

APPENDIX G ROUNDABOUT / INITIAL SCREENING AND TRAFFIC CONTROL STUDY CRITERIA

Horizon Year	10 years with sensitivity analysis of when 10 year design will start to perform at a LOS D or worse
Capacity Analysis	Use Region of Waterloo approved software
Cost Assumptions	<ul style="list-style-type: none"> o Cost of traffic signals to include all road widening to provide required turning lanes and in the case of a project identified for widening in the Region's 10 Year Capital Program cost of the ultimate widening is to be included. o For illumination, the cost of the implementation, operation, and maintenance of both traffic signals and roundabout should be calculated as per current Region of Waterloo practice. A check list is available. o For the operation of traffic signals use the most recent estimation. Check the list available from the Region of Waterloo o For traffic signals, assume full equipment replacement after 15 years
Present Value Calculations	Use the most recent calculated value of the discount rate, and the injury collision cost as per current Region of Waterloo estimation. The Region of Waterloo will provide a list for the most recent values.
RODEL Confidence Level	<ul style="list-style-type: none"> o use 50% confidence level for capacity analysis and concept development o use 85% confidence level for sensitivity analysis o use 95% confidence level for estimating queue length
ARCADY Parameters	<ul style="list-style-type: none"> o use 100% capacity for initial analysis and concept development o use Y-intercept adjustment to 85% capacity for sensitivity analysis
Collision Rates	The Region of Waterloo will supply expected collision rates for the signals. Expected collision rates for the roundabout are assumed to be 50% or less of the signalized rate.
Design Vehicle	WB-20

Please refer to the following link for more information regarding the Roundabout Control Study and sample of the preliminary design. "Roundabout Workshop Guide":

www.region.waterloo.on.ca

Living Here-Transportation-Other Transportation and Related Projects-Transportation Impact Study Guidelines-Roundabout Workshop-May7, 2009.

<http://www.region.waterloo.on.ca/web/region.nsf/97dfc347666efede85256e590071a3d4/f97a7c3f47dc74128525750f00512b13!OpenDocument>