



Meeting 2009 December 14

COUNCIL REPORT

TRANSPORTATION COMMITTEE

*HIS WORSHIP, THE MAYOR
AND COUNCILLORS*

SUBJECT: HASTINGS STREET TRAFFIC SIGNAL COORDINATION

RECOMMENDATION:

1. THAT Council receive this report for information.

REPORT

The Transportation Committee, at its meeting held on 2009 December 02, received and adopted the *attached* report which provides an update on the improvements to the traffic signal coordination plan on Hastings Street.

Respectfully submitted,

Councillor N. Volkow
Chair

Councillor S. Dhaliwal
Vice Chair

Councillor R. Chang
Member

Copied to:	City Manager Director Engineering Director Planning and Building
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TO: CHAIR AND MEMBERS
TRANSPORTATION COMMITTEE

DATE: 2009 November 23

FROM: DIRECTOR ENGINEERING

SUBJECT: HASTINGS ST TRAFFIC SIGNAL COORDINATION

PURPOSE: To advise the Committee of recent improvements to the traffic signal coordination plan on Hastings St.

RECOMMENDATION:

1. **THAT** the Committee receive this report for information and forward it to Council for information.

REPORT

1.0 Background

For the past four years, work has been progressing on a City-wide project to improve the traffic signal network. This project includes improved communications between traffic signals and a complete centralization of the management of traffic signal operations to a system of servers based in City Hall. Now that the project is nearing completion, we are able to utilize the enhanced capabilities of the system to make improvements to the traffic signal network.

An early priority was the Hastings St corridor. In 2009 August, a plan was initiated to improve coordination of the 18 traffic signals on this corridor between Ingleton Ave at the west end and Cliff Ave at the east end. The coordination plan was implemented this Fall. This report has been prepared to advise the Committee of the improvements that have been made.

2.0 Methodology

To initiate the traffic signal coordination along Hastings, travel times and delays were first measured with a vehicle equipped with GPS software. This allowed for the recording of vehicle speed, number of stops, and travel time between each of the intersections. A total of 10 runs were made for the AM and PM peak period and the results were averaged. This established a 'before' benchmark against which any improvements could be measured. The existing traffic signal operation and traffic conditions were then simulated using a specialized traffic signal analysis software. The traffic signal timings were then optimized and the resulting optimized timing plan was entered into each of the signal controllers using the central computer system

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From: Director Engineering
Re: Hastings St Traffic Signal Coordination
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timing plan was entered into each of the signal controllers using the central computer system from City Hall. After some field adjustments, the 'after' results were again measured with the GPS equipped vehicle.

3.0 Results

Tables 1 and 2 below compare the before and after results.

Parameters	Before Coordination	After Coordination	Difference	% Difference
Cumulative Travel Time (minutes)	7:40	6:24	-1:16	-17%
Traffic Delay(s)	2:24	1:08	-1:16	-53%
Number of Stops	4.2	3.0	-1.2	-29%

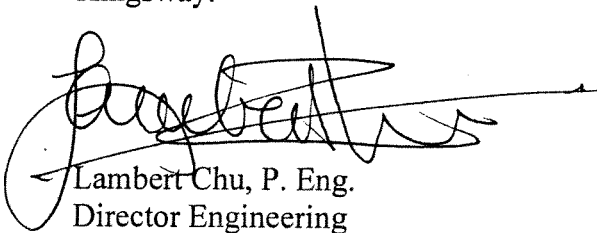
Table 1 – AM Peak Period Comparison (westbound)

Parameters	Before Coordination	After Coordination	Difference	% Difference
Cumulative Travel Time (minutes)	10:24	6:31	-3:53	-37%
Traffic Delay(s)	5:09	1:15	-3:54	-76%
Number of Stops	8.4	2.0	-6.4	-76%

Table 2 – PM Peak Period Comparison (eastbound)

The above tables show a significant improvement in traffic flow after the signals were coordinated along Hastings St. Over 1 minute in travel time was saved during the AM peak period in the westbound direction and almost 4 minutes were saved during the PM peak period in the eastbound direction. To maintain optimized traffic progression along the Hastings St corridor, a review of signal timings will be made on a regular basis, approximately every few years.

Continuing on with the success along Hastings St, the signal timings along other arterial corridors will also be reviewed. The next street being reviewed is North Road followed by Kingsway.



Lambert Chu, P. Eng.
Director Engineering

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Copied to: City Manager