

TRAFFIC SAFETY COMMITTEE

*HIS WORSHIP, THE MAYOR
AND COUNCILLORS*

SUBJECT: PEDESTRIAN SAFETY AT WILLINGDON AVE AND PRICE ST

RECOMMENDATIONS:

1. THAT Council approve the installation of a pedestrian actuated traffic signal at the intersection of Willingdon Ave and Wildwood Cres/Price St at an estimated cost of \$175,000 (inclusive of 5% GST) funded from Gaming Funds.
2. THAT Council forward a copy of this report to the Finance and Civic Development Committee for information.
3. THAT copies of this report be forwarded to:
Rebecca D'Arcy, 4990 Willingdon Avenue, Burnaby, BC V5G 3H8
Eva Roberts, 4949 Pioneer Avenue, Burnaby, BC, V5G 3J5
John Churchill-Browne, 4879 Willingdon Avenue, Burnaby, BC, V5G 3H7
for information.

REPORT

The Traffic Safety Committee, at its meeting held on 2010 February 02, received and adopted the *attached* report investigating pedestrian crossing facilities along Willingdon Avenue between Moscrop Street and Burke Street.

Respectfully submitted,

Councillor Sav Dhaliwal
Chair

Councillor Colleen Jordan
Vice Chair

Councillor Paul McDonell
Member

Copied to: City Manager Director Engineering

TO: CHAIR AND MEMBERS
TRAFFIC SAFETY COMMITTEE

DATE: 2010 January 26

FROM: DIRECTOR ENGINEERING

FILE: 38000 20
Ref: Traffic Safety

SUBJECT: PEDESTRIAN SAFETY AT WILLINGDON AVE AND PRICE ST

PURPOSE: To investigate pedestrian crossing facilities along Willingdon Ave between Moscrop St and Burke St.

RECOMMENDATIONS:

1. **THAT** the Committee recommend to Council the installation of a pedestrian actuated traffic signal at the intersection of Willingdon Ave & Wildwood Cres/Price St at an estimated cost of \$175,000 (inclusive of 5% GST) funded from Gaming Funds.
2. **THAT** Council forward a copy of this report to the Finance & Civic Development Committee for information.
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REPORT**1.0 BACKGROUND**

Following a fatal pedestrian collision that occurred on Willingdon Ave at Wildwood Cres/Price St, correspondence was received expressing concerns about the lack of adequate pedestrian crossing facilities. Subsequently a neighbourhood petition with over 300 signatures requesting improved pedestrian crossing facilities was received by the City. In response to the collision, a review of the existing road conditions along Willingdon Ave between Burke St and Moscrop St was undertaken focussing specifically on pedestrian safety.

2.0 INVESTIGATION

Willingdon is a Primary Arterial roadway, truck route and bus route. Between Grange St and Moscrop St there are four travel lanes that are built to an interim standard totalling 13.5 metres in width. There is a downhill grade of 10% north of Burke St through to Wildwood Cres/Price St where it then decreases to 6% as it runs toward Gilpin St. Two-way traffic volumes along Willingdon are approximately 37,000 vehicles per day. Sight lines are good as the road is straight, which may contribute to the frequent speeding of vehicles observed particularly in the

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From: Director Engineering
Re: Pedestrian Safety at Willingdon Ave and Price St
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northbound direction where there is a downhill slope. Street lighting along Willingdon is provided by BC Hydro lease lights mounted on the east side and established on every workable utility pole.

Sidewalks are directly abutting the curb lanes and built to an interim standard with the west side being at-grade but separated from the roadway by an asphalt curb. The recently constructed sidewalk on the east side is raised above the roadway surface as is typical. The east side sidewalk was improved as part of the road overlay along Willingdon (Grange to Moscrop) this past summer.

There are no marked pedestrian crossings on Willingdon between the traffic signals at Burke and at Moscrop. As such, pedestrians and motorists must abide by the BC Motor Vehicle Act Section 179 which identifies any street intersection as a legal crossing point for pedestrians. Motorists must yield if a pedestrian is crossing (or intending to cross) and a pedestrian must not leave the curb and begin crossing if a vehicle is too close to stop.

There are bus stops adjacent to the intersections of Grassmere St and Wildwood Cres which generate some pedestrian activity. Aside from the bus stops, pedestrians come from the nearby single family residences in the surrounding neighbourhood, and from Willingdon Church located on the east side of Willingdon between Price St and Gilpin St. *Figure 1* shows Willingdon Ave and the intersecting street layout between the traffic signals at Moscrop and Burke St.

3.0 ANALYSIS

A pedestrian crossing study of Willingdon between Burke and Moscrop was conducted to determine the level of demand, the number of crossing opportunities, and the available alternatives.

Normally pedestrian counts for assessments only take into account individual intersections; however, a total aggregate was used here to help determine the crossing demand for the neighbourhood. During am and pm peak hours only 8 to 10 pedestrians were counted, well below the threshold needed to warrant the installation of a marked crosswalk. As well, there have been no pedestrian related collisions within the last five years of available data (2004-2008). On the other hand, reasonable crossing opportunities were determined to be very low during peak hours. The low crossing opportunities (or acceptable gaps in traffic) are a result of the amount of time it takes for a pedestrian to cross the road and the speed and volume of traffic. The downhill slope further reduces the number of gaps due to the increased stopping distance required, especially for heavy trucks. Currently, the safest pedestrian crossing locations are at the traffic signals at Moscrop or Burke. Both can be over 300 metres away from where a pedestrian may wish to cross.

Recognizing the poor number of crossing opportunities, and the significant distance between protected locations, options for providing an improved pedestrian crossing facility are examined in more detail below.

Options

- 1) Marked Crosswalk – *Zebra style crosswalk road markings with two post mounted pedestrian crossing signs located on either side of the road.*

This type of crossing is poorly suited to major thoroughfares with multiple lanes and high traffic volumes. Pedestrians often feel emboldened by a false sense of security, trusting drivers will see them and yield accordingly. This type of crossing also does not enhance the night time visibility of pedestrians waiting to cross. In some instances, an unmarked crosswalk is preferable as pedestrians would tend to be more cautious.

- 2) Overhead Signed Crosswalk with Downlighting – *Zebra style crosswalk road markings with overhead illuminated pedestrian crossing signs and downlighting.*

This type of traffic control provides motorists with better night time visibility at the crossing location, and encourages consolidation of pedestrians at a preferred location. It does not address the problem of overconfident pedestrians and the steep northbound approach which increases the safe stopping distance for vehicles, especially under wet conditions. There is also the issue on multi-lane roadways of vehicles slowing down or stopping for a pedestrian and being passed by a vehicle in the adjacent lane.

- 3) Special Crosswalk – *Same as overhead signed crosswalk, but also incorporates pedestrian actuated flashing amber beacons.*

In addition to the increased visibility and the consolidation of pedestrians provided by the overhead crossing sign, the inclusion of flashing amber beacons help motorists identify times when the crosswalk is occupied. These facilities are best suited to roads with lower travel speeds. Concerns remain regarding the downhill grade and the ability of large vehicles to stop efficiently.

- 4) Pedestrian Actuated Traffic Signal with Advance Warning Flashers

This type of traffic control presents a predictable level of control for motorists and safety for pedestrians, and is the same application currently in place on Willingdon south of Burke at Sardis St. It provides a clear requirement for motorists to stop, and with an advance warning flasher for northbound vehicles, will address the stopping distance requirements. Timing of the signal can be programmed to coordinate with adjacent traffic signals to minimize disruption to traffic flows during peak hours.

5.0 COMMUNITY INPUT

A petition has been received from the neighbourhood directly east and west of the intersection of Willingdon and Wildwood/Price. The petition shows that the large majority of households support the installation of a pedestrian crossing control at the intersection. Correspondence has also been received suggesting a pedestrian control at the intersection of Willingdon and Briarwood instead, and concerning the potential increase of parking problems on the west side of Willingdon because of Willingdon Church. A pedestrian facility at the intersection at Wildwood/Price is preferred to one at Briarwood because of its potential to serve more

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pedestrians (proximity to a nearby Church), it directly serves two of four bus stops, and it coincides conveniently with the slackening in grade along Willingdon. While there is a potential for parking overspill from Willingdon Church, this is mitigated by the fact that the church has made arrangements for parking at BCIT Campus. As well, the petition shows that a large majority of residents on the west side of Willingdon support the installation of a pedestrian crossing control.

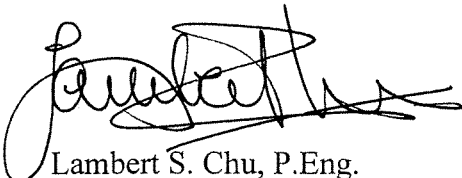
6.0 CONCLUSION

The installation of a pedestrian actuated traffic signal with a northbound advance warning flasher is recommended at the intersection of Willingdon Ave & Wildwood Cres/Price St. While a pedestrian actuated traffic signal was not found to be fully warranted utilizing the analysis criteria by the Transportation Association of Canada due to the low number of pedestrians crossing during peak periods, the following site specific conditions support the recommendation:

- High traffic volumes and speeds which include heavy vehicles
- Low pedestrian crossing opportunities during peak periods
- Very high level of community support
- Lack of nearby marked pedestrian crossing facility
- Significant northbound downhill grade
- Four lane cross section
- Meets the neighbourhood's long-term network needs with a link mid-way between the signalised intersections of Burke St and Moscrop St.

As discussed in the analysis above, use of lower category pedestrian crossing control does not provide a sufficient level of safety or convenience over current conditions.

The projected installation cost is estimated to be \$175,000 which includes design, advance warning flasher for northbound motorists, additional lighting at the intersection, and signal controller hardware for communications to provide for integration with the new emergency pre-emption system and coordination with adjacent signals. This project is not included in the current 5-year Provisional Capital Program. Subject to the approval of the Committee and Council, staff would include this project in the 2010 Annual Capital Plan. As this project is related to public safety improvement, it is recommended that funding required for the project be provided from the Gaming Fund Account.



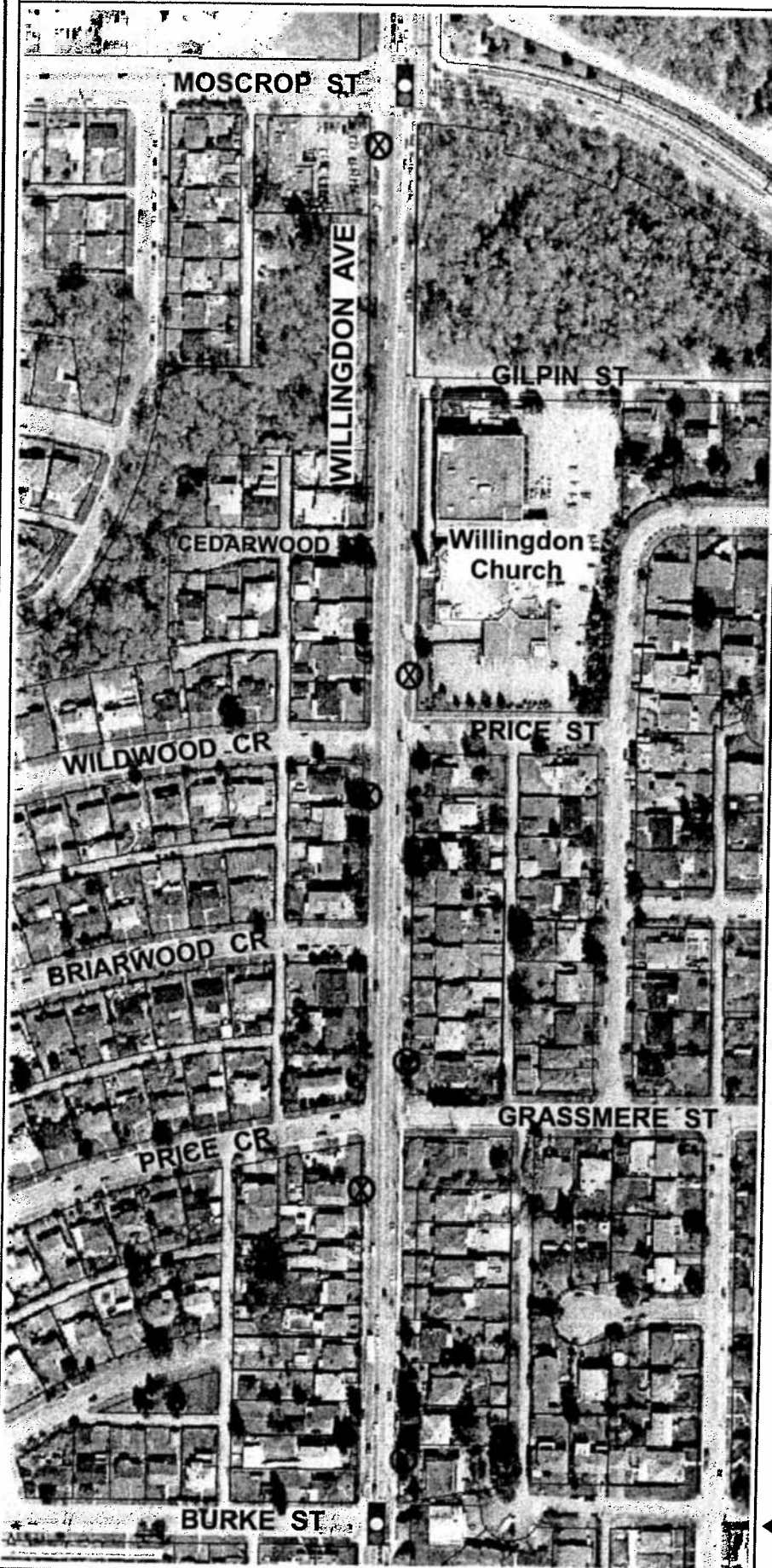
Lambert S. Chu, P.Eng.
DIRECTOR ENGINEERING

MDS/DL/br
Attachment

Copied: City Manager
Director Finance

Willingdon Ave btw Moscrop and Burke St

November 24, 2009



 Bus Stop Locations

 Existing Traffic Signal

FIGURE #1

Map Scale
1 : 2500

Willingdon Ave btw Moscrop and Burke St

November 24, 2009

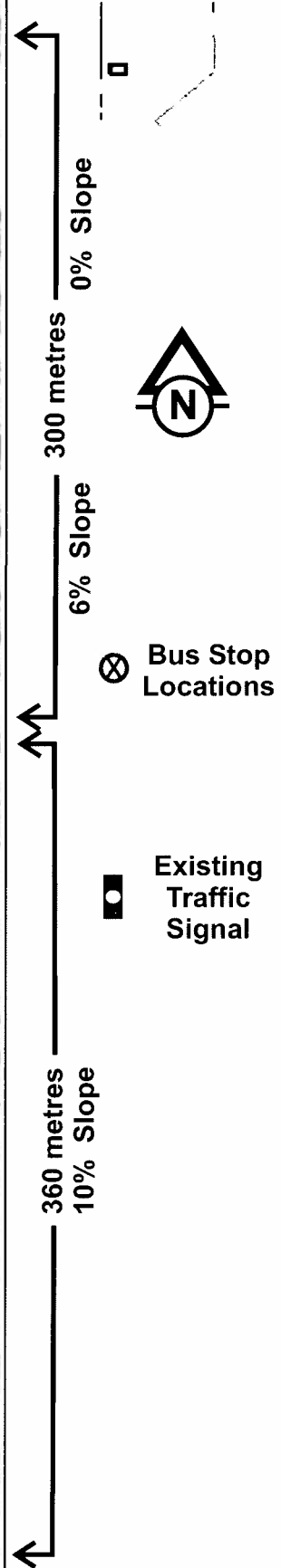
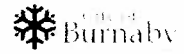


FIGURE #1

Map Scale
1 : 2500