

THE CORPORATION OF THE DISTRICT OF BURNABY

TRAFFIC SAFETY COMMITTEE

HIS WORSHIP, THE MAYOR
AND ALDERMEN

MADAM/GENTLEMEN:

REPORT OF THE TRAFFIC SAFETY COMMITTEE

A meeting of the Traffic Safety Committee was held in the Council Chamber, Municipal Hall, 4949 Canada Way, Burnaby, B.C. on Tuesday, 1988 March 01.

PRESENT:

Alderman J. Young, In the Chair
Alderman E. Nikolai
Mr. William Anderson, Senior Citizens' Representative
Mr. W.B. Bennett, B.C. Transit Representative
Mrs. Lorraine Brown, Parent Teacher Council
Mr. Tony Hulme, ICBC, Traffic Safety Education Dept.
Mr. D. Spencer McDonald, B.C. Safety Council
Mr. W.B. Roxburgh, Citizens' Representative
Mr. Rob Weston, B.C. Trucking Association

ABSENT:

Alderman L.A. Rankin
School Trustee Stan Shapiro
Mr. K.R. Beedie, Burnaby Chamber of Commerce
Mr. Gordon Mackie, Citizens' Representative
Mrs. Franca Zumpano, Citizens' Representative

A. REQUEST FOR TRAFFIC SIGNAL - NORTH ROAD AND
AND ROCHESTER STREET

RECOMMENDATIONS:

1. THAT Council NOT approve a traffic signal at the intersection of North Road and Rochester Street.
2. THAT a copy of this report be forwarded to Mr. Rodney M. Packer, Village Del Ponte Strata Council, 4220 Bridgewater Crescent, Burnaby, B.C., V3N 4M7.

(CARRIED UNANIMOUSLY)

R E P O R T

A report dated 1988 January 19 was received from the Director Engineering responding to a request arising from a Public Hearing (Zoning) held 1987 November 24 for a traffic signal at North Road and Rochester Street.

The Director Engineering reported as follows:

"The request was referred to the Committee as the result of a public hearing regarding a proposed rezoning for 4501 North Road. The Director Planning and Building Inspection has already reported to Council dealing with all the concerns expressed at this meeting, including our analysis of the subject and Building relevant sections of the Director Planning and Building Inspection's report are restated as follows:

INTERNAL DISTRIBUTION:

- : - AGENDA - 1988 MARCH 14
- : - COPY - MUNICIPAL MANAGER
- DIRECTOR ENGINEERING
- DIRECTOR PLANNING & BUILDING INSPECTION

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- 2.1.3 This Department and the Traffic Division of the Engineering Department have considered the above suggestions and have reached the following conclusions:
- 1) Provision of a traffic light at the intersection of Rochester Avenue and North Road is not feasible due to the short distance from the traffic lights at Loughheed Highway and North Road. The distance between the two intersections is not adequate to allow clearance of the intersection at Loughheed Highway when the traffic light at Rochester Avenue is red. This position is supported by the Ministry of Transportation and Highways.

One of the reasons presented by the residents of Village Del Ponte in their request for a traffic signal was that Rochester Avenue is their only point of access/egress. This was also dealt with in the aforementioned report and the relevant section is quoted below:

The additional traffic created by the subject rezoning is not considered to produce a significant impact on the traffic situation at North Road and Rochester Avenue. If, however, the residents of Village Del Ponte are concerned about access in and out of their complex, it should be noted that another access point is potentially available to their site. The zoning of the Village Del Ponte site (RZ #17/75) made provision for access to Government road via Manchester Drive to the west, when the cul-de-sac to the north was constructed in conjunction with the multiple-family dwelling developments to the north. This internal access route was not built, but rather was constructed as a fire access road only. It appears that it could still be constructed to allow access for the residents, if they so decided, at their initiative and cost, without contravening the approved CD plan. Government Road, which is classified as a Major Residential Collector in the Burnaby Conceptual Transportation Plan, would be the preferable vehicular access route for the Village Del Ponte residents, rather than North Road, which is a primary arterial.

We did not do a full signal warrant analysis of the subject intersection because a preliminary investigation found that of the six different factors used to calculate the R.T.A.C. warrant, three would be negative and one would be zero. The zero results from the fact that North Road at Rochester has only three approach legs. The negative factors included the reported accidents and the two North Road approaches because of the proximity of the existing signal at Loughheed Highway and the proposed, by Coquitlam, signal at Delestre Avenue.

In view of these negative factors which reflect the adverse effects that a traffic signal at this location would have on the safety and efficiency of traffic, we are recommending that a traffic signal not be installed.

STAFF RECOMMENDATION TO THE TRAFFIC SAFETY COMMITTEE:

1. THAT the Committee not approve a traffic signal at the intersection of North Road and Rochester Avenue."

B. HASTINGS STREET AND INGLETON AVENUE

RECOMMENDATION:

1. THAT Council approve the installation of a pedestrian operated signal at the intersection of Hastings Street and Ingleton Avenue.

(CARRIED UNANIMOUSLY)

R E P O R T

In early 1987, the Traffic Safety Committee heard a delegation being Mr. Daniel Ceraldi, who represented merchants, patrons and residents of the area surrounding the 3900 block Hastings Street. At the same time, Mr. Ceraldi also presented a petition containing the signatures of approximately 500 people which stated as follows:

"We the undersigned petition for a pedestrian cross light at Hastings and Ingleton in North Burnaby."

The Director Engineering has, on several occasions, communicated with the Ministry of Transportation and Highways requesting the installation of the subject traffic signal. Upon receiving various traffic counts from staff, the Ministry has now re-evaluated the matter.

The Director Engineering therefore submitted a report to the Traffic Safety Committee, the contents of which are contained hereunder:

"We have been advised by the Ministry of Transportation and Highways that they will be installing a pedestrian operated signal at the captioned intersection in the 1988/89 fiscal year. The municipal share (50%) of this signal is \$20,000.

STAFF RECOMMENDATION TO THE TRAFFIC SAFETY COMMITTEE:

1. THAT the municipality approve the installation of a pedestrian operated signal at the intersection of Hastings Street and Ingleton Avenue."

Arising out of the Committee's consideration of this matter, a motion was adopted to forward a copy of this report to Mr. Daniel Ceraldi, 3902 Hastings Street, Burnaby.

Staff have made every attempt to contact Mr. Ceraldi but have been unsuccessful thus far. It has been determined that Mr. Ceraldi has relocated outside the Lower Mainland.

C. REQUEST FOR FOUR WAY STOP - CARLETON AVENUE AND FRANCES STREET

RECOMMENDATION:

1. THAT S.W. Yuen of 571 Carleton Avenue, Burnaby, B.C., V5C 5W9 be sent a copy of this report.

(CARRIED UNANIMOUSLY)

R E P O R T

An undated petition was received from Mr. S.W. Yuen, 571 Carleton Avenue, Burnaby, the contents of which is contained hereunder:

"We, the residents of North Burnaby, British Columbia hereby petition that a four-way stop sign be erected at the intersection of Carleton Avenue and Frances Street, Burnaby, British Columbia."

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

"The captioned intersection does not meet the Committee adopted warrant for the establishment of a four way stop control. This warrant requires a minimum of five reported accidents considered correctable by a four way stop within a twelve month period and that the traffic volumes should be approximately equal on each of the intersecting streets one of which must be currently stopped. The accident portion of the warrant is not met.

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We have not as yet determined the volumes of traffic on the intersecting streets. It is our intention to gather this data in the near future as part of a larger study involving the residential area bounded by Pender Street on the north, Union Street on the south, Gilmore Avenue on the west and Gamma Avenue on the east.

On the attached Appendix 'A' we have shown this area and the 1987 reported accidents for each intersection. From this information it is obvious that the subject intersection is not the only one, nor the worst one, with an apparent accident problem. We feel that the area is being subjected to through commuter traffic running both north-south and east-west.

Three of the streets, Gilmore, Pender, and Union, bounding the area are designated collector streets, the latter a minor residential collector and the two former major residential collectors. Also Willingdon Avenue, a secondary arterial, divides the area into two sections, 12 'square' blocks to the west and 9 'square' blocks to the east. All streets intersecting with these collector streets, except the arterial are required by sign to stop for traffic on the collector. Two intersections on Gilmore Avenue, with Pender and with Union are currently four way stops. Willingdon traffic has the right of way through the study area at all times.

We have in the past experienced problems regarding accidents, traffic volumes, speed etc. on some of the boundary streets and it may be that in order to avoid these problems some commuters are resorting to using residential streets. It is hoped that with a more thorough investigation of the area we may be able to better identify the problems and seek a suitable solution.

STAFF RECOMMENDATION TO THE TRAFFIC SAFETY COMMITTEE:

1. THAT S.W. Yuen of 571 Carleton Avenue be sent a copy of this report."

D. REQUEST FOR "NO TRUCKS" SIGNS AT THE INTERSECTION OF BROADWAY/DUTHIE, CURTIS/DUTHIE AND HASTINGS/DUTHIE

RECOMMENDATIONS:

1. THAT the request for "No Trucks" signs be denied.
 (CARRIED
 OPPOSED: Mrs. Brown)
2. THAT additional traffic control on Duthie Avenue at Kitchener Street and at Greystone Drive and Duthie Avenue NOT be installed until warranted.
 (CARRIED UNANIMOUSLY)
3. THAT the R.C.M.P. be requested to conduct periodic enforcement of truck route regulations on Duthie Avenue between Broadway and Hastings Street.
4. THAT Mr. Steve Laleune, 1536 Duthie Avenue, Burnaby, B.C., V5A 2R6 be sent a copy of this report.
 (CARRIED UNANIMOUSLY)

R E P O R T

A letter dated 1987 December 15 was received from Mr. Steve Laleune stating that Duthie Avenue was being used as a truck route by several local and outside trucking companies.

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

"Duthie Avenue is not a designated truck route, nor are any of the streets intersecting with it. Therefore any trucks on Duthie Avenue that are there illegally, i.e., they exceed 13,600 kg. (30,000 lbs.) and do not have a destination such that Duthie Avenue is the shortest most direct route from the nearest truck route, have already travelled on non-truck routes to get there. If the applicants request for 'no truck' signs is met, then these latter routes should also be signed to prevent the trucks from getting as far as Duthie Avenue.

The municipality has maintained a 'permissive' signing policy for truck routes. This policy involves placing truck route signs on designated truck routes at key intersections to indicate where a truck may or may not turn. For example we have truck route signs on Hastings Street that indicate trucks may go straight ahead or turn to southbound Sperling and we have truck route signs on Sperling Avenue at Curtis Street that indicate trucks must go straight ahead only.

Since the municipality has very few designated truck routes and over a thousand non-truck routes to embark upon, a policy of signing non-truck routes would involve considerable expense. For example to sign all non-truck routes intersecting with Hastings Street would require a minimum of 50 signs at a cost of approximately \$5,000. Even with the signs in place their effectiveness will be determined by the degree of enforcement and the severity of any penalties imposed.

In a telephone conversation with Mr. Laleune a member of staff advised him to provide the Burnaby R.C.M.P. with as much information, such as which vehicles and the time of day of occurrences, as possible to aid the police in their enforcement. We feel the enforcement of existing regulations is the most effective means to control illegal truck traffic.

In his submission to the Committee Mr. Laleune also makes requests for traffic signing at other locations to control traffic volumes and speeds. Duthie Avenue has, since the opening of the Kensington Overpass experienced a decrease in traffic in spite of the increased development in the vicinity. In November 1984, Duthie north of Halifax recorded over 6200 vehicles in 24 hours and the same location in November 1986 recorded less than 5500 vehicles, a reduction of almost 13% during a period when the municipality is experiencing approximately 3 to 4 percent annual traffic growth.

Mr. Laleune requests a 3-way stop at Greystone Drive and Duthie Avenue to slow traffic down and make the intersection safer. Stop signs are not speed control devices and their use as such usually proves ineffective. Motorists recognize that unwarranted, by either accident history or traffic volumes, stop signs are only there to inconvenience them so the compliance rate is low and the motorists accelerate to higher speeds after having gone through the intersection to compensate for 'lost' time. Since the intersection of Greystone/Duthie was created, only three accidents have been reported none of which would have been considered correctable by a stop sign therefore the intersection does not meet the Committee's warrant for a multi-way stop.

Similarly the request for a four-way stop at Kitchener/Duthie is not warranted because it does not meet either the accident or the volume requirements of the warrant. Since November 1978 there have been only eight accidents at this intersection that may have been correctable by a multi-way stop.

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The intersection approach volumes on Duthie Avenue are several times greater than those on Kitchener Street. With a great difference in the volumes on the intersecting streets the stop sign compliance rate for the major volume street would be poor.

The intersection of Halifax/Duthie is currently under investigation and will be the subject of a separate report to the Committee. The matter of buses speeding on Duthie Avenue between Halifax and Kitchener Streets has been referred to R.C. Transit for their investigation.

The 'children crossing' advance warning signs and the no parking zones on the approaches to the intersection of Duthie Avenue with Kitchener Street were installed in the summer of 1984. The warning signs are the standard blue 'pentagon' school signs. Due to the length of the straight portion of Duthie Avenue from Bridlewood Court to Curtis Street these signs can be seen for a considerable distance on both approaches. Also the parking prohibition ensures that any pedestrians attempting to cross Duthie Avenue at this location are clearly visible to approaching motorists.

The speed of traffic on Duthie Avenue, particularly in the vicinity of Montecito School, has been the subject of previous investigations and reports to the Committee. As a result of these previous reports a 30 km/h school zone was established on Duthie Avenue adjacent the school on 1984 February 08. During the summer of 1987 the posted speed limiting signs were supplemented by the painting of 30 km/h in 1.8 m high letters on the Duthie Avenue pavement. In spite of these measures the speed of traffic on Duthie Avenue is virtually unchanged, based upon our speed studies.

A study in April 1983, prior to the posting of the reduced speed limit recorded an 85th percentile speed of 57.5 km/h, an average speed of 46.4 km/h and a peak speed of 73 km/h. A recent study in November 1987, after the pavement markings were in place, recorded an 85th percentile of 56 km/h, an average speed of 47.4 km/h and a peak speed of 78 km/h. These figures substantiate our frequent statement that traffic control devices are only as effective as those motorists who choose to obey them, make them since both the average and peak speeds increased after the reduced speed limit was posted.

Mr. Laleune in his submission believes that the frequency of traffic control associated with the Kensington Overpass contributes to poor distribution of traffic. To implement any unwarranted controls on Duthie Avenue may have this result by diverting traffic to other streets such as Cliff Avenue, a residential non-collector street.

STAFF RECOMMENDATIONS TO THE TRAFFIC SAFETY COMMITTEE:

1. THAT the request for 'No Trucks' signs be denied.
2. THAT the requests for additional traffic control on Duthie Avenue at Kitchener Street and at Greystone Drive, and Duthie not be installed until warranted.
3. THAT Mr. Laleune be sent a copy of this report."

E. BRANTFORD STREET - NO STOPPING REQUEST OF BRANTFORD SCHOOL

RECOMMENDATION:

1. THAT Council concur with the action taken.

R E P O R T

A letter dated 1988 January 21 was received from the Principal of Brantford Elementary School requesting the placement of "No Stopping Anytime" signs adjacent Brantford School. The reason for the request was the problem of parents stopping to pick up students and blocking the vision of oncoming traffic which was creating a hazardous situation for students attempting to cross Brantford Avenue.

"We conducted an on site visit to the school and discussed the concerns expressed in Mr. Begg's submission.

To resolve these concerns we will be posting a 'No Stopping' restriction in front of the school that will clear the sight distance to both the driveway and the asphalt walk used by children entering and exiting the school and park grounds.

STAFF RECOMMENDATION TO THE TRAFFIC SAFETY COMMITTEE:

1. THAT the Committee concur with the action taken."

F. DUTHIE AVENUE AND HALIFAX STREET - REQUEST FOR FOUR WAY STOP

RECOMMENDATIONS:

1. THAT a four way stop with appropriate advance warning signage be installed at the intersection of Duthie Avenue and Halifax Street.

(CARRIED
OPPOSED: Messrs. Bennett and McDonald)
2. THAT staff submit a report after a period of one year from installation of the recommended traffic control providing an overall review of the intersection.

(CARRIED UNANIMOUSLY)
3. THAT a copy of this report be sent to Mr. J.P. Daem, Property Manager, Strataco/Bradson, #302 - 4180 Loughheed Highway, Burnaby, B.C., V5C 6A7

(CARRIED UNANIMOUSLY)

R E P O R T

A letter dated 1987 December 07 was received on behalf of the Councils of Strata Plans NW 86, NW 90, NW 128 and NW 136, (Montecito Village) requesting the installation of a four way stop at the subject intersection in light of increasing traffic volumes on both streets.

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

"The captioned intersection is presently controlled by a two way stop on Halifax Street that gives the right of way to Duthie Avenue. The intersection is a standard four leg intersection where all legs have been improved to their final 11 m (36 foot) curb standards. Both streets are classified as minor collectors. The north leg of Duthie Avenue bends to the east about 35 m (120 feet) north of the north property line of Halifax Street. There is a hedge along the east property line of this leg that limits the vision to about 45 m (150 feet). This however does not seem to have been a factor in the accident history as only three of the 30 accidents in the past 10 years involved westbound and southbound vehicles.

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On the south west corner there are some large ornamental shrubs along the Duthie Avenue property line that requires a vehicle to move ahead of the stop bar but not into the Duthie Avenue pavement to obtain a clear view to the south. This quadrant again only accounted for three of the 30 accidents. The opposing sight lines for both east and west bound Halifax Street traffic is good.

The suggested warrants for the placement of 4 way stops require:

1. An accident history of the past 12 month period as indicated by five or more accidents correctable by a 4 way stop installation.
2. The volumes on the two intersecting streets are approximately equal.
3. As an interim measure pending the installation of a warranted traffic signal.

In reviewing the above criteria we found that:

1. In 1987 there were a total of five accidents, only three may have been prevented by a 4 way stop. In 1986 there were a total of two accidents and in 1985 a total of three. Only two of the accidents in 1987 involved vehicles affected by the northeast quadrant of the intersection. The accident rate over the past three years is 1.01 accidents per million vehicle entries. The accident rate at the four way stop at Curtis Street and Duthie in the same period was .80 per million vehicle entries.
2. The approach volumes on Duthie Avenue were approximately 6400 vehicles per day (V.P.D.) while the approach volumes on Halifax Street were approximately 2600 V.P.D. This represents a 73/27 split.
3. The intersection has failed to meet a warrant for the installation of a traffic signal.

While the above criteria are only meant as a guide to assist in a decision whether to install a 4 way stop other factors should also be considered. One of course is compliance to a 4 way stop. It has been found that unwarranted traffic control devices receive very poor compliance which in turn leads to increased disregard for even warranted installations. There is also the 'cost' of the stop sign. By cost we are not referring to the installation cost of a pair of stop signs, which is about \$400, but to the costs related to vehicle operation. We are attaching as Appendix 'B' an article from an I.T.E. publication relating to the costs of stop signs. If this article is correct then the placement of two stop signs on Duthie Avenue will cost about \$127,616.00 per year plus increased emissions within the intersection.

In view of the above report we are unable to support the request for a 4 way stop.

STAFF RECOMMENDATIONS TO THE TRAFFIC SAFETY COMMITTEE:

1. THAT the request for a 4 way stop at the intersection of Duthie Avenue and Halifax Street be denied.
2. THAT the Strataco/Bradson property management group be sent a copy of this report."

Your Committee wishes to advise that, in reviewing the subject intersection, including the statistics provided by staff, it was agreed that because of the volume of traffic, excessive speeds and the jog in the road travelling southbound on Duthie Avenue, a 4 way stop control with advance warning signalization is necessary.

G. HASTINGS STREET - LEFT TURN MOVEMENTS

RECOMMENDATIONS:

1. THAT Council concur with the contents of this report.
2. THAT Mr. Steve Mancinelli, 5610 E. Georgia Street, Burnaby, B.C., V5B 1V6 receive a copy of this report.

(CARRIED UNANIMOUSLY)

R E P O R T

A letter dated 1988 February 10 was received from Mr. Mancinelli requesting that left-turn channelization not be considered at the intersection of Gilmore Avenue and Hastings Street. Mr. Mancinelli felt that this plan would only consume more parking spots on Hastings Street, hamper the flow of traffic and place pedestrians' safety at risk.

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

"GILMORE AVENUE AND HASTINGS

In responding to Mr. Mancinelli's letter, we would advise that there are at the present time painted left turn lanes on the Hastings Street legs of this intersection. To accommodate these left turn legs, the parking was prohibited on both sides of Hastings Street adjacent to the left turn channelization.

Gilmore Avenue does not have separate left turn lane designations. The northbound Gilmore Avenue movement approaches in two designated lanes, parking having been prohibited on the east side from Hastings Street to the lane south. Traffic wishing to turn left onto Hastings Street can use the centre lane while traffic wishing to proceed through or turn right can use the curb lane. The southbound movement is confined to a single lane approach, the curb lane being used for parking. To remove the parking and providing two approach lanes to Hastings Street would, in effect, be catering to the commuter traffic that is using Oxford Street and others in the area as alternatives to the arterial highway system. Such use of these residential streets has, and still is, a major concern of the citizens of this area. For this reason, we would recommend no change in the lane usage.

BOUNDARY ROAD AND HASTINGS STREET

Left turn lanes were not provided at the Boundary Road intersection for a number of reasons:

- a) Left turn channelization requires that both approach legs to the intersection be treated the same. The eastbound approach to Boundary Road is in the City of Vancouver who have taken a different approach to gaining more capacity on Hastings Street. They prohibit parking during the rush hours, thus providing three moving lanes in each direction. The Ministry of Transportation and Highways (M.O.T.H.), in responding to the concerns of the Burnaby merchants, retained the curb parking and tried to increase the arterial capacity by designating left turn channelization at some intersections and prohibiting left turns at others.

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- b) The volume of eastbound traffic wishing to turn left onto Boundary Road did not warrant left turn channelization.

SPERLING AVENUE AND HASTINGS STREET

Left turn channelization on Hastings Street at Sperling Avenue has not been considered up to this time. If it were to be considered, it could be done in a similar manner to that at Gilmore Avenue, in which case, the local merchants would lose their on street customer parking. The other alternative would be to widen Hastings Street to accommodate a left turn lane, in which case, property from one or both sides of Hastings Street would have to be acquired. We would add that this is the first indication that we have received that there was any concern over the absence of left turn facilities at this intersection. We will monitor the traffic flows during our summer count program to evaluate the needs of this intersection.

STAFF RECOMMENDATIONS TO THE TRAFFIC SAFETY COMMITTEE:

1. THAT the Traffic Safety Committee concur with the contents of this report.
2. THAT Mr. Mancinelli receive a copy of this report."

H. NOEL DRIVE - BEAVERBROOK DRIVE TO CAMERON STREET

RECOMMENDATIONS:

1. THAT parking of vehicles adjacent the east curb of Noel Drive between Beaverbrook Drive and Cameron Street be prohibited.
2. THAT a copy of this report be sent to Mrs. Paula Smith, 8346 Aspenwood Place, Burnaby, B.C., V5A 3V3.

(CARRIED UNANIMOUSLY)

R E P O R T

A letter dated 1988 February 09 was received from Mrs. Smith advising that when vehicles park on both sides of Noel Drive vision is restricted and there is not enough room on the roadway for two vehicles, heading in separate directions, to pass. Therefore, the writer requested the elimination of parking on either side of the 3300 Block Noel Drive.

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

"The subject section of Noel Drive is classified as a minor residential street and has been developed to its final standard of 8.5 m (28 feet) between curbs. A recent traffic count indicates a volume of approximately 2600 vehicles per day (V.P.D.). This volume is somewhat high for this standard of street and is further complicated by its curved alignment. This together with parked vehicles along its east curb could create a vision problem to approaching vehicles.

Of the five homes situated along the east side of the subject section of Noel Drive, four have vehicle access from Noel Drive to off street parking. The fifth home has a vehicle access off Cameron Street to its off street parking.

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In view of the above we feel that a prohibition of parking should not create an undue hardship to the adjacent residents.

STAFF RECOMMENDATIONS TO THE TRAFFIC SAFETY COMMITTEE:

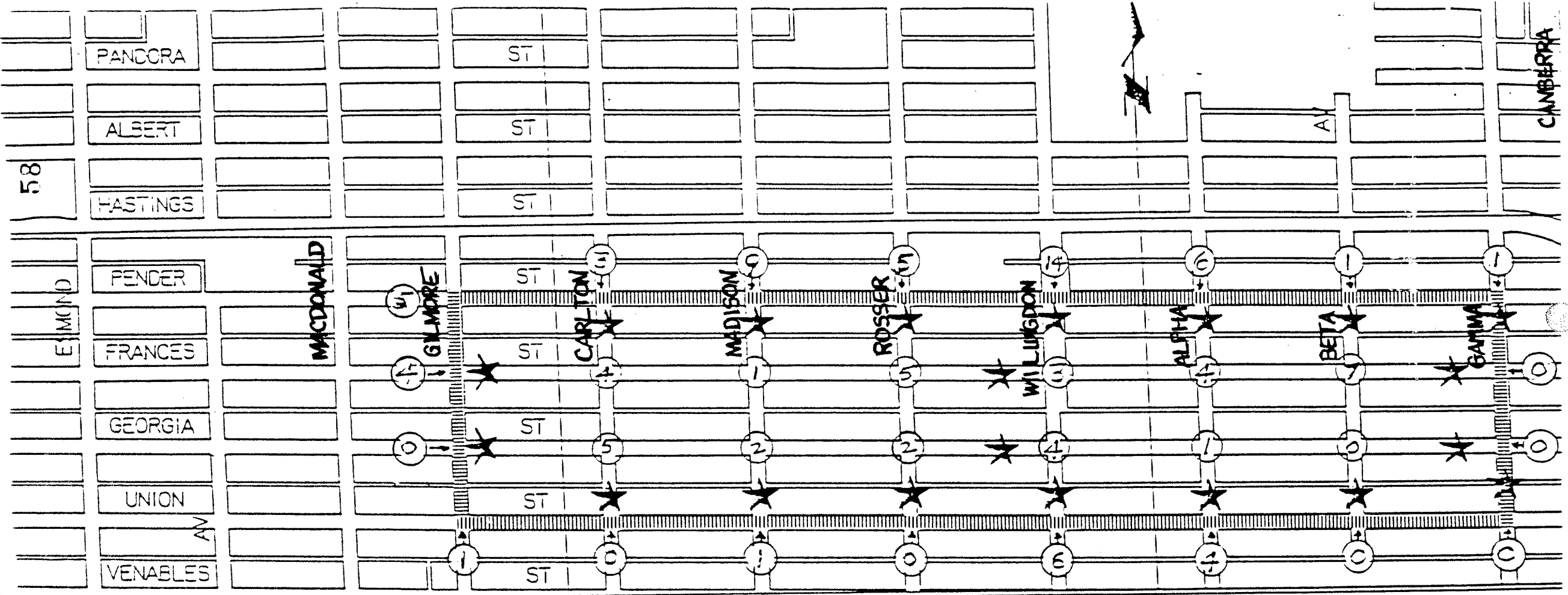
1. THAT the parking of vehicles adjacent the east curb of Noel Drive between Beaverbrook Drive and Cameron Street be prohibited.
2. THAT a copy of this report be sent to Mrs. P. Smith."

Respectfully submitted,

Alderman Jim Young
Chairman

Alderman Egon Nikolai
Member

Alderman L.A. Rankin
Member



- ▨ STUDY AREA
- ③ 1987 REPORTED ACCIDENTS
- ★ PROPOSED TRAFFIC COUNT LOCATIONS

APPENDIX
"A"

17E. FEB 1981

The cost of a stop sign

By Salem Spitz

A question that is not infrequently posed to city traffic engineers is, "How much does a stop sign cost, anyhow?" It's usually asked by a disgruntled citizen whose request for a stop sign has just been denied. The citizen expects to hear some dollar value for the sign, maybe the post, and the labor to install them—maybe \$100 or so. If the engineer does make such an estimate and includes the cost for the painting of the stop bar and word message and the cost for the equipment, perhaps for an advance warning sign also, it would still come out with a budget figure of only a few hundred dollars. Even annualizing a projected maintenance cost doesn't add very much. The problem is that these budget costs are hardly even a starting point for the real costs of a stop sign!

The real costs to highway users include the excess dollar cost of vehicle operation, the cost of excess time loss and the cost of operator discomfort and annoyance caused by unnecessary stops which can often lead to anger—and an angry driver is a dangerous driver. In addition, both the users and the nation should be concerned about the excess carbon monoxide (CO), hydrocarbon (HC), and nitrogen oxide (NOX) emissions produced. Further, on a residential street, the residents near the stop sign location are subjected to "squealing brakes and screeching rubber-burning"—severe noise pollution.

We use data developed by the Los Angeles County Road Department in their "Accident Rates at Intersections" report series to identify what the probable accident level would be for the proposed stop configuration and compare it with the actual accident history at the location, using up to 11 years of traffic records. Most of the time the expected accident rate is higher than or the same as the existing condition. In that case it certainly isn't appropriate to create unnecessary cost with no benefit.

NOTE: Traffic Engineer Spitz has developed data to show that the annual cost per 1000 vehicles of a stop sign on a street with a 35 mph operating speed is \$9600 in excess vehicle operation costs, 1400 hours in time lost, 3600 gallons in extra fuel use, 8400 lb in CO emissions, 600 lb in HC emissions, and 600 lb in NOX emissions.

Spitz (F) is city traffic engineer for the City of Long Beach, Calif.
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6400 V.P.D. STOP SIGN COSTS

8,960 Lost Hours @ 8^{hr} = 71,680^{hr}
 24,320 GALS GAS @ 2.30 = 55,936
 53,760 lbs C.O. EMISSIONS
 3,840 lbs H.C.
 3,840 lbs NOX

\$127,616⁰⁰

APPENDIX "B"

