



**synectics**  
SAFETY SPECIALISTS

The Region of Waterloo has undertaken a preliminary design of a new roadway infrastructure project proposed as “Ira G. Needles Boulevard”. The ultimate alignment is suggested to be a four-lane arterial roadway, but was built initially with a two-lane cross-section beyond Highland Road. This new roadway will intersect with several existing crossing streets, of which six are proposed as roundabouts. As the Ira G. Needles Boulevard project is a significant undertaking for the Region, a certain level of confidence was desired to ensure that the roundabouts will operate as expected on opening day and when the roadway is widened in the future.



To this end, the Region of Waterloo hired Synectics to conduct an independent review of the “key” design features of the roundabouts. Synectics teamed up with Kittelson & Associates for this assignment, the company that developed FHWA Informational Guide on Roundabouts and gained an extensive experience of design and safety review of roundabouts in the United States. Kittelson & Associates conducted peer reviews of the drafts of this document and provided an input based on their own safety review of the proposed roundabouts on Ira G. Needles Boulevard.