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MEMO

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OUR FILE:	W:\7k\7359 City Center BRT Functional Planning\7359.500 Transport\7359.505 Technical Memos\PM peak hour analysis\7359-ks-signal timing options-v4.doc
SUBJECT:	Proposed Signal Timing for BRT at City Centre, Mississauga

During the traffic operational analysis conducted for morning and afternoon peak hours, signal timings at the Rathburn Road with City Centre Drive intersection and Rathburn Road with Hammerson Drive intersection were analyzed using the following criteria:

- Westbound left turns operate with Protected + Permitted phasing,
- BRT lines operate on a dedicated signal phase.

To address additional technical issues with respect to the traffic signal operations for the intersections noted above, a sensitivity analysis was undertaken. The analysis utilized the Synchro software to compute average delays for the Background traffic (Scenario 5.1) at the Rathburn Road and City Centre/Centre View Drive intersection for the afternoon peak hour considering the two signal timing options described below:

Option 1: BRT lines travel on dedicated traffic signal phasing (as assumed in the traffic operational analysis)

- Westbound left turns operate with Protected (Phase 1),+ Permitted (Phase 6) Eastbound left turns with permitted phase (Phase 2);
- BRT lines operate on a dedicated signal phase (Phase 9).

Option 2: BRT lines travel with the through traffic

- Eastbound and Westbound left turns operate with a Protected Phase only (Phase 1 and Phase 5 respectively);
- BRT lines as well as General traffic (eastbound and westbound) operate during the same phases (Phase 2 and Phase 6).

The average delays for the two options are presented below:

Options	**Average Intersection Delay**
Option 1	54.3 Seconds
Option 2	45.1 Seconds

The Synchro signal timing plans and Synchro Results for average delay for Option 1 and Option 2 are attached.

The above results show that the signal timing plan without a dedicated phase for BRT (Option 2) reduced the average delay. Therefore the Background and Total (future) traffic operational analysis with the BRT network may experience a reduction in estimated delay if the signal timings used in Option 2 are considered. This signal timing option would be used for the Rathburn Road/ City Centre/Centre View Drive intersection and for the Rathburn Road/ Hammerson Drive intersection.