

THE CORPORATION OF THE DISTRICT OF BURNABY

TRAFFIC SAFETY COMMITTEE

File: 20-2

HIS WORSHIP, THE MAYOR
AND MEMBERS OF COUNCIL

Madam/Gentlemen:

REPORT OF THE TRAFFIC SAFETY COMMITTEE

1. Elimination Of "Obstructions" From Municipal Road Rights-Of-Way

Recommendation:

"That a copy of this report be sent to Mr. C.W. Bressler, 6909 Willingdon Avenue, Burnaby, B.C. V5J 3R3."

R E P O R T

A letter dated 1982 January 06 was received from Mr. C.W. Bressler, 6909 Willingdon Avenue, Burnaby, B.C. requesting the elimination of "obstructions" from Municipal road rights-of-way.

This matter was referred to the Director Engineering who reported as follows:

"We would advise that, where possible, the Municipality, when upgrading local streets, will endeavor to locate utilities in such locations that they create the minimum of inconvenience to both vehicular and pedestrian traffic.

Staff Recommendation To Traffic Safety Committee:

THAT the above report be sent to C.W. Bressler."

2. Request For A Pedestrian Actuated Traffic Signal At The Intersection Of Cameron Street And Erickson Drive

Recommendations:

- (a) "That the request for a pedestrian actuated traffic signal at the intersection of Cameron Street and Erickson Drive be denied.
- (b) That the Burnaby Detachment, Royal Canadian Mounted Police, be requested to increase their enforcement of the speed limit on Cameron Street, and of the parking restrictions in the vicinity of the intersection of Cameron Street and Erickson Drive.
- (c) That a copy of this report be sent to Mr. Robert Davies, Chairman, Cameron Advisory Council, 3004 Carina Place, Burnaby, B.C. V3J 1B5."

R E P O R T

An undated letter and petition containing 834 signatures was received from Mr. Robert M. Davies, Chairman, Cameron Advisory Council, requesting the installation of a pedestrian actuated traffic signal at the intersection of Cameron Street and Erickson Drive.

:- AGENDA 1982 FEBRUARY 22
:- COPY-MANAGER

This matter was referred to the Director Engineering who reported as follows:

"In response to the petition accompanying the captioned request we conducted our usual signal warrant investigation consisting of automatic and manual traffic counts and an analysis of accident statistics. A copy of our accident records for the subject intersection shows those accidents which have been reported to the Burnaby R.C.M.P. The pedestrian accident referred to in Mr. Davies' letter was not reported to the R.C.M.P. and therefore is not indicated on this record. To have not reported this latter accident was either a violation of the Motor Vehicle Act or it was of such a minor nature to have not produced any injuries or property damage exceeding \$200.00. The only pedestrian accident on record in this vicinity since 1979 occurred at the signalized intersection of North Road and Cameron Street.

The manual traffic counts, taken 07:00 - 09:00, 11:00 - 13:00, and 16:00 - 18:00, recorded pedestrian volumes of 856 and 115 for their respective time periods, crossing Cameron Street at Erickson Drive. These pedestrian volumes are well below the minimum guidelines given in the Institute of Transportation Engineers (I.T.E.) "Minimum Pedestrian Volume" warrant for a traffic signal.

Observations made at the time of the manual count noted that the majority of pedestrians crossed within existing gaps in traffic.

The I.T.E. warrants for 'Minimum Vehicular Volume' and 'Interruption of Continuous Traffic' were not met either. The former at no time within the day and the latter at only four hours, or 50% of the warrant, during the day. These warrants were compared with Roads and Transportation Association of Canada (R.T.A.C.) warrant which uses a point rating system with 100 points being considered the level at which a signal may be warranted.

The intersection of Cameron and Erickson has a calculated 34.6 point rating for the R.T.A.C. warrant. This low rating is due primarily to the extremely low accident rate which produced a minus twenty-five (-25) points. A negative R.T.A.C. warrant value for an intersection with a low accident experience is analogous to the I.T.E. warrant 'Accident Experience' which states, in part, '...experience has indicated that the traffic signal does not always succeed as a safety device. Under certain conditions, a carefully designed traffic signal will materially reduce a right-angle collision pattern. This does not always happen, however, and often a rear collision accident pattern develops which far exceeds the original accident frequency'. As can be seen from the accident diagram, only two accidents have been recorded since the intersection was created that would be considered correctable by a traffic signal control.

While the statistics gathered and the observations made do not indicate the need for a traffic signal control, there were two prevalent problems observed at the time of the manual traffic count. These two problems were the disregard by the majority of motorists of the posted legal speed limit of 30 Km/h on that section of Cameron Street adjacent Erickson Drive, and of the posted parking and stopping restrictions on both Cameron Street and Erickson Drive in the vicinity of the intersection.

In summary there does not currently exist a warrant for the installation of any additional traffic control devices at the intersection of Cameron Street and Erickson Drive but there is an apparent need for enforcement of the existing controls in the vicinity of this intersection.

STAFF RECOMMENDATIONS TO THE TRAFFIC SAFETY COMMITTEE:

- (i) THAT the request for a pedestrian actuated traffic signal at the intersection of Cameron Street and Erickson Drive be denied, and
- (ii) THAT the R.C.M.P. be requested to increase their enforcement of the speed limit on Cameron Street and of the parking restrictions in the vicinity of the intersection of Cameron Street and Erickson Drive, and
- (iii) THAT a copy of this report be sent to Mr. Robert Davies."

3. Intersection of Bell Avenue At The Lougheed Highway

Recommendations:

- (a) "That left turn movements be prohibited as as soon as possible at the intersection of Bell Avenue and the Lougheed Highway.
- (b) That the Ministry of Transportation and Highways be requested to extend the centre median on the Lougheed Highway between Gagliardi Way and Austin Avenue."

R E P O R T

The Director Engineering prepared a report with respect to the intersection of Bell Avenue at the Lougheed Highway which reads as follows:

"In response to the request that we investigate the matter of access to the Sullivan Heights Area including the restricting of the intersection of Bell Avenue and the Lougheed Highway to right turns in and out only, we offer the following:

Under the Council's adopted Community Plans five and ten, Bell Avenue between the Lougheed Highway and Salish Court is to be closed to traffic and developed as an extension to Bell Park. The timing of this closure was to be tied to the extension of Beaverbrook Drive to North Road. Beaverbrook Drive has been completed to the west of Noel Drive but must be extended through to Cameron Street which will give it a more direct connection to North Road than the present Noel Drive link to Cameron Street. The Beaverbrook link to Cameron Street is tentatively scheduled for construction in 1983.

In replying more directly to the question of imposing an interim left turn restriction to the intersection of Bell Avenue and the Lougheed, we refer the Committee to the accident history since 1979 February to the end of 1981 December. In just under two years we have had a total of 67 reported accidents at this intersection. Almost every accident recorded has been the result of a left turning movement. It would therefore appear reasonable to assume that if left turns were prohibited at the subject intersection, we would eliminate some 30 + accidents per year, many of which resulted in personal injuries.

If left turns are prohibited traffic with an origin or destination in the Sullivan Heights Area could enter at either of two signalized intersections. If coming from the west on the Lougheed they can turn off at Production Way and travel via Eastlake Drive and Beaverbrook Drive. If wishing to leave the area to travel east they can exit via the signalized intersection of Cameron and North Road.

In view of the future plan to completely close Bell Avenue and the present high accident rate related almost exclusively to the left turn movement, we are of the opinion that the left turn movement should be prohibited as soon as possible. The best method to accomplish this would be to extend the raised Lougheed Highway median between

Gaglardi Way and Austin Avenue. This of course would require the cooperation and approval of the Ministry of Transportation and Highways who would have to build the median. As the Ministry has repeatedly requested us to close Bell Avenue, we do not anticipate any problem with an approval other than when they could fund such a project.

Should the Municipality decide to proceed with the restriction to left turns at the Bell Avenue/Lougheed intersection, we feel that it should, before such action is taken, advise the recognized resident association in the area, the Sullivan Heights Ratepayers Association, of the proposed changes in their street pattern as well as the timing of such works.

STAFF RECOMMENDATIONS TO TRAFFIC SAFETY COMMITTEE

- (i) THAT left turn movements be prohibited as soon as possible at the intersection of Bell Avenue and the Lougheed Highway.
- (ii) THAT the Ministry of Transportation and Highways be requested to extend the centre median on the Lougheed Highway between 'Gaglardi Way and Austin Avenue.'

4. Designation Of Delta Avenue As A "Through Street"

Recommendation:

"That no changes be made to the present designation or traffic controls along Delta Avenue."

R E P O R T

The Director Engineering prepared a report with respect to the designation of Delta Avenue as a through street, which reads as follows:

"At the last meeting of the Traffic Safety Committee held on 1982 January 19 we were requested to investigate the need to install stop signs along Delta Avenue at Westlawn, Fairlawn, and Northlawn Drives.

Fairlawn Drive & Delta Avenue

We have recorded two accidents at this intersection since 1976 January. One involved a headon sideswipe on Delta while the second was a rear ender on Fairlawn when the first stopped vehicle backed up into the second vehicle.

Both accidents are not correctable by stop signs.

Northlawn Drive & Delta Avenue

We have recorded only one accident at this intersection since 1976 January and that involved a vehicle striking a parked vehicle.

This accident type is not correctable by stop signs.

Northlawn Drive & Delta Avenue

We have recorded only one accident at this intersection since 1976 January, and that involved a vehicle striking a parked vehicle.

This accident type is not correctable by stop signs.

Westlawn Drive & Delta Avenue

We have recorded a total of nine accidents at this location since 1976 January. Of the nine accidents, six are of a type that may be correctable by the placement of stop signs. This accident rate however fails to meet the warrants for the installation of stop signs.

The remaining intersections along Delta Avenue between Parker Street and the Lougheed Highway have experienced the following accident rates since 1976 January.

<u>Intersection</u>	<u>No. Accidents</u>	<u>Correctable By Stops</u>
Southlawn	2	0
Highlawn	0	0
Brentlawn	3	2
Ridgelawn	1	0
Halifax	2	2

Delta Avenue from Parker Street to Brentlawn Drive has been improved to a final 11 metre (36') curbed sidewalk standard while the section from Brentlawn Drive to the Lougheed Highway is constructed to an interim 6 metre (20') asphalt cap with gravel shoulders and no side-walks. While the 11 metre standard is used for local collector streets, Delta Avenue has never been designated as such, possibly for the following reasons:

- Most intersecting streets form "T" intersections which experience very low accident rates.
- There is very poor compliance with stop signs at "T" intersections.
- Future plans call for the closing of Delta Avenue between the Lougheed Highway and Ridgelawn Drive thus negating any future classification as a collector street.

In addition to the above, Delta Avenue passes by two elementary schools where we have presently posted a reduced speed limit of 30 kmh. If we were to designate Delta Avenue as a collector street the average vehicle speed would probably increase.

In view of the above report, we are of the opinion that no changes are warranted in the present designation or traffic controls along Delta Avenue."

5. Intersection Of Nineteenth Street And Stride Avenue

Recommendations:

- (a) "That no additional traffic control devices be installed at the intersection of Nineteenth Street and Stride Avenue.
- (b) That Mr. Trotter, 6940 15th Avenue, Burnaby, B.C. V3N 1W1 be sent a copy of this report."

R E P O R T

The Director Engineering prepared a report with respect to the intersection of Nineteenth Street and Stride Avenue, which reads as follows:

"Mr. Trotter of 6940 - 15th Avenue requested an investigation of the captioned intersection as the result of three accidents which occurred on the weekend of 81 12 18 to 81 12 20 (Friday p.m. to Monday a.m.). Only two of the accidents referred to by Mr. Trotter were reported to the R.C.M.P. and brought to twelve (12) the number of accidents reported at this location in 1981.

The subject intersection is of two collector streets with the minor street, Stride Avenue, being required to stop for the major street, Nineteenth Street. The stop signs on Stride Avenue are of the 75 cm oversize signs and are readily visible from 80 metres on the south leg and 180 metres on the north leg, well within the safe-sight stopping distance for the legal maximum speed limit of 50 km/h. In view of this it seemed difficult to explain the number of accidents involving vehicles travelling on both streets so we checked the correlation between accidents and traffic volumes on Nineteenth Street.

Five of the twelve accidents happened on weekends, Saturday or Sunday, and of the seven weekday accidents none occurred during the normal rush-hour periods. Of the seven weekday accidents, only one occurred during a period of peak vehicular traffic.

From the information contained in the graphs, a causative factor of the accidents occurring has not been the infrequency of gaps in traffic on Nineteenth Street. Nonetheless, we checked the warrants for the installation of a traffic signal at this intersection and found the R.T.A.C. warrant to be only 57.8 percent of the minimum warrant required before a traffic signal should be considered. The I.T.E. warrants yielded the following results:

Warrant #1 - Minimum Vehicular Volume

- Only two of the required eight hours to meet a warrant met.

Warrant #2 - Interruption of Continuous Traffic

- Only five of the required eight hours to meet a warrant met.

Warrant #3 - Minimum Pedestrian Volume

- Warrant not met for any hour.

Warrant #6 - Accident Experience

- Warrant met.

Warrant #8 - Combination of Warrants

- Met when 80% of each of Warrants #1, #2, and #3, are met which was not the case here.

Only Warrant #6, Accident Experience, was met for the subject intersection but this I.T.E. warrant contains the advice:

'This warrant must be used with caution, not because of lack of concern for traffic accidents, but because experience has indicated that the traffic signal does not always succeed as a safety device.'

We also checked the warrant for a 4-way stop sign installation which require that there be at least 5 accidents, of a type correctable by a 4-way stop sign installation, and that the volumes on each of the intersecting streets be approximately equal. The accident portion of the warrant is met but the following statistics, taken from our most recent automatic counts, show the imbalance of traffic on each of the two streets:

Time of Day	Approach Volumes	Approach Volumes	Stride As % Of 19th
	On Nineteenth	On Stride	
07:00 - 08:00	1,145	208	18
08:00 - 09:00	942	138	15
09:00 - 10:00	608	108	18
10:00 - 11:00	582	97	17
11:00 - 12:00	625	114	18

<u>Time of Day</u>	<u>Approach Volumes On Nineteenth</u>	<u>Approach Volumes On Stride</u>	<u>Stride As % Of 19th</u>
12:00 - 13:00	764	117	15
13:00 - 14:00	693	123	18
14:00 - 15:00	780	134	17
15:00 - 16:00	1,165	211	18
16:00 - 17:00	1,302	212	16
17:00 - 18:00	923	126	14
18:00 - 19:00	637	101	16
19:00 - 20:00	438	90	21
TOTALS	10,604	1,779	17

As can be seen from these statistics, even at their lowest, volumes on Nineteenth Street are at least five times the volumes on Stride Avenue. A comparison with a few existing 4-way stops shows that this situation would be unusual, if not unworkable:

<u>Main Street</u>	<u>Pk. Hr. Vol.</u>	<u>Minor Street</u>	<u>Pk. Hr. Vol.</u>
Moscrop Street	502	Smith Avenue	570
Royal Oak Avenue	1,102	Moscrop Street	1,092
GillmoYe Avenue	636	Douglas Road	662
Curtis Parker St.	1,251	Holdom Avenue	681

These statistics were taken from a 80 02 22 report to the Committee regarding a previous request for 4-way stops at another location. Since this report the latter location Curtis-Parker-Holdom has become signalized due to having met the necessary warrants. Prior to signalization this location, with its imbalance in traffic volumes, was the source of numerous complaints, including vehicles crossing intersection two abreast during peak periods, extra hazards to pedestrians crossing due to driver impatience as a result of long line-ups, and speeding on the exiting side of the intersection. These factors are among those considered in our recommendation to not install any additional traffic control devices at this location.

The Council adopted 'Conceptual Transportation Plan' shows Nineteenth Street as a proposed 'Secondary Arterial' which, if implemented, in conjunction with the Marine Way - Tenth Avenue Connector will diminish the volumes on Stride Avenue while at the same time increasing them on Nineteenth Street. In view of this future proposal for Nineteenth Street and the lack of any definite warrant for additional controls at this intersection, we are recommending that no additional traffic control be installed.

STAFF RECOMMENDATIONS TO TRAFFIC SAFETY COMMITTEE:

- (i) THAT no additional traffic control devices be installed at the intersection of Nineteenth Street and Stride Avenue, and
- (ii) THAT Mr. Trotter of 6940 - 15th Avenue be sent a copy of this report."

Respectfully submitted,

Alderman D.N. Brown,
Chairman

Alderman E. Nikolai,
Member

RDS:yap

