



Meeting 2008 April 07

COUNCIL REPORT

### **TRAFFIC SAFETY COMMITTEE**

*HIS WORSHIP, THE MAYOR  
AND COUNCILLORS*

**SUBJECT: CASCADE HEIGHTS ELEMENTARY SCHOOL CROSSWALK REVIEW**

### **RECOMMENDATIONS:**

1. THAT the temporary rubber curb extensions be replaced with permanent curbing and, as outlined in this report, concurrent with the installation of a special crosswalk at an estimated cost of \$115,000 to be funded under Traffic Management in the 2009 Financial Plan.
2. THAT this report be forwarded to Cascade Heights Elementary PAC delegation members Dr. Yu, Mr. Nasu, and Dr. Low, as well as Cascade Heights Elementary School Principal, Marilyn Kwok, 4343 Smith Avenue, Burnaby, BC, V5G 2V5.

### **REPORT**

The Traffic Safety Committee, at its meeting held on 2008 April 01, received and adopted the attached report reviewing the current school crossing on Smith Avenue at Pine Street.

Respectfully submitted,

Councillor N. Volkow  
Chair

Councillor S. Dhaliwal  
Vice Chair

Councillor G. Evans  
Member

Copied to: City Manager Director Engineering Director Finance
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Meeting 2008 April 1

## COMMITTEE REPORT

**TO:** CHAIR AND MEMBERS  
TRAFFIC SAFETY COMMITTEE

**DATE:** 2008 March 14

**FROM:** ASST. DIRECTOR ENGINEERING,  
TRAFFIC & ENGINEERING SYSTEMS

**FILE:**  
*Reference:*

**SUBJECT:** CASCADE HEIGHTS ELEMENTARY SCHOOL CROSSWALK REVIEW

**PURPOSE:** To review the current school crossing on Smith Ave at Pine St as requested.

### RECOMMENDATIONS:

1. **THAT** the temporary rubber curb extensions be replaced with permanent curbing and as outlined in this report concurrent with the installation of a special crosswalk at an estimated cost of \$115,000 to be funded under Traffic Management in the 2009 Financial Plan.
2. **THAT** this report be forwarded to Cascade Heights Elementary PAC delegation members Dr. Yu, Mr. Nasu, and Dr. Low, as well as Cascade Heights Elementary School Principal, Marilyn Kwok, 4343 Smith Ave, Burnaby, BC, V5G 2V5.

## REPORT

### 1.0 INTRODUCTION

At the 2008 February 5 Traffic Safety Committee meeting a delegation from the Cascade Heights Elementary School Parent Advisory Committee (PAC) presented a request to have the existing school crosswalk on Smith Ave at Pine St improved with an overhead illuminated sign, down lighting and pedestrian actuated flashing amber beacons to remedy safety concerns related to heavy traffic volumes combined with excessive speeds along Smith. There was also the suggestion that widening the adjacent section of Boundary Rd to its final 3+3 lane standard would siphon some traffic off Smith staff were asked to review and respond.

The school crosswalk on Smith at Pine was reviewed in a report to the Traffic Safety Committee in 2008 September in response to concerns raised by the Cascade Heights Elementary PAC. The crosswalk was augmented with the current interim standard rubber curb road narrowing and taper lines as a result of that review.

## **2.0 BACKGROUND**

Smith Ave is designated a collector roadway in the City's Transportation Plan, as such it provides mobility and access from residential areas and activity centres. It links to major collector roads like Kincaid and Moscrop St and carries a bus route. There is one travel lane in either direction and Smith has a finished standard 12.5 metre cross-section (curb to curb) north of Pine St which narrows to 11 metres south of Pine. Travel on Smith is thus limited to one lane per direction.

At the crosswalk, the rubber curbs reduce the effective road cross-section to 8 metres. The sight lines on both approaches are straight and unobstructed, and there are parking bans in advance of the crossing to prevent vehicles from obscuring the view of pedestrians on the curb. The rubber curbs allow the placement of the school crossing signs further into the roadway, increasing their target visibility to drivers by bringing them closer to the centre of their cone of vision.

There is a full complement of school zone signs on both the north and southbound approaches to the school (with new reflective sheeting) and a regulatory 30 kilometer per hour zone adjacent the school frontage. The City's finished standard street lighting is in place along Smith.

## **3.0 REVIEW**

### **3.1 Permanent Curb Extensions**

A reduction in the road cross-section reduces the amount of time pedestrians are on the road, shortens the crossing time thereby increasing the acceptable crossing gaps. The current temporary rubber curbs help in this regard, but a permanent barrier curb would further increase safety by allowing the crossing to be moved slightly north and away from turning vehicles at Pine as well as providing more separation from traffic when children are preparing to cross at either side of the crosswalk. A finished standard would also improve the streetscape and reduce maintenance costs.

The southbound approach has a parking ban extending from the laneway north of the school, so we envisage the west side having a narrowing extending from the lane south through the intersection of Pine St. This will aid in physically discouraging drivers from attempting to stop in these areas, a regular occurrence despite the regulatory signs in place. The east side would have curb lines with tangents parallel to the centerline as opposed to the current painted taper lines creating a visually defining section of road and the appearance of a longer zone, although the parking regulations would see no changes.

The estimated cost of construction for the new curbs, sidewalk wheelchair ramps, catch basin relocation and intersection regarding for drainage is approximately \$40,000.

### **3.2 Illuminated Overhead Signing**

Overhead illuminated signs are visible from a greater distance and provide down-lighting for the crosswalk. They are typically reserved for roadways with higher traffic volumes where drivers are less likely to pay attention to pedestrians waiting at the curb, or where vertical curves in the road limit the visibility of side mounted signs on the approach. Given the night time use of the school, as outlined by the delegation this would be a beneficial addition to the crosswalk. Estimated cost for installation of an illuminated overhead signs is \$50,000.

### 3.3 Special Crosswalk

The addition of pedestrian actuated flashing amber beacons to the Illuminated Overhead Signing would in effect create a "Special Crosswalk" In the hierarchy of pedestrian crossing control the special crosswalk resides between a marked crosswalk and a pedestrian signal. [The flashing amber beacons further alert motorists as to when a crosswalk is occupied.]

To objectively evaluate pedestrian crossings for appropriate levels of traffic control, the City utilizes the Transportation Association of Canada's Pedestrian Crossing Control Manual. The main criteria used are the number of safe crossing opportunities [a function of traffic volume], weighted pedestrian volumes, roadway cross section and effective sight lines. Typically we always look at both the peak hour traffic volumes and peak hour pedestrian demand.

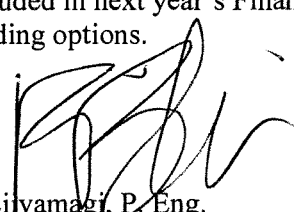
As there were no recent counts in the vicinity on Smith St, a counter was placed one block south of the school. While not directly adjacent, it does give a good barometer of the volumes on Smith, and the location prevented vehicles from stopping or queuing on the count hoses as parents dropped and picked-up their children during the critical school crossing times.

The peak hour volumes from the Tuesday count found 554 vehicles during the 8-9 am school rush, and 572 in the 3-4 pm school rush. These volumes indicate that there are ample safe crossing opportunities.

The added cost of concurrently adding the necessary equipment to the overhead illuminated sign is \$25,000 to create Special Crosswalk. Any subsequent retrofit would be significantly more expensive.

### 4.0 CONCLUSION

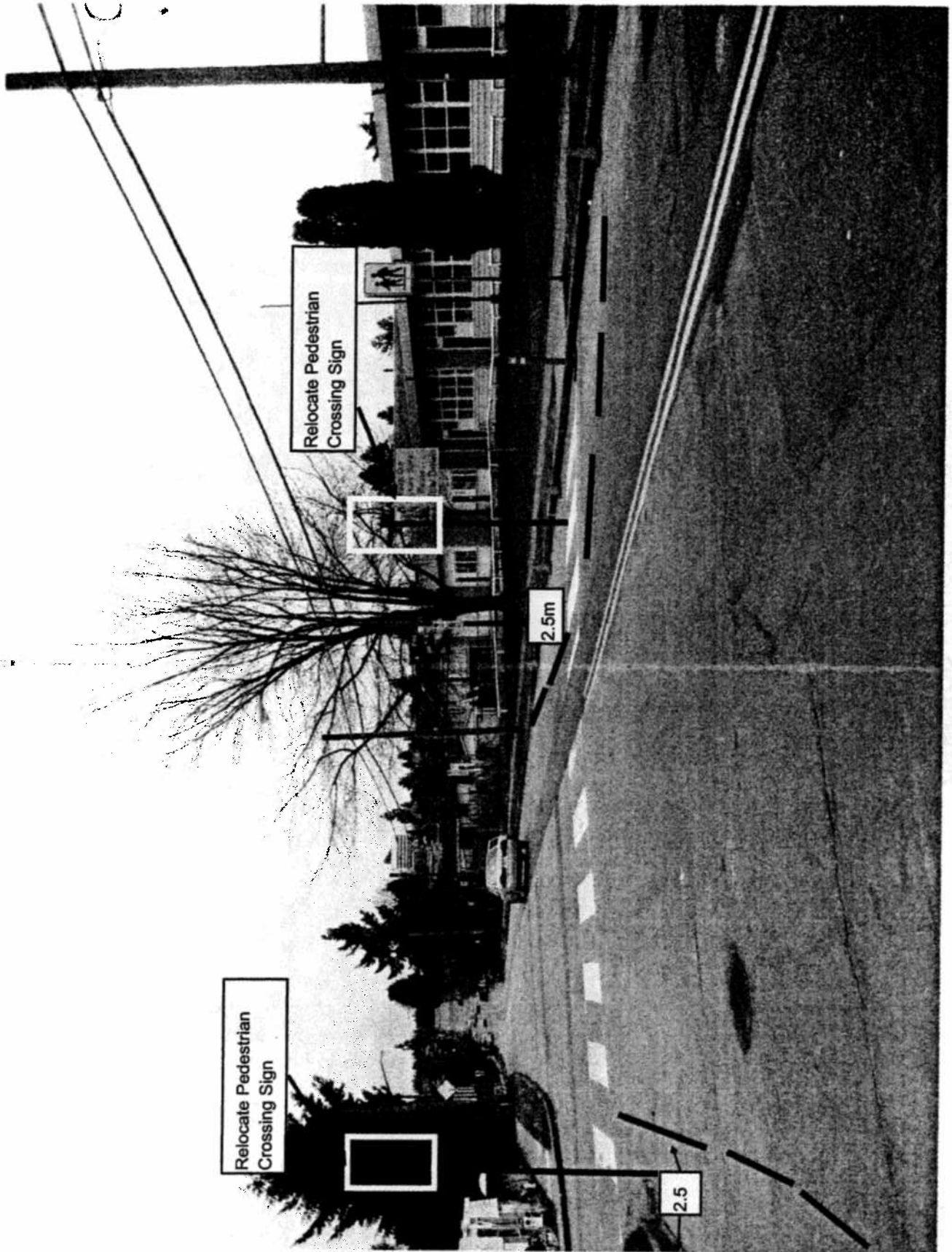
On the basis of the foregoing review we recommend replacement of the temporary rubber curb extensions be replaced with permanent curbing and as outlined in this report concurrent with the installation of a special crosswalk to realize scale economies. The estimated total cost is \$115,000. The project will be included in next year's Financial Plan. Earlier implementation will be considered subject to a review of funding options.



P. Lilvamagi, P. Eng.  
ASST. DIRECTOR ENGINEERING,  
TRAFFIC & ENGINEERING SYSTEMS

MDS/br

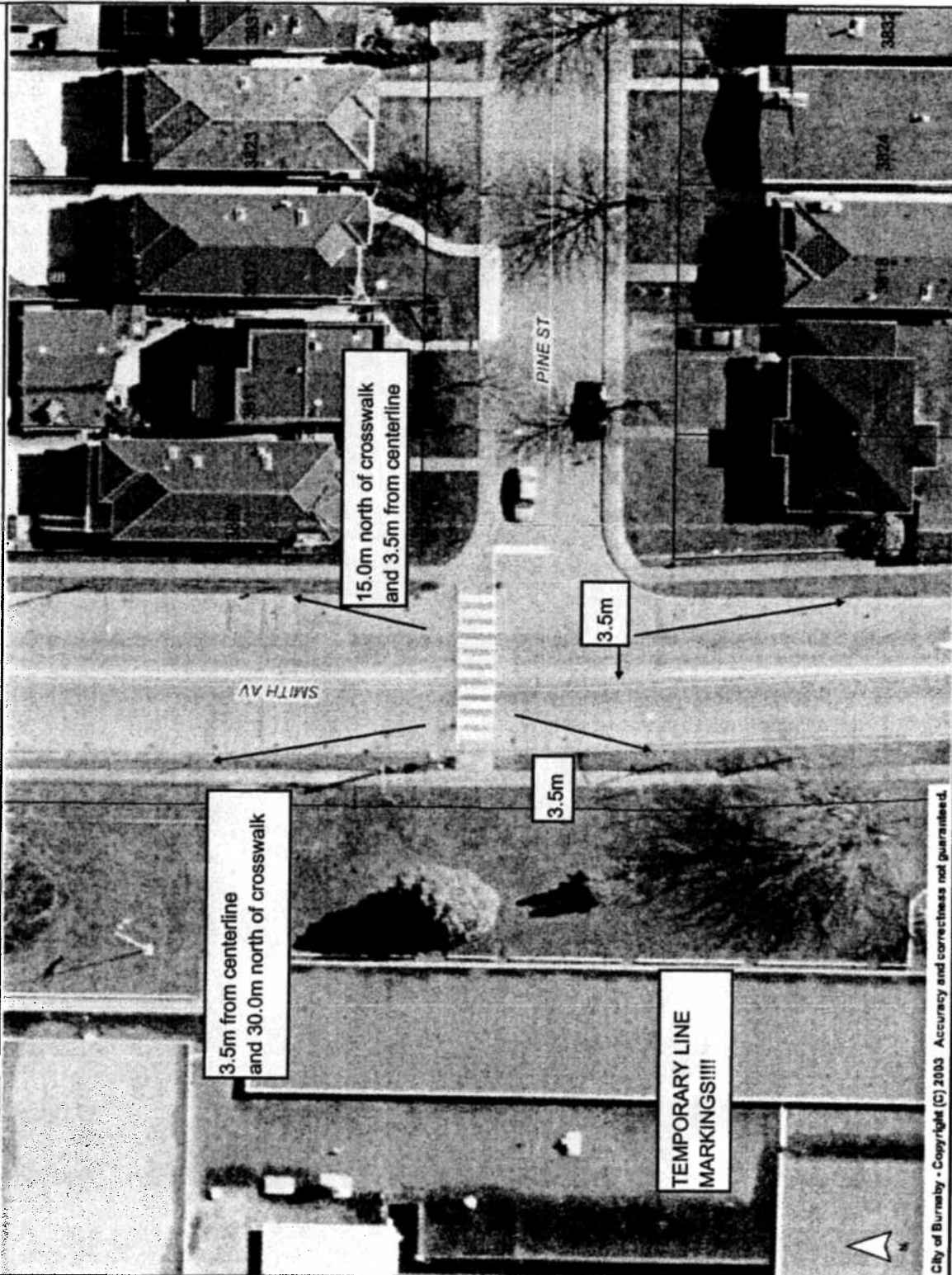
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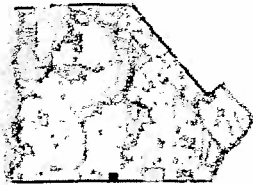
# **cascade school bumpers**

March 31, 2005



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- Strata Units
- Skytrain Stations
- Skytrain Lines
- Addresses
- Lot
- Street Intersections
- Traffic Signal
- Speed Humps
- Speed Humps
- Roads
- Local
- Collector
- Arterial
- Freeway
- Hydrology
- Colour 2004
- Parks
- Parkland To Be Acquired
- Parkland
- Boundary

Map Scale  
1 : 500