

## **CITE STUDENT RESEARCH COMPETITION - REVISED DEC 21 2009**

### **Data for the 2010 Competition:**

1. Competitors will be able to download the following data files:
  - a. Warden Ave - Finch Ave TMC.PDF - Intersection Turning Movement Counts
  - b. Warden Ave - Finch Ave Signal Timing.PDF
  - c. Analysis Sheets.pdf
  - d. finch warden map - upstream distance measurement.PDF
  - e. VTS\_01\_1.VOB - Video of the intersection showing the peak 15 minute traffic flows and queues
  
2. Competitors will be required to show analysis work for the intersection using a manual calculation of the Canadian Capacity Guide Methodology for the southbound leg of the intersection. The Canadian Capacity Guide can be downloaded at:  
<http://www.cite7.org/resources/downloads.php>
  
3. Competitors will be required to show analysis work for all legs of the intersection using computer software and output from Computer supplied. The software to be used is:
  - a. The InterCalc software that supports the Canadian Capacity Guide can be downloaded form: <http://www.intercalc.ca/>
  - b. The HCS+ Version 5.4 software output is supplied in the Analysis Sheets file.
  - c. Synchro software output is supplied in the Analysis Sheets file.
  - d. Location of Municipality – City of Toronto
  - e. Intersection Geometrics – in Analysis Sheets file
  - f. Saturation Flow – 1900 vphg – use this for all default values
  - g. Pedestrian Walk Speeds – 1.0 m/s from City of Toronto
  - h. quality of progression from upstream signalized intersection; start with the Arrival Type 3 as a default value and then review video and modify, be sure to state why you have modified the value used.
  - i. PHF (Peak Hour Factors) SB=0.92; WB=0.95; NB=0.77; EB=0.87.
  - j. 60km/hr and 115m for travel time in calculation of delay
  - k. average truck/bus equivalency of 2.0
  - l. assume 7m as Average PCU Length
  - m. 5 second Lost time
  - n. 2 Lefts/cycle on Inter-Green for all lefts
  - o. 2 rights/Cycle on Inter-Green for all rights

- p. approximately 29 m to cross SB (or north leg); 28 m to cross WB (east leg); 27.6 to cross NB (south leg); and 28.4 m to cross EB (west leg)

4. Recommendations – assumptions for the competition:

- When doing the queue survey from the video it is recommended to use one person for the arrivals, one for the departures and one to call out the time. The CCG manual recommends using 10 second intervals. If you download a free stopwatch software this will assist you in watching the 15 minute video and seeing the time simultaneously.
  - <http://www.nestersoft.com/timeleft/>
- It is recommended that when you do the data collection and analysis work you work with others, once this work is complete you should work independently on your own report.
- The committee assumes that questions will arise as the competition progresses. A frequently asked question page will be developed to help answer these enquiries.
- Students should use the default values in InterCalc if they are not specify in the Item 3.