, accidents, delay to vehicles and progressive traffic movement. We found that this intersection did not meet the requirements outlined in any of these warrants.

A common assumption that is also mentioned in Mrs. Straccini's petition is that traffic signals or four way stop signs are a guaranteed method of reducing accidents. We compared the accident rate per million vehicle entries into the Patterson and Rumble intersection with several other locations both signalized and stop sign controlled. This information is listed in the following table.

<u>Intersection</u>	<u>Type of Control</u>	<u>Accident Rate Per Million Vehicles</u>
Patterson Avenue-Rumble Street	Two-way stop	1.27
Sussex Avenue-Rumble Street	Two-way stop	1.42
Imperial Street-MacPherson Avenue	Two-way stop	1.55
Nelson Avenue-Rumble Street	Traffic signal	0.66
Royal Oak Avenue-Rumble Street	Traffic signal	1.38
Royal Oak Avenue-Imperial Street	Traffic signal	1.57
Nelson Avenue-Imperial Street	Traffic signal	0.99
Royal Oak Avenue-Gilpin Street	Four-way stop	0.73

As can be seen from the above table, in some cases the accident rate is lower with traffic signals but in other cases it is higher. For this reason we do not normally recommend traffic signal installation to solve an accident problem unless the problem is unusually severe. In this case, Patterson Avenue and Rumble Street has a lower accident rate than Sussex Avenue and Rumble Street and Imperial Street and MacPherson Avenue. The only high volume four way stop intersection we have is Royal Oak Avenue at Gilpin and Moscrop Streets. Four way stop controlled intersections generally show fairly low accident rates at this one does, however, this intersection is showing an increase in accidents as the traffic volumes increase.

Mrs. Straccini also implies that she feels that the grade down to the intersection from the north may be a contributing factor in many of the accidents. If this is the case, we would assume the accident rate to be higher involving vehicles from this direction. The southbound grade down to the intersection is 8.5% compared with 12.2% northbound.

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Over the past three years, we have found that the accident rate is distributed approximately equal with 7 accidents involving northbound vehicles and 8 involving southbound vehicles. We can only conclude from this information that the down grade does not appear to be a factor in these accidents.

Mrs. Straccini also mentions that many petitioners expressed concern regarding a hedge, bush and hydro pole on the southeast corner of the intersection and with a mail box on the southwest corner. We have checked into similar complaints in the past and have found that drivers need to move forward a few feet past the stop bar to have adequate vision down Rumble Street in both directions. The steep grade may cause drivers to misjudge the distance and approach speed of vehicles on Rumble Street.

As a result of this last accident, we replaced the existing 60 cm stop signs with 75 cm stop signs. We also coated the backs of the new stop signs with reflective orange material to give the back of the stop sign higher visibility than the plain aluminum back. By making these changes we have made the existing stop signs more highly visible and, with the addition of the orange back on the stop sign across from an approaching driver, we are hoping to attract the attention of less attentive drivers who may have previously missed the stop signs and caused an accident. This change was made on 83 09 08, so it is too soon to evaluate any effect that the new signs may have on the accident rate.

In summary we must advise that our investigation of the traffic conditions within the intersection of Rumble Street and Patterson Avenue have failed to produce warrants for either a four way stop control or for the installation of a traffic signal.

STAFF RECOMMENDATIONS TO THE TRAFFIC SAFETY COMMITTEE:

1. THAT the request for a traffic signal or four way stop be denied.
2. THAT Mrs. L. Straccini of 7657 Patterson Avenue, Burnaby, B.C., V5J 3P3, be sent a copy of this report."

3. Request for Speed Bumps on Garden Grove Drive

Recommendations:

- (a) "THAT the Burnaby Detachment, R.C.M.P. be asked to check for speeders on Garden Grove Drive.
- (b) THAT the request for speed bumps on Garden Grove Drive be denied.
- (c) THAT no changes be made to the existing parking restriction in the Greentree Village area.
- (d) THAT S. Dhanani, 4754 Laurelwood Place, Burnaby, B.C., V5G 4B2 be sent a copy of this report."

R E P O R T

A letter dated 1983 October 05 was received from S. Dhanani, 4754 Laurelwood Place, Burnaby, B.C., V5G 4B2 requesting the enforcement of speed limits and the installation of speed bumps on Garden Grove Drive.

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A report dated 1983 November 09 was received from the Director Engineering respecting this matter, the contents of which is contained hereunder:

"We have investigated the request outlined in the letter dated 83 10 05 from S. Dhanani, 4754 Laurelwood Place, and have prepared the following report for the consideration of the Committee.

Speed bumps are commonly used as a deterrent to speeding on parking lots and private roadways. Greentree Village has several private roadways with speed bumps on them. Burnaby Council has a policy which allows for speed bump installation in Municipal lanes at the request and expense of the residents bordering the lane.

Speed bumps are not considered as a method of speed control on Municipal streets for the following reasons:

1. Emergency vehicles would have to slow down for the bumps resulting in greatly increased emergency response time.
2. If a driver did choose to speed, the bumps could cause him to lose control of his vehicle resulting in a potentially serious accident. The Municipality could be held responsible for the resulting damages.

The most effective method of controlling vehicle speed is through enforcement of the existing speed limit by the R.C.M.P. As a result of Mr. Dhanani's letter we will ask the R.C.M.P. to make their own check of vehicle speeds on Garden Grove Drive.

We checked the police report for the accident that occurred on Friday, 83 09 30, as mentioned in Mr. Dhanani's letter, and found that vehicle speed was not a factor in the accident. The child rode his bicycle (tricycle) through the stop sign on Hickory Court without stopping and into the side of a southbound vehicle. The approximate speed of the vehicle was 30 km/h, which is well below the legal speed limit on this section of Garden Grove Drive.

Mr. Dhanani also mentions the parking by B.C.I.T. students on Garden Grove Drive and at Woodsworth Street and Westminster Avenue. Garden Grove Drive from Woodsworth to Driftwood Place was signed two hour parking from 9:00 a.m. to 4:00 p.m. Monday to Friday on 80 11 14 at the request of the property managers. At that time, we also banned parking on the south side of Woodsworth Street from Wayburne to Garden Grove to improve the sight distance at that intersection. On 83 10 19, we extended the parking ban on the south side towards Westminster Avenue to clear the southeast corner of Woodsworth and Garden Grove. Parking was also banned around the curve at Woodsworth and Westminster from 30 m north of Woodsworth Street to the driveway to the Gizeh Temple on Woodsworth Street on 83 10 19. This should adequately improve the sight distance and the vehicle flow at this intersection.

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STAFF RECOMMENDATIONS TO THE TRAFFIC SAFETY COMMITTEE:

1. THAT the Burnaby R.C.M.P. be asked to check for speeders on Garden Grove Drive.
2. THAT the request for speed bumps on Garden Grove Drive be denied.
3. THAT no changes be made to the existing parking restrictions in the Greentree Village area.
4. THAT S. Dhanani of 4754 Laurelwood Place, Burnaby, B.C., V5G 4B2 be sent a copy of this report."

4. Request for Barricades- Brentlawn Drive and Ridgelawn Drive at Beta Avenue

Recommendations:

- (a) "THAT the request for barricades on Brentlawn, Ridgelawn and Beta be denied.
- (b) THAT Mr. John R. Bell, 4829 Brentlawn Drive, Burnaby, B.C., V5C 3V4 be sent a copy of this report."

R E P O R T

An undated letter was received from Mr. John R. Bell, 4829 Brentlawn Drive, Burnaby, B.C., V5C 3V4 requesting barricades at the intersections of Brentlawn, Ridgelawn at Beta Avenue.

A report dated 1983 November 07 was received from the Director Engineering respecting this matter, the contents of which is contained hereunder:

"We placed automatic traffic recorders on Brentlawn and Ridgelawn east of Beta and on Beta between Brentlawn and Ridgelawn. The data gathered supports Mr. Bell's contention that there is traffic other than local traffic using these streets. While we may concur with the problem we do not, as a matter of policy, agree with the proposed solution. Barricades do not eliminate the traffic, they merely direct it to use another street which may not be designed to carry the extra volume either. Also a partial barricade, as proposed by Mr. Bell, for Ridgelawn would present an enforcement problem.

Mr. Bell states in his letter that he is '...writing for myself and the other people residing on Brentlawn Drive in the 4800 and 4700 Blocks...' although we have received no previous complaints from this area. Barricades can adversely affect the local residents and we do not feel that the Committee will accept Mr. Bell's statement of representation without further indication that the requests expressed in his letter are in fact those of the majority of residents affected.

The current community plans for the Brentwood area has Delta Avenue closed between Ridgelawn and Loughheed and a frontage road from Springer to Beta. These two changes in the existing road network combined with the possible installation of a traffic signal at Beta and Loughheed would probably make the requested barricades both redundant and detrimental to the neighbourhood traffic wishing to access the Loughheed at a signalized location.

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STAFF RECOMMENDATIONS TO THE TRAFFIC SAFETY COMMITTEE:

1. THAT the request for barricades on Brentlawn, Ridgelawn, and Beta be denied.
2. THAT Mr. Bell, 4829 Brentlawn Drive, Burnaby, B.C., V5C 3V4 be sent a copy of this report."

5. Pender Street- Willingdon Avenue to Delta Avenue Roundabouts

Recommendation:

- (a) "THAT three 18 foot diameter permanent roundabouts (concrete curb and landscaped) be installed on Pender Street at Alpha, Beta and Gamma Avenues for a period of eighteen months and further that staff submit a report after the period of 18 months to fully assess the overall feasibility of the placement of roundabouts on streets in Burnaby and further that no consideration be given to any request for the installation of roundabouts on any street in Burnaby until such time as the above mentioned report has been received from staff."

R E P O R T

A report dated November 16 was received from the Director Engineering respecting this matter, the contents of which is contained hereunder:

"In response to Council's directive we hand delivered to all the homes on Pender Street between Willingdon and Delta Avenues a copy of a questionnaire. Attached to the questionnaire was a self-addressed, stamped envelope for a remail back to the Municipal Hall. At the time of the writing of this report, 1983 11 16, we had received 52 responses with 39 or 75% in favour of installing permanent roundabouts at the three Pender Street intersections of Alpha, Beta, and Gamma Avenues. Should we receive further responses from the 129 residents we will update the above figures for presentation at the next meeting.

In regard to the legal implications should an accident occur as a result of the placement of permanent roundabouts, it is the opinion of our Solicitor that liability would likely only follow from a finding of negligence in the design or construction of the works.

During the period of the temporary roundabouts there was a criticism that the size of our roundabouts did not occupy the same area of the intersection as those being used in the City of Vancouver. We would point out that the permanent roundabouts in the City of Vancouver are within intersections of residential standard streets and the intersection geometrics are symmetrical, i.e. all approach streets are 27 feet between curbs. We are faced with trying to place roundabouts on a 36 foot collector street with 42 foot wide north legs and 28 foot wide south legs.



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Bearing in mind this criticism we checked the passing width band related to the Vancouver roundabouts and applied the same criteria to the three Pender Street intersections under consideration. While we have not tried to come up with a perfectly symmetrical intersection we have in our design proposed that the south leg of each intersection be enlarged to 36 feet between curbs, tapering back to 28 feet at the lane south of Pender Street. In this way we will be able to build a permanent roundabout, 23 feet in diameter, with all but two of the passing band widths similar to those of the Vancouver roundabouts. It is further proposed that the roundabouts will be constructed with a concrete curb and be earth filled and landscaped. A plan sketch of the three intersection designs will be on display for the meeting.

The estimated cost for each intersection so treated will be approximately \$20,000 or \$60,000 for the three intersections under consideration.

Should the Council decide to just replace the existing temporary roundabouts with permanent ones 18 feet in diameter (concrete curb and landscaped) but with no adjustments to the south approach streets, then the costs would be approximately \$4,000 per intersection for a total of \$12,000.

As the Committee is aware, Pender Street has been designated as a collector street for the past ten years meaning that all cross streets were stop controlled and Pender was centre lined. Should the Municipality place permanent roundabouts on Pender Street then Pender Street should be declassified and the centre line not repainted. The City of Vancouver when placing roundabouts removed any existing stop signs as roundabouts are not normally stop controlled. However the roundabouts being built and considered in this area are different than those in use in other areas and it may be best to leave the stops in place for the time being. Vancouver is restudying the need to replace the stops they removed and when they have finished their study we can then evaluate the need to keep our stops.

The Engineering Department feels that it must again place itself on record as being opposed to the placement of roundabouts or any other traffic impediments on collector or arterial streets.

STAFF RECOMMENDATIONS TO THE TRAFFIC SAFETY COMMITTEE:

1. THAT permanent roundabouts not be placed on Pender Street at its intersection with Alpha, Beta, or Gamma Avenues.
2. THAT roundabouts not be placed on any collector or arterial street in the Municipality."

Respectfully submitted,

Alderman A.H. Emmott,  
Chairman

Alderman G.H.F. McLean,  
Member

Alderman E. Nikolai,  
Member

