

CITY OF BURNABY

TRAFFIC AND TRANSPORTATION COMMITTEE
(TRAFFIC SAFETY DIVISION)

*HIS WORSHIP, THE MAYOR
AND COUNCILLORS*

C. MARINE DRIVE AT JOFFRE AVENUE

RECOMMENDATIONS:

1. **THAT** Council approve for implementation the proposed actions outlined in Section 3.0.
2. **THAT** copies of this report be sent to the Principal and Parent Advisory Committee co-chairs at Suncrest Elementary School.

REPORT

The Traffic and Transportation Committee (Traffic Safety Division), at its meeting held on 1998 June 02, adopted the *attached* report to review Suncrest Elementary School Parent Advisory Committee concerns including intersection control and safety at the Marine Drive and Joffre Avenue junction.

MEMBERS:

Mr. D. Berardine
Mr. K. Friederici
Mr. E. Fourchalk
Mr. P. Herring
Ms. L. Kapp
Mr. D. MacDonald
Mrs. D. Mumford
Mrs. R. Oostlander
Mr. D. Richardson

Respectfully submitted,

Councillor J. Young
Chair

Councillor D. Evans
Member

Councillor N. Volkow
Member

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

City of Burnaby

INTER-OFFICE COMMUNICATION

TO: TRAFFIC SAFETY COMMITTEE DATE: 1998 06 01
FROM: ASST. DIRECTOR ENGINEERING, FILE: 55-01-04
TRAFFIC & ENGINEERING SYSTEMS
SUBJECT: MARINE DRIVE AT JOFFRE AVENUE

PURPOSE: To review Suncrest Elementary School Parent Advisory Committee concerns including intersection control and safety at the Marine Drive and Joffre Avenue junction.

RECOMMENDATIONS:

1. THAT the proposed actions outlined in Section 3.0 be approved for implementation.
2. THAT copies of this report be sent to the Principal and Parent Advisory Committee co-chairs at Suncrest Elementary School.

REPORT

1.0 INTRODUCTION

At its January meeting, the Traffic Safety Committee considered a staff report and adopted the following recommendations:

- “1. THAT the marked pedestrian crosswalks outlined in this report be approved for installation.

2. THAT improvements to the south boulevard of Marine Drive west of Joffre Avenue be carried out as indicated in this report.
3. THAT staff be authorized to consult with residents along Joffre Avenue and all other adjoining roadways from Marine Drive north to Clinton Street concerning the possible installation of a left turn restriction at the intersection of Marine Drive/Joffre Avenue.
4. THAT a copy of this report be sent to Ms. Debra Scott of 8088 Joffre Avenue, and Mr. Facchin of 8388 Roseberry Avenue.”

These recommendations have now been implemented. Arising from discussion of this report, staff were asked to again review and report on the desirability of multi-way stop control at the Marine Drive/Joffre Avenue junction.

Recently, on May 27, staff met with the Suncrest Parent Advisory Committee (PAC) to review their concerns, some of which had been addressed by the previous report which, unfortunately, had not been forwarded to the PAC or school but was distributed at the meeting.

Staff discussed plans for further improvements as outlined in this report and believe there was a consensus of acceptance by those present although all present remain concerned with the safety of their children. Staff will be available to meet with the PAC in the future to review how the proposed improvements are working out.

2.0 CONCERNS/ISSUES

The primary concern of the parents is pedestrian safety for children crossing Marine Drive in the vicinity of Joffre Avenue and the safety of children walking to their homes along Marine Drive. The source of concern is the speed and to a lesser extent volume of traffic along Marine Drive. The sight lines in this section are also somewhat compromised by the alignment of the road. The difficulty of turning left from Joffre Avenue Marine Drive was considered a secondary concern relative to the routing of the school bus.

3.0 PROPOSED ACTIONS

Many of the concerns would be resolved through reconstruction of Marine Drive to urban standard. While PAC members offered to pursue this through the LIP process, it was recognized that this was a longer range solution and the more immediate measures below are needed.

3.1 School Bus Routing

The Suncrest Elementary School bus travels along Joffre Avenue, Marine Drive and Patterson Avenue in a clockwise direction in the morning and counter clockwise in the afternoon. The afternoon routing is considered safer because the children destined for the north side of Marine Drive can alight on Joffre Avenue southbound while the children destined for the south side can cross Marine Drive on the bus to alight.

The PAC will pursue morning re-routing to the counterclockwise direction with the School Board in order to provide the same benefit for boarding passengers.

3.2 Signing

It was noted that the school bus is in effect a mobile crosswalk, providing crosswalk protection for its passengers when stopped with stop sign extended and lights flashing. Our limited observation indicates good driver compliance with the Motor Vehicle Act which states:

"149 The driver of a vehicle on a highway, on meeting or overtaking a school bus

- (a) that is designated as a school bus,*
- (b) that is stopped on a highway, and*
- (c) on or near which a sign or signal is displayed indicating the school bus is receiving or discharging school children,*

must stop the vehicle before reaching the bus and not proceed until the bus resumes motion or the driver of the bus signals to other drivers that it is safe to proceed."

To reinforce this understanding, staff will be placing "School Bus Stop Ahead" signing on both sides of Marine Drive. The signing would be removed after consultation with the PAC if the proposed re-routing is working appropriately.

Staff will also be replacing the "Hidden Intersection" warning sign on the Marine Drive westbound approach to Joffre Avenue with an oversize sign and tabbed speed advisory. We will also review the signing on Marine Drive on exit from Vancouver that advises motorists of the speed limits on Burnaby streets and lanes with a view to making the message more prominent.

3.3 Pavement Marking

This section of Marine Drive is to be rehabilitated this year. In conjunction with the re-paving, road markings will be renewed and staff propose further narrowing the Marine Drive lanes through edge markings. The existing edge markings which were installed last year have generally drawn positive comment in that they tend to channel and slow traffic and more clearly delineate the edge of the highway where pedestrians may be walking. The edge marking will be carried through the Joffre Avenue intersection as dashed lines with stimsonite reflectors. This will enable left turning Joffre Avenue motorists to better judge the location of the secondary stop that maximizes sight lines for gaps in westbound Marine Drive traffic.

3.4 "Rumble Strips"

Members of the PAC were positive about using raised pavement markers on the approach to the Joffre Avenue intersection noting their successful deployment at Patterson Avenue (to warn motorists of the newly implemented multi-way stop). Staff were going to pursue this for the westbound approach. Since then we have reviewed other possibilities. The re-paving of Marine Drive creates the opportunity of using a new method of imprinting and colouring asphalt to simulate brick pavers. We propose imprinting four broad strips perpendicular to the direction of travel on both approaches to Joffre Avenue.

The distance between each successive printed strip would be decreased to slow traffic down. While the strips are textured, they are not anticipated to be as noisy as more prominent rumble strips which are often found to be intrusive to adjacent residents. This experimental application of textured/coloured asphalt will allow us to test the durability of the product, its potential for other

applications, and the effectiveness of this type of marking in slowing down traffic.

3.5 Improving Sight Lines

With the arrival of spring it has been noted that new vegetation on the north side bank of Marine Drive east of Joffre Avenue is reducing sight lines. Rather than resorting to minor brush cutting, staff will be contacting the adjacent affected property owners with a view to having their concurrence with a more major effort at clearing obstructing vegetation. This, coupled with the edge lane marking initiative, should improve visibility for motorists exiting Joffre Avenue.

3.6 Speed Limit Enforcement

The concern of residents about the speed of traffic on Marine Drive has been substantiated by our traffic count data. Staff will work with the RCMP Traffic Section to determine whether the use of photo radar or other enforcement measures is appropriate after the implementation of the above actions.

4.0 OTHER MEASURES (Not Recommended)

The two measures discussed below are not recommended, and as stated at the PAC, we would strongly recommend against their implementation for the reasons discussed below.

4.1 Left Turn Prohibition

As recommended in the prior report, staff polled area residents tributary to Joffre Avenue relative to the possible prohibition of left turns from Joffre Avenue to Marine Drive. More than 2/3 of the residents were solidly against this restriction. We also note that a left turn restriction would stymie the proposed re-routing of the school bus discussed above. Other measures to improve the sight lines at the intersection also mitigate the need for the restriction.

4.2 Multi-Way Stop at Marine Drive

Typically, multi-way stop sign installations are limited to intersections with similar vehicle volumes on all approaches, and in most cases can be considered as a precursor to future installation of a fully traffic signal. Such parity in vehicle volumes would in turn suggest that the intersecting roadways should be of a similar designation within the roadway hierarchy. Currently, multi-way stop sign control exists on Marine Drive at the intersection of Patterson Avenue, Nelson Street, and Gilley Avenue as well as Byrne Road. All of these intersecting roadways have been classified equal to if not higher than the road network hierarchy status of Marine Drive, while also experiencing comparable traffic volumes.

Staff have conducted a close examination of peak hour volumes at the Marine Drive/Joffre Avenue intersection, the peak two hours of which have been graphically represented in the attached diagrams. An overwhelming majority of vehicles passing through this intersection is Marine Drive traffic, with minimal vehicle activity being generated by the Joffre Avenue leg. This fact is not surprising given the intended use of Marine Drive as a Major Collector relative to Joffre Avenue which is a minor local collector roadway.

Study Period	Approach Volumes			Percent of Joffre Traffic Approaching Intersection
	Marine Drive		Joffre Avenue	
	Westbound	Eastbound	Southbound	
7:00 - 8:00	675	430	45	3.9
8:00 - 9:00	639	499	37	3.0
4:00 - 5:00	473	586	26	2.3
5:00 - 6:00	549	664	15	1.2

The second major criterion in determining whether a multi-way stop is warranted is collision occurrence. The established warrant threshold is five right angle crashes per year. Our crash data records for the past five years list only four collisions at this intersection of which three were classed as rear enders. Increased control, ie. going to a multi-way stop or traffic signal, addresses right angle collisions but typically results in increased rear end collisions.

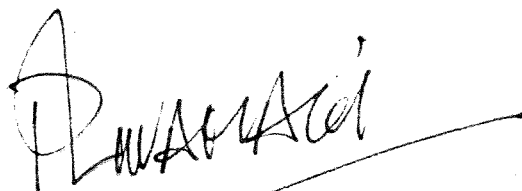
As has occurred at other unwarranted multi-stop intersections within Burnaby, an exceptionally low frequency of vehicles approaching this intersection from the minor leg will contribute to a disregard for the stop sign control. Knowing full well the possibility of a vehicle approaching from Joffre Avenue is slim at best, motorists on Marine Drive could very well partially, if not completely, ignore the stop sign control and habitually extend this practice to other intersections in the corridor at the expense of overall traffic safety.

The above noted benchmarks serve to filter out locations where multi-way stop sign control is unwarranted. Although it would be thought that an increased level of control at an intersection would improve the current traffic activity, the placement of an unwarranted multi-way stop can, in some instances, create negative effects to the local traffic patterns. It should be noted that the installation of a multi-way stop at this location will improve the ability for motorists to turn off Marine Drive, and possibly contribute to an increase in the use of Joffre Avenue as an alternate to existing north/south commuter routes such as Patterson Avenue, Nelson Street, Royal Oak Avenue, and Gilley Avenue. This concern was echoed by a number of parents attending the PAC meeting and one resident even suggested that Joffre Avenue residents be polled if further consideration to a 4-way stop was contemplated.

A number of Marine Drive residents thought an unwarranted multi-way stop would be useful as a traffic calming device and that Marine Drive traffic should be using Marine Way. The evidence is however that much of the traffic on the designated major collector streets is Burnaby-orientated (ie. with at least one trip end in Burnaby). Increasing impedances to such traffic would be more likely to cause it to divert to adjacent/lesser local streets than back to the larger regional arterials.

5.0 CONCLUSIONS

The recent direct dialogue between staff and the Suncrest Elementary PAC has served to clarify the issues for both parties. We believe that the actions proposed have a consensus of support from the PAC but staff would welcome further future discussion with the Suncrest and other PACs as the need arises.



ASST. DIRECTOR ENGINEERING,
TRAFFIC & ENG. SYSTEMS

AE/PL:jb
Attach.

cc: City Manager
RCMP-Traffic Section

