



REGIONAL MUNICIPALITY OF WATERLOO CONSOLIDATED COUNCIL AGENDA

Wednesday, February 8, 2012
Closed Session 6:45 p.m.
WATERLOO COUNTY ROOM
Regular Meeting 7:00 p.m.
REGIONAL COUNCIL CHAMBER
150 Frederick Street, Kitchener, ON

*Denotes Item(s) Not Part of Original Agenda

1. **MOMENT OF SILENCE**

2. **ROLL CALL**

3. **MOTION TO GO INTO CLOSED SESSION**

THAT a closed meeting of Council be held on Wednesday, February 8, 2012 at 6:45 p.m. in Waterloo County Room in accordance with Section 239 of the Municipal Act, 2001, for the purposes of considering the following subject matters:

- a) receiving of advice subject to solicitor-client privilege related to legislation
- b) proposed or pending acquisition of land in the City of Kitchener

4. **MOTION TO RECONVENE IN OPEN SESSION**

5. **DECLARATION OF PECUNIARY INTEREST UNDER THE MUNICIPAL CONFLICT OF INTEREST ACT**

6. **PRESENTATIONS**

- a) Martin de Groot, Chair, Region of Waterloo Arts Fund re: Annual Report to Regional Council

7. **PETITIONS**

8. **DELEGATIONS**

- * a) Mark Whaley, Waterloo, re: F-12-012 T2012-001 Waterloo Landfill Site, North Expansion Area Cell Four (NE-4) Leachate and Landfill Gas Collection Systems, Waterloo, Ontario

9. **MINUTES OF PREVIOUS MEETINGS**

- a) Budget – January 18, 2012
- b) Closed Council – January 18, 2012
- c) Council – January 18, 2012
- d) Planning & Works Public – January 31, 2012
- e) Planning & Works – January 31, 2012
- f) Administration & Finance – January 31, 2012

- g) Closed Committee – January 31, 2012
- h) Community Services – January 31, 2012
- i) Planning & Works RT Procurement Briefing – January 31, 2012
- * j) Closed Planning and Works – February 7, 2012
- * k) Planning & Works Public – February 7, 2012

10. **COMMUNICATIONS**

11. **MOTION TO GO INTO COMMITTEE OF THE WHOLE TO CONSIDER REPORTS**

12. **REPORTS**

Finance Reports

- a) [F-12-012](#), T2012-001 Waterloo Landfill Site, North Expansion Area Cell Four (NE-4) Leachate and Landfill Gas Collection Systems, Waterloo, Ontario 1
- b) [F-12-013](#), P2011-53 Well Rehabilitation and Well Pump Maintenance Program 2011 3
- c) [F-12-014](#), T2011-022 Kitchener-Waterloo Zone 6 Elevated Tank, City of Waterloo 5

Committee Reports

- a) Planning & Works – attached & marked [PS-120131](#) 7
- * Closed Planning & Works – attached & marked [CPS-120131](#) 12A
- * Planning & Works – attached & marked [PS-120207](#) 12C
- b) Administration & Finance – attached & marked [FS-120131](#) 13
- * Closed Administration & Finance – attached & marked [CFS-120131](#) 14A
- c) Community Services – attached & marked [SS-120131](#) 15
- * Closed Community Services – attached & marked [CSS-120131](#) 16A
- * d) Economic Development & Promotion – *To be Distributed at Meeting*

Chief Administrative Officer

Regional Chair

Regional Clerk

13. **OTHER MATTERS UNDER COMMITTEE OF THE WHOLE**

- a) [E-12-014](#), 2010 Collision Report on Roundabouts in the Region of Waterloo 17
(*Referred from January 31, 2012 Planning and Works Committee*)

14. **MOTION FOR COMMITTEE OF THE WHOLE TO RISE AND COUNCIL RESUME**

15. **MOTION TO ADOPT PROCEEDINGS OF COMMITTEE OF THE WHOLE**
16. **MOTIONS**
17. **NOTICE OF MOTION**
18. **UNFINISHED BUSINESS**
19. **OTHER BUSINESS**
20. **QUESTIONS**
21. **ENACTMENT OF BY-LAWS – FIRST, SECOND & THIRD READINGS**
 - a) A By-law to Amend By-law 06-072, as amended, Being the Traffic and Parking By-law (Lane Designations)
 - b) A By-law to Confirm the Actions of Council – February 8, 2012
22. **ADJOURN**



REGION OF WATERLOO

FINANCE DEPARTMENT Procurement & Supply Services Division

Report: F-12-012

TO: Regional Chair Ken Seiling and Members of Regional Council

DATE: February 8, 2012 **FILE CODE:** F18-30

SUBJECT: **T2012-001 WATERLOO LANDFILL SITE, NORTH EXPANSION AREA CELL FOUR (NE-4) LEACHATE AND LANDFILL GAS COLLECTION SYSTEMS, WATERLOO, ONTARIO**

RECOMMENDATION:

THAT the Regional Municipality of Waterloo accept the tender of Kieswetter Excavating Inc. for the Waterloo Landfill Site, North Expansion Area Cell Four (NE-4) Leachate and Landfill Gas Collection Systems, Waterloo, Ontario at a total price of \$3,663,926.76 including all applicable taxes.

SUMMARY: Nil

REPORT:

Tenders were called for the Waterloo Landfill Site, North Expansion Area Cell Four (NE-4) Leachate and Landfill Gas Collection Systems, Waterloo, Ontario and were opened in the presence of T. Annett, J. Arsenault and T. Lumgair.

The following tenders were received:

Kieswetter Excavating Inc.	Heidelberg, ON	\$3,663,926.76
Nellis Construction Ltd,	Acton, ON	\$4,104,327.17
Bel-Air Excavating & Grading Ltd.	Cambridge, ON	\$4,253,051.28
Van Rooyen Earthmoving Ltd.	Woodstock, ON	\$4,287,985.26
The Cannington Group	Gormley, ON	\$4,381,587.17
Gateman Milloy Inc.	Kitchener, ON	\$4,506,591.34
Sierra Excavating Enterprises Inc.	Woodstock, ON	\$4,594,425.50
J-AAR Excavating Limited	London, ON	\$4,611,497.80
Brantford Engineering & Construction Ltd.	Brantford, ON	\$4,872,955.39
Moorefield Excavating	Harriston, ON	\$4,907,521.74
Ron Murphy Contracting Co. Ltd.	London, ON	\$6,641,968.81

Cell NE-4 is intended to be constructed within the North Expansion Area of the Waterloo Landfill Site in 2012 to provide on-going disposal capacity at the site, as existing operating cells approach capacity. The Cell NE-4 construction project will generally include:

- excavation of cell NE-4 base and sidewalls to sub-base grades, including segregation and stockpiling of surplus excavated soils;
- construction and testing of two engineered clay liner test pads to confirm construction methods;
- excavation, segregation, and stockpiling of overburden from the south expansion area clay borrow area;

- excavation, hauling, placement and compaction of engineered liner-quality clay material over the entire NE-4 base and the north, east, and south sidewalls of cell NE-4;
- excavation of waste to allow inter connection to existing NE-1/NE-2 base and stone drainage layer and hauling, placing, compacting, and covering of waste in a designated disposal area;
- supply and placement of continuous 38-50 mm clear stone drainage layer over the cell NE-4 base liner, including supply and placement of geotextiles and HDPE leachate collection piping; and,
- installation of Region supplied HDPE landfill gas collection piping and valve chamber connections for the landfill gas system reconfiguration.

Subject to Council approval, construction will commence on or around March 1, 2012 with completion of all works by October 30, 2012.

Cell NE-4, leachate and landfill gas collection systems will be constructed in accordance with the Ministry of Environment (MOE) Certificate of Approval No. A140301 (as amended) for the site and therefore no new approvals are required for this work.

CORPORATE STRATEGIC PLAN:

The project meets the Corporate Strategic Plan objective 2.2.1 to “continue to prioritize and implement capital program projects required to meet community needs and ensure sustainability” under Strategic Focus Area 2.2. to “develop, optimize and maintain infrastructure to meet current and projected needs.”

FINANCIAL IMPLICATIONS:

Contract T2012-001		\$3,663,926.76
Contract Administration		\$370,075.00
Geotechnical Testing/Quality Control		\$111,870.00
Site Preparation and Decommissioning		\$101,700.00
Regional Engineering		\$80,000.00
Landfill Gas Piping and Connections		<u>\$34,578.00</u>
	Sub-total	\$4,362,149.76
Less: Municipal Rebate of 86.46% of HST (11.24%)		<u>(\$425,941.27)</u>
	Total	<u>\$3,936,208.49</u>

The approved 2012 Waste Management Ten Year Capital Program includes \$4,172,000 for the North Expansion Area Cell Four (NE-4) Leachate and Landfill Gas Collection Systems (project #01154) to be financed by debentures. Based on the low tender result, the cost of this work is approximately \$235,791.51 (5.6%) under the budgeted amount. The cost savings are attributed to very competitive pricing due to high contractor interest in this project as evidenced by the 11 tenders received. The high contractor interest may be attributable to recent completion of infrastructure projects and greater contractor availability for new work.

The final date of acceptance for this tender is March 12, 2012.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE: Nil

ATTACHMENTS: Nil

PREPARED BY: C. Whitlock, Director, Procurement & Supply Services

APPROVED BY: A. Hinchberger, Acting Chief Financial Officer



REGION OF WATERLOO

**FINANCE DEPARTMENT
Procurement & Supply Services Division**

TO: Regional Chair Ken Seiling and Members of Regional Council

DATE: February 8, 2012 **FILE CODE:** F18-40

SUBJECT: P2011-53 WELL REHABILITATION AND WELL PUMP MAINTENANCE PROGRAM 2011

RECOMMENDATION:

THAT the Regional Municipality of Waterloo accept the proposal of Lotowater Technical Services Inc. for the Well Rehabilitation and Well Pump Maintenance Program 2011 for a two year term at an estimated total cost of \$666,163.25 including all applicable taxes.

SUMMARY: Nil

REPORT:

Proposals were called for Well Rehabilitation and Well Pump Maintenance Program 2011 and were opened in the presence of F. Smith, M. Howlett and J. Markovic.

The following proposals were received:

Lotowater Technical Services Inc.	Paris, ON	\$ 666,163.25
International Waterloo Supply Ltd.	Barrie, ON	\$ 874,636.95
Gerrits Drilling & Engineering Ltd.	Grand Valley, ON	\$1,022,452.25

Proposals were evaluated based on the following criteria: work methodology, approach and understanding, project manager, professional and technical staff experience, contractor's experience, equipment and labour capabilities, past experience on similar projects, and price.

The work of this contract is for the implementation of the Well Rehabilitation and Well Pump Maintenance Program for 2012 and 2013. This includes complete assessments with recommendations for ten wells, in addition to any emergency repairs for remaining wells and well pumps throughout the Region's Water Supply System.

The contractor will undertake the required well and equipment assessments for each well site and recommend corrective action. Subject to Regional staff review and approval, the contractor will undertake recommended well and equipment maintenance activities. Unforeseen or extra costs will be paid for from the contingency and provisional allowances.

The proposal submitted by Lotowater Technical Services Inc. obtained the highest overall score and lowest total cost. The proposal is for a two (2) year term with the option to extend for additional two (2), one year terms. Subject to Council approval, it is anticipated that the contractor will commence work in mid February.

CORPORATE STRATEGIC PLAN:

The program meets the Corporate Strategic Plan Focus Area 2: "Growth Management and Prosperity", strategic objective "develop and implement a comprehensive asset management strategy to achieve optimal long-term value from Regional Infrastructure."

FINANCIAL IMPLICATIONS:

P2011-53	\$666,163.25
Less: Municipal Rebate of 86.48% of HST (11.24%)	<u>(66,262.61)</u>
Total	<u>\$599,900.64</u>

The approved 2012 Water Operations Budget provides an annual budget of \$550,000 in 2012 and \$550,000 in 2013 for this program. The remainder of the budget will be utilized to undertake other well maintenance activities.

The final date of acceptance for this proposal is February 15, 2012.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE: Nil

ATTACHMENTS: Nil

PREPARED BY: *C. Whitlock*, Director, Procurement & Supply Services

APPROVED BY: *A. Hinchberger*, Acting Chief Financial Officer

**REGION OF WATERLOO****FINANCE DEPARTMENT
Procurement & Supply Services Division**

TO: Regional Chair Ken Seiling and Members of Regional Council

DATE: February 8, 2012 **FILE CODE:** F18-30

SUBJECT: **T2011-022 KITCHENER-WATERLOO ZONE 6 ELEVATED TANK, CITY OF WATERLOO**

RECOMMENDATION:

THAT the Regional Municipality of Waterloo accept the tender of Landmark Structures Co. for the construction of the Kitchener-Waterloo Zone 6 Elevated Tank, City of Waterloo at a total price of \$7,724,680.00 including all applicable taxes.

SUMMARY: Nil

REPORT:

Tenders were called for the Kitchener-Waterloo Zone 6 Elevated Tank, City of Waterloo and were advertised in the Record, the Daily Commercial News, the Ontario Public Buyers Association website and the Region's website. The tender was opened in the presence of J. Borovicka, H. Fourie and L. Buitenhuis.

The following bid was received:

Landmark Structures Co.	Burlington, ON	\$7,724,680.00
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Eighteen (18) registered vendors picked up tender documents. Eight (8) of the vendors were general contractors; the remainder were subcontractors, equipment suppliers and construction associations. Indications during the bid process were that the Region would receive two (2) bids. Post bid closing staff contacted the potential second supplier to inquire why no bid was submitted. Staff was informed that due to various circumstances the vendor chose not to bid. Landmark Structures Co. (Landmark) submitted the only tender. The construction of elevated tanks is a highly specialized field with very few qualified contractors working in any given geographic area. Landmark is a civil construction company specializing in construction of elevated water tanks with an extensive and proven competence record for constructing this type of composite elevated tanks across North America. Since 1978, Landmark has constructed approximately 150 elevated tanks in the Canada and USA and established themselves as leaders in this field with quality work and competitive pricing. Two similar elevated tanks in the Region of Waterloo (Freeport and Baden) were also constructed by Landmark. In 2006, Landmark submitted the only tender for the Baden Water Tower Replacement. Regional staff and our consultant concluded that the price submitted by Landmark is fair and reasonable.

The work of this contract will enhance the water supply in western Kitchener and Waterloo. This contract includes:

- Construction of a composite 7.2 million litre elevated tank;
- Installation of process piping, electrical and SCADA systems;

- Construction of approximately 810 metres of 450mm diameter watermain;
- Construction of sanitary and storm sewer pipelines;
- Construction of permanent and temporary roadways; and
- Site grading and landscaping.

In 2001, a Schedule B Class Environmental Assessment (EA) was completed for the Kitchener-Waterloo Zone 5 and 6 Water Supply. This EA recommended water supply system upgrades to enhance long term servicing of western areas of Kitchener and Waterloo. The preferred alternative included expansion of the Kitchener Zone 4, 5 and 6 Pumping Station (previously completed), construction of several new watermains (previously completed) and a new 7,200 cubic metres (7.2 million litres) elevated water storage tank located northwest of the intersection of University Avenue and Ira Needles Boulevard.

The necessary approvals for this project have been obtained from the Ministry of the Environment, Grand River Conservation Authority and the City of Waterloo.

Subject to Council approval, construction is scheduled to commence on February 28, 2012 with completion expected by November 29, 2013.

CORPORATE STRATEGIC PLAN:

Award of this contract meets the Corporate Strategic Plan objective to “develop, optimize and maintain infrastructure to meet current and projected needs” under Strategic Focus Area 2 to “manage growth to foster thriving and productive urban and rural communities.”

FINANCIAL IMPLICATIONS:

T2011-022	\$7,724,680.00
Engineering – Consultant	310,150.00
Welding and Tank’s Coating Inspections	70,000.00
Engineering – Regional	60,000.00
Geotechnical Inspection, Materials Testing	<u>56,000.00</u>
	Sub-total \$8,220,830.00
Less: Municipal Rebate of 86.46% of HST (11.24%)	<u>811,749.82</u>
	Total <u>\$7,409,080.18</u>

The approved 2012 Water Services Ten Year Capital Program includes a total budget of \$7,511,000 for capital works for the Kitchener-Waterloo Zone 6 Elevated Tank (project #4940). The net total estimated project cost of \$7,409,080.18 is within 1% of the project budget. This work will be funded from the Regional Development Charges Reserve Fund.

The final date of acceptance for this tender is March 16, 2012.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE: Nil

ATTACHMENTS: Nil

PREPARED BY: C. Whitlock, Director, Procurement & Supply Services

APPROVED BY: A. Hinchberger, Acting Chief Financial Officer

**THE REGIONAL MUNICIPALITY OF WATERLOO
PLANNING AND WORKS COMMITTEE**

Summary of Recommendations to Council

The Planning and Works Committee recommends as follows:

1. THAT the Regional Municipality of Waterloo approve the implementation of the recommended collision countermeasures at the Homer Watson Boulevard/Block Line Road roundabout as outlined in Report E-12-006, dated January 31, 2012;

AND THAT staff meet with representatives of the Canadian National Institute for the Blind and the Grand River Accessibility Advisory Committee to develop solutions for the visually- and hearing-impaired at all roundabouts and intersections in the Region of Waterloo.
2. THAT the Regional Municipality of Waterloo approve the 2011 – 2014 Grand River Transit Business Plan, as described in Report P-12-013, dated January 31, 2012, including:
 - the proposed service plan, based on developing a network of express routes to streamline integration with adapted Bus Rapid Transit and Light Rail Transit services, supported by redesigned local routes;
 - the fare strategy, based on annual fare increases of between 5% and 9%, until transit revenue and the municipal contribution to transit operating costs are equal;
 - setting universal pass (U-Pass) prices based on achieving equal cost recovery between U-Pass programs and other customers;
 - providing service to the Townships at the request of, and developed in collaboration with, each respective Township, with the full costs of permanent service to be assumed by the Township requesting the service and that allocation of pilot program costs are to be determined;
 - developing and implementing a multi-year marketing plan consistent with the marketing strategy detailed in this report;
 - working with Metrolinx and the Province to develop expanded rail services to the Region of Waterloo; and
 - implementation of the new Business Plan subject to annual Regional Council budget deliberations.
3. THAT the Region of Waterloo accept P-12-010, Monthly Report of Development Activity for December 2011, dated January 31, 2012.
4. THAT the Regional Municipality of Waterloo accept the proposal of Urban Strategies, for the Central Transit Corridor Development Strategy at an upset limit of \$643,450.25 including all applicable taxes, as described in Report No. P-12-012, dated January 31, 2012.

Conflicts:
K. Seiling
R. Deutschmann
D. Craig

5. THAT the Regional Municipality of Waterloo approve the following with regard to Highway 401 (Hespeler Road to Halton), as described in Report No. P-12-014, dated January 31, 2012:
 - a) Endorse the protection of the Highway 401 corridor to accommodate eight lanes and two high-occupancy vehicle lanes, and the provision of sufficient width to accommodate these lanes when replacing all structures;
 - b) Encourage the Province of Ontario to consider increased passenger rail service, including extension of GO Rail service along the Milton Line to Cambridge and enhanced GO Rail service along the Georgetown Line to Kitchener, prior to the physical widening of Highway 401;
 - c) Continue to work with the Ontario Ministry of Transportation and the City of Cambridge to identify appropriate pedestrian and cyclist crossing provisions for the Hespeler Road and Franklin Boulevard interchanges, and develop cost sharing agreements to implement these measures as soon as possible; and
 - d) Encourage the Ontario Ministry of Transportation to consider modifications to the Townline Road interchange and carpool lot to accommodate inter-regional bus operators.

6. THAT the Regional Municipality of Waterloo approve the preferred alignment detailed in the Waterloo Spur Line Multi-Use Trail Feasibility and Design Study, with construction subject to finalizing funding as described in Report No. P-12-015, dated January 31, 2012.

7. THAT the Regional Municipality of Waterloo appoint the following Regional Councillors to the following project and study teams:

No.	Description	Area Municipality	Suggested Council Representative
2.	King-Victoria Transit Hub		<i>S. Strickland</i>
7.	Transit Service Improvement Plan (Kitchener)	Kitchener	<i>J. Haalboom</i>
8.	Transit Service Improvement Plan (Cambridge)	Cambridge	<i>J. Brewer</i>
10.	University Avenue Express	Waterloo/Kitchener	<i>J. Mitchell</i>
11.	Goods Movement Study		<i>G. Lorentz</i>
12.	GRT SmartCard Implementation	Region	<i>J. Wideman</i>
13.	aBRT Implementation	Kitchener/Cambridge	<i>C. Millar</i>

25.	Homer Watson Improvements, Doon South Drive to Conestoga College Boulevard - Environmental Assessment in 2012-2014 - Design in 2014-2016 - Construction in 2017	Kitchener	<i>T. Galloway</i>
67.	Integrated Urban System Groundwater Study, Cambridge East Environmental Assessment	Cambridge	<i>(vacancy)</i>
73.	West Montrose Class Environmental Assessment	Woolwich	<i>T. Cowan</i>
74.	Water Supply Master Plan – Update	Region	<i>J. Brewer J. Haalboom J. Mitchell</i>
86.	Speed River (Hespeler WWTP) and Grand River (Waterloo WWTP) Assimilative Capacity Study	Cambridge and Waterloo	<i>C. Millar J. Mitchell</i>
87.	Biosolids Strategy Class Environmental Assessment	Region	<i>J. Wideman S. Strickland</i>
88.	East Side Pump Station and Forcemain – Class EA and Pre-design	Cambridge Woolwich	<i>T. Cowan</i>

AND THAT the Regional Municipality of Waterloo forward the requests for area Councillor representatives on project and study teams to the Area Municipalities as described in Appendix A to Report No. E-12-016/P-12-008, dated January 31, 2012.

8. THAT The Regional Municipality of Waterloo direct and authorize the Regional Solicitor to take the following actions with respect to the expropriation of lands for the reconstruction of Weber Street West between College Street and Guelph Street, in the City of Kitchener, in the Region of Waterloo as detailed in report CR-RS-12-007 dated January 31, 2012:
 1. Complete application(s) to the Council of the Regional Municipality of Waterloo, as may be required from time to time, for approval to expropriate land, which is required for the reconstruction of Weber Street and described as follows:

Fee Simple Partial Taking:

- a) Part of Lot 394, Plan 376, being Part 1 on Reference Plan 58R-17282, City of Kitchener, P.I.N. 22319-0047 (LT) (178 Louisa Street)
- b) Part of Lot 16, Registered Plan 374, being Parts 1 and 2 on Reference Plan 58R-17285, City of Kitchener, P.I.N. 22319-0176 (R) and 22319-0175 (LT) (84 Victoria Street North)
- c) Part of Lot 8 and 9, South side of Weber Street and West side of College Street, Plan 401, being Part 1 on Reference Plan 58R-17284 and Part 1, on Reference Plan 58R-17378, City of Kitchener, P.I.N. 22317-0073 (LT) (79-85 Weber Street West)
- d) Part of Lot 17, Registered Plan 374, being Part 1 on Reference Plan 58R-17283, City of

- Kitchener, P.I.N. 22320-0071 (LT) (122 Weber Street West/ 110 Victoria Street North)
- e) Part of Lot 3, Plan 131, being Part 1 on Reference Plan 58R-17363, City of Kitchener, P.I.N. 22325-0096 (LT) (40 Wilhelm Street)
 - f) Part of Lot 5, Plan 400, being Parts 2,3,4 and 5 on Reference Plan 58R-17363, City of Kitchener, P.I.N.S 22320-0012 (LT) and 22320-0001(LT) (43 Wilhelm Street)

Temporary Easement for Rail Line Detour:

- g) Part of Lot 2, Subdivision of Lot 16, German Company Tract, being Part 2 on Reference Plan 58R-17281, City of Kitchener, P.I.N. 22319-0173 (LT) (282 Duke Street West)
- h) Part of Lot 2 Municipal Complied Plan of Subdivision of Lot 16 German Company Tract and Part of Lot 19, Municipal Complied Plan of Subdivision of Lot 3, German Company Tract, being Part 1 on Reference Plan 58R-17281, City of Kitchener, P.I.N. 22319-0193 (LT) (113 Breithaupt Street)

Temporary Easement for Construction Yard:

- i) Part of Lot 17, Registered Plan 374 , being Part 1 on 58R-17354, City of Kitchener, P.I.N. 22320-0071 (LT) (122 Weber Street West/ 110 Victoria Street North)

Full Taking:

- a) Part Lot 16, Plan 374, Part Lot 19, Subdivision of Lot 3, German Company Tract, being Parts 1 and 2, on Reference Plan 58R-5402, City of Kitchener, P.I.N. 22319-0177 (LT) (100 Victoria Street North)
- b) Part Lot 19, Subdivision of Lot 3, German Company Tract, Part Lot 221, Plan 376, being Part 1, on Reference Plan 58R-11146, City of Kitchener, P.I.N. 22319-0195 (LT) (125 Weber Street West)
- c) Part Lot 155-156, Plan 376, City of Kitchener, P.I.N. 22319-0161 (LT) (133 Weber Street West)
- d) Part Lot 81, Plan 376, City of Kitchener, P.I.N. 22319-0150 (LT) (135 Weber Street West)
- e) Part Lot 155-156, Plan 376, Part Lot 45, Streets and Lanes, City of Kitchener, P.I.N. 22319-0159 (127 Weber Street West)
- f) Part Lot 155-156, Plan 376, Part Lot 45, Streets and Lanes, City of Kitchener, P.I.N. 22319-0160 (131 Weber Street West)
- g) Part Lots 1 to 5, Plan 389, being Parts 1 to 5 on Reference Plan 58R-6324, City of Kitchener, P.I.N. 22315-0011 (LT) (108/110 Weber Street West)
- h) Part Lot 320, Plan 376, City of Kitchener, P.I.N. 22319-0094 (LT) (157 Weber Street West)
- i) Part Lots 8 and 9, Plan 389, as in A115620 (firstly) except Part 1 on Reference Plan 58R-13446, City of Kitchener, P.I.N. 22315-0303 (LT) (100 Weber Street West)
- j) Part Lot 80, Plan 376, as in 1236916, City of Kitchener, P.I.N. 22319-0148 (LT) (143 Weber Street West)
- k) Part Lot 267, Plan 376, City of Kitchener, P.I.N. 22319-0103 (LT) (162 Wellington Street North)
- l) Part Lots 4 and 8, Plan 389, City of Kitchener, P.I.N. 22315-0020 (LT) (104 Weber Street West)
- m) Part Lot 320, Plan 376, City of Kitchener, P.I.N. 22319-0093 (LT) (161 Weber Street West)
- n) Part Lot 267, Plan 376, Part Lot 69, Streets and Lanes, City of Kitchener, P.I.N. 22319-0104 (LT) (153 Weber Street West)

- o) Part Lot 19, Subdivision of Lot 3, German Company Tract, being Part 4 on Reference Plan 58R-11146, City of Kitchener, P.I.N. 22319-0194 (LT) and Part Lot 221, Plan 376, City of Kitchener, P.I.N. 222319-0171 (LT) (123 Breithaupt Street)
 - p) Part Lot 155, Plan 376, City of Kitchener, P.I.N. 22319-0158 (LT) (126 Breithaupt Street)
 - q) Part Lot 155-156, Plan 376, Part Lot 45, Streets and Lanes, City of Kitchener, P.I.N. 22319-0161 (LT) (133 ½ Weber Street West)
2. Serve notices of the above application(s) required by the Expropriations Act;
 3. Forward to the Chief Inquiry Officer any requests for a hearing that may be received;
 4. Attend, with appropriate Regional staff, at any hearing that may be scheduled;
 5. Discontinue expropriation proceedings or any part thereof, in respect of the above described lands, or any part thereof, upon the registration on title of the required documentation to complete a transaction whereby the required interests in the lands are conveyed; and
 6. Do all things necessary and proper to be done, and report thereon to Regional Council in due course.
9. THAT the Regional Municipality of Waterloo amend Traffic and Parking By-Law # 06-072, as amended to:
- a) Add to Schedule 16 - Lane Designation, northbound through, northbound through / left-turn movement on Ira Needles Boulevard (Regional Road 70) at The Boardwalk;
 - b) Add to Schedule 16 - Lane Designation, southbound through / right-turn, southbound through on Ira Needles Boulevard (Regional Road 70) at The Boardwalk;
 - c) Add to Schedule 16 - Lane Designation, eastbound right-turn, eastbound left-turn on The Boardwalk at Ira Needles Boulevard (Regional Road 70);
 - d) Add to Schedule 16 - Lane Designation, northbound through / right-turn, northbound through / left-turn on Homer Watson Boulevard (Regional Road 28) at Block Line Road;
 - e) Add to Schedule 16 - Lane Designation, southbound through / right-turn, southbound through, southbound through / left-turn on Homer Watson Boulevard (Regional Road 28) at Block Line Road;
 - f) Add to Schedule 16 - Lane Designation eastbound through / right-turn, eastbound through / left-turn on Block Line Road at Homer Watson Boulevard (Regional Road 28);
 - g) Add to Schedule 16 - Lane Designation, westbound through / right-turn, westbound through / left-turn on Block Line Road at Homer Watson Boulevard (Regional Road 28);
 - h) Add to Schedule 16 - Lane Designation, eastbound through / left-turn, eastbound through / right-turn on Fairway Road (Regional Road 53) at Zeller Drive; and
 - i) Add to Schedule 16 - Lane Designation, westbound through / left-turn, westbound through / right-turn on Fairway Road (Regional Road 53) at Zeller Drive

in the City of Kitchener, as outlined in report E-12-013, dated January 31, 2012.

AND THAT the Regional Municipality of Waterloo amend Traffic and Parking By-Law # 06-072 to:

- a) Add to Schedule 16 - Lane Designation, northbound through / right-turn, northbound

through / left-turn on Dickie Settlement Road (Regional Road 71) at Fountain Street (Regional Road 28);

- b) Add to Schedule 16 - Lane Designation, eastbound through / right-turn, eastbound through / left-turn on Fountain Street (Regional Road 28) at Dickie Settlement Road (Regional Road 71);
- c) Add to Schedule 16 - Lane Designation, westbound through / right-turn, westbound through / left-turn on Fountain Street (Regional Road 28) at Dickie Settlement Road (Regional Road 71); and
- d) Add to Schedule 16 - Lane Designation, southbound right-turn, southbound through / left-turn on Conestoga College access at Fountain Street;

in the City of Cambridge, as outlined in report E-12-013, dated January 31, 2012.

AND FURTHER THAT the Regional Municipality of Waterloo amend Traffic and Parking By-Law # 06-072 to:

- a) Add to Schedule 16 - Lane Designation, northbound left-turn, northbound through / right-turn on Fountain Street (Regional Road 17) at Kossuth Road (Regional Road 31) / Fairway Road (Regional Road 53);
- b) Add to Schedule 16 - Lane Designation, southbound through / left-turn, southbound through / right-turn on Fountain Street (Regional Road 17) at Kossuth Road (Regional Road 31) / Fairway Road (Regional Road 53);
- c) Add to Schedule 16 - Lane Designation, eastbound through / left-turn, eastbound through, eastbound right-turn on Fairway Road (Regional Road 53) at Kossuth Road (Regional Road 31) / Fountain Street (Regional Road 17); and
- d) Add to Schedule 16 - Lane Designation, westbound through / left-turn, westbound through / right-turn on Kossuth Road (Regional Road 31) at Fountain Street (Regional Road 17) / Fairway Road (Regional Road 53)

in the City of Cambridge and Township of Woolwich, as outlined in report E-12-013, dated January 31, 2012.

10. THAT the Regional Municipality of Waterloo:

- a) Implement a pilot shingle diversion and recycling program effective March 1, 2012 until December 31, 2012 and if successful, incorporate the program cost into the 2013 Waste Management operating budget; and,
- b) Accept the proposal of TRY Recycling Inc. for P2011-48 Shingle Recycling for a one year term commencing March 1, 2012 at an estimated cost of \$61,130.00 plus applicable taxes. [E-12-021]

January 31, 2012

**THE REGIONAL MUNICIPALITY OF WATERLOO
PLANNING AND WORKS COMMITTEE**

Summary of Closed Recommendations to Council

The Planning and Works Committee recommends as follows:

1. THAT the Regional Municipality of Waterloo approve, enter into an Agreement for, and execute all documentation related to, the acquisition of lands for improvements to University Avenue East described as Part Lot 1, Plan 1076, being Part 5, on Reference Plan 58R-17179, in the City of Waterloo, Regional Municipality of Waterloo from Thomas Karg, in trust for the sum of \$15,500.00, plus associated costs to the satisfaction of the Regional Solicitor.
2. THAT the Regional Municipality of Waterloo enter into a Surrender of Lease Agreement with 4361814 Canada Inc and RONA Inc. for the premises located at 50 Victoria Street North, Kitchener, occupied by the Noble Trade retail outlet satisfactory to the Regional Solicitor; and that the Commissioner of Corporate Resources be authorized to execute the Surrender of Lease Agreement on behalf of the Regional Municipality of Waterloo.

January 31, 2012

**THE REGIONAL MUNICIPALITY OF WATERLOO
PLANNING AND WORKS COMMITTEE**

Summary of Recommendations to Council

The Planning and Works Committee recommends as follows:

1. THAT the Regional Municipality of Waterloo take the following actions regarding the procurement of Stage 1 of the light rail transit project, as described in Report No. E-12-011, dated February 7, 2012:

Conflicts
K. Seiling
D. Craig

- a) approve Design-Build-Finance-Operate-Maintain (DBFOM) as the procurement and delivery option for Stage 1 light rail transit, with a 30-year project term for the long-term Finance and Maintain components, subject to confirmation by the provincial and federal governments that they will maintain their rapid transit funding commitments with the DBFOM option; and
- b) direct staff to report back to Council with staff's recommendation for initial and renewable project terms for the Operate component of the procurement and delivery option.

February 7, 2012

**THE REGIONAL MUNICIPALITY OF WATERLOO
ADMINISTRATION AND FINANCE COMMITTEE**

Summary of Recommendations to Council

The Administration and Finance Committee recommends as follows:

1. THAT the Regional Municipality of Waterloo support the recommendations and take the follow-up proposed actions as presented in Report CA-EM-12-001, including the addition of a letter to be sent to the Minister of Health and local MPPs related to the need for one common dispatch model;

AND THAT the Regional Municipality of Waterloo authorize the CAO, or designate, to execute an agreement with the Township of Woolwich for Fire protection and general Safety services in the vicinity of the Region of Waterloo International Airport.
2. THAT the Regional Municipality of Waterloo adopt the 2012 Accessibility Plan.

AND THAT the 2012 Accessibility Plan be sent to the Ministry of Community and Social Services for information as outlined in Report CR-CLK-12-003.
3. THAT the Regional Municipality of Waterloo approve payment of the 2012 membership fees in the amount of \$ 63,187.91 for the Federation of Canadian Municipalities and \$10,583.62 including all applicable taxes for the Association of Municipalities of Ontario. [F-12-008]
4. THAT the Regional Municipality of Waterloo approve \$109,224.64 in accounts receivable write-offs for the year ended December 31, 2011, as outlined in Report F-12-009

January 31, 2012

**THE REGIONAL MUNICIPALITY OF WATERLOO
ADMINISTRATION AND FINANCE COMMITTEE**

Summary of Closed Recommendations to Council

The Administration and Finance Committee recommends as follows:

1. THAT The Regional Municipality of Waterloo reappoint Doug Kirton as the educational representative to the Public Art Advisory Committee for the three year term ending December 31, 2014.

January 31, 2012

**THE REGIONAL MUNICIPALITY OF WATERLOO
COMMUNITY SERVICES COMMITTEE**

Summary of Recommendations to Council

The Community Services Committee recommends as follows:

1. THAT the Director, Emergency Medical Services be authorized to execute Tiered Response Agreements with the Chief of Police, Waterloo Regional Police Service, subject to such agreements being satisfactory to the Regional Solicitor, as outlined in Report PH-12-003, dated January 31, 2012.
2. THAT the Regional Municipality of Waterloo increase the 2012 Operating Budget for Seniors' Services by \$40,000 gross and \$0 net Regional Levy, as outlined in report SS-12-002, dated January 31, 2012.
3. THAT the Regional Municipality of Waterloo increase the 2012 Operating Budget for Employment and Income Support, Social Services by \$44,500 gross and \$ 0 net Regional levy as outlined in report SS-12-003, dated January 31, 2012.
4. THAT the Regional Municipality of Waterloo appoint Claudette Millar and Jane Mitchell to support the Accreditation process at Sunnyside Home as outlined in Report SS-12-004 dated January 31, 2012.
5. THAT the Regional Municipality of Waterloo approve the following with regard to the Investment in Affordable Housing for Ontario – Program Delivery and Fiscal Plan (PDFP) and program delivery, as described in Report P-12-017, dated January 31, 2012:
 - a) Endorse the recommended Program Delivery and Fiscal Plan as summarized in Table 2 of Report P-12-017 and the proposed implementation of the PDFP;
 - b) Authorize staff to forward the recommended Program Delivery and Fiscal Plan to the Provincial Ministry of Municipal Affairs and Housing;
 - c) Authorize staff to develop program details for an Ontario Renovates and Housing Allowance program that are consistent with Ministry of Municipal Affairs and Housing guidelines and community need,
 - d) Authorize the Director of Housing to submit a business case to reallocate administrative funding to Year 1 to assist in the development of new programs;
 - e) Authorize the Director of Housing to reallocate funding between the appropriate components within each program year, as needed, to ensure full utilization of the notional allocation;
 - f) Forward a Request to the Federal and Provincial Ministers responsible for Housing, urging them again to commit to a long-term funding program for affordable housing; and
 - g) Amend the 2012 capital and operating budget as required (\$0 net levy impact) to reflect the new programs as described in Table 2 of Report P-12-017 dated January 31, 2012, to be funded by the Province of Ontario.

January 31, 2012

**THE REGIONAL MUNICIPALITY OF WATERLOO
COMMUNITY SERVICES COMMITTEE**

Summary of Closed Recommendations to Council

The Community Services Committee recommends as follows:

1. THAT the Regional Municipality of Waterloo, in concert with the County of Wellington, take the following actions with regard to the Kissing Bridge Trailway Advisory Board:
 - a) re-appoint Mike Curtis (Guelph Hiking Trail Club nominee),
 - b) re-appoint Gary Nelson (Wellington Federation of Agriculture nominee),
 - c) re-appoint Bob Gray (non-farm landowner, Elmira),
 - d) re-appoint Doug Cerson (business community representative), and
 - e) appoint Ray Gerber (Village of Millbank Association - alternate representative).

all for three-year terms ending December 31, 2014

January 31, 2012



REGION OF WATERLOO

**TRANSPORTATION AND ENVIRONMENTAL SERVICES
Transportation**

TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: January 31, 2012 **FILE CODE:** T04-10

SUBJECT: 2010 COLLISION REPORT ON ROUNDABOUTS IN THE
REGION OF WATERLOO

RECOMMENDATION:

For information.

SUMMARY:

NIL

REPORT:

Since 2008 Region staff has been providing Council with an annual Collision Report on the operation of roundabouts on regional road in the Region of Waterloo.

To date, the Region of Waterloo has constructed 16 roundabouts on Regional roads. The Cities of Kitchener and Waterloo have built and assumed 5 and 10 roundabouts respectively on local municipal roads. The City of Cambridge does not have any roundabouts. This report summarizes the operation of roundabouts on Regional roads only up to the end of 2010. At the end of 2010, a total of 15 roundabouts were in operation on Regional roads. Staff plans to provide 2011 roundabout collision data as part of the 2011 annual collision report being provided in the fall of 2012.

Table 1 summarizes the historical collision frequencies of each of the Region's 15 roundabouts by year between 2006 and 2010 and identifies the date the roundabout became operational. This information will be used to compare the operation of roundabouts to traffic signals operating under similar conditions.

Table 1 – Annual Collisions at Roundabout Locations

Location	Opened	2006		2007		2008		2009		2010	
		Injury	Total	Injury	Total	Injury	Total	Injury	Total	Injury	Total
Erb & Erbsville/Ira Needles, Waterloo	Nov. 04	0	13	1	8	2	21	1	15	4	30
Townline & Can-Amera, Cambridge	Dec. 04	2	16	4	18	1	15	1	14	1	13
Sawmill & Arthur, Woolwich	Jun. 06	* 0	* 11	3	17	1	16	1	7	2	27
Fountain & Blair, Cambridge	Oct. 06	* 0	* 4	1	10	0	8	0	3	2	7
Can-Amera & Conestoga, Cambridge	Nov. 06	* 0	* 0	0	7	0	6	1	3	1	7
Ira Needles & Highview/Trussler, Kitchener	Nov. 06	* 0	* 0	0	10	1	11	0	9	2	9
Ira Needles & Highland, Kitchener	Nov. 06	* 0	* 1	1	10	0	12	2	20	1	17
Fischer-Hallman & Huron, Kitchener	Oct. 07	n/a	n/a	* 0	* 1	0	6	1	3	1	8
Fischer-Hallman & Seabrook, Kitchener	Oct. 07	n/a	n/a	* 0	* 0	0	4	1	3	0	3
Victoria & Ira Needles, Kitchener	Dec. 07	n/a	n/a	* 0	* 0	0	3	1	3	0	4
University & Ira Needles, Kitchener	Dec. 07	n/a	n/a	* 0	* 0	0	10	1	5	0	6
Pinebush & Thompson, Cambridge	Aug. 09	n/a	n/a	n/a	n/a	n/a	n/a	* 0	* 0	0	3
Lancaster & Bridge, Kitchener	Nov. 09	n/a	n/a	n/a	n/a	n/a	n/a	* 0	* 2	0	9
Ira Needles & The Boardwalk, Kitchener	Sept. 10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0*	*3
Fountain & Dickie Settlement, Cambridge	Nov. 10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0*	*1

* Note: denotes partial year

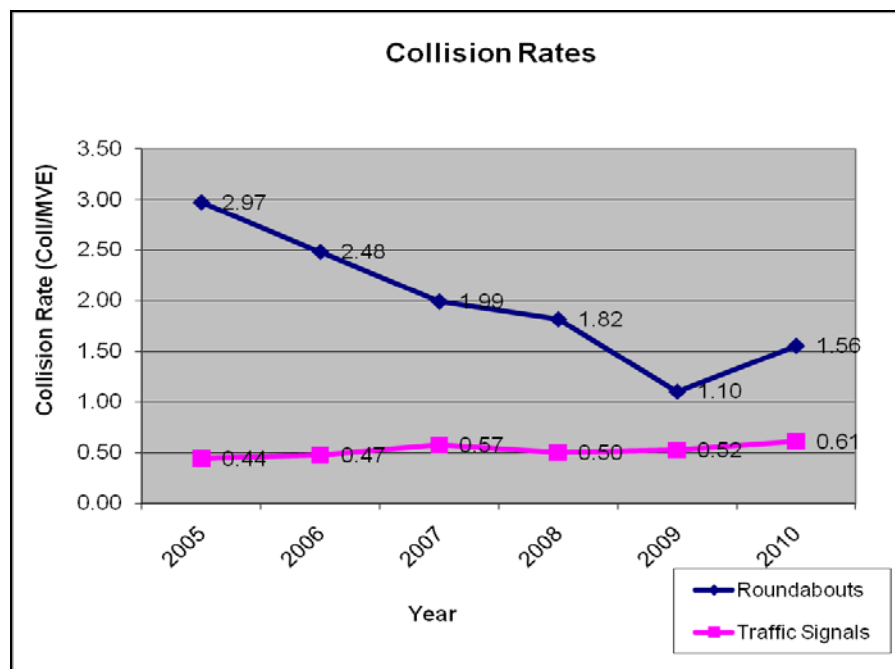
The following Table 2 represents Average Annual Daily Traffic Volumes (AADT) at 13 roundabouts in operation by the end of 2010. Only roundabouts having at least one complete year of operation were included in this table. In general this table illustrates that volumes are steadily increasing at roundabouts on Regional roads.

Table 2 – Average Annual Daily Traffic Volumes at Roundabouts

	2006	2007	2008	2009	2010
Sawmill Road at Arthur Street		23095	21833	25562	24090
Erb Street at Ira Needles Boulevard	16219	15528	20120	25076	27172
University Avenue at Ira Needles Boulevard			12477	16623	20682
Victoria Street at Ira Needles Boulevard			15047	17616	21915
Highland Road at Ira Needles Boulevard			19579	22923	25204
Highview Avenue at Ira Needles Boulevard		10848	13689	18238	20036
Fischer Hallman Road at Seabrook Drive			9784	12203	13015
Fischer Hallman Road at Huron Road			11042	12747	13137
Fountain Street at Blair Road		15061	14563	19402	19681
Can-Amera Parkway at Conestoga Boulevard		14143	13006	16209	16252
Townline Road at Can-Amera Parkway	15799	17594	17682	21804	21900
Pinebush Road at Thompson Drive					8940
Lancaster Avenue at Bridge Street					23086

Accounting for AADT, staff is able to develop overall average collision rates at roundabouts and traffic signals. Partial year roundabout data was excluded from roundabout collision rates. Figure 1 below illustrates that collision rates at roundabouts have been on a steady decline every year with the exception of 2010. It should be noted that in 2010, overall collisions on the Regional road network increased as well compared to 2009 by 4.7% as noted in Report E-11-078, The Region of Waterloo 2010 Collision Report, dated August 16, 2011. Traffic signal collision rates were developed using traffic signals having similar AADT environments as roundabouts which is a range between 10000 and 25000 vehicles per day. Collision rates are expressed as the number of collisions per one million vehicles entering an intersection or roundabout (collisions/MVE).

Figure 1 – Roundabout vs. Traffic Signal Collision Rates



Based on the first half of 2011, staff predict that the collision rate at roundabouts will decrease again in 2011 to approximately 1.3 collisions/MVE.

Severity of Motor Vehicle Collisions

Staff queried the Region’s collision database for all collisions at roundabouts and traffic signals with similar AADT. Table 3 summarizes the distribution of collisions at roundabouts and traffic signals by severity including fatal, injury, personal damage and non-reportable collisions. On average, roundabouts have been successful reducing the ratio of injury collisions compared to traffic signals.

Table 3 – Roundabout and Traffic Signal Accident Class Comparison

	Roundabouts	Traffic Signals
Fatal Collisions	0 (0%)	4 (0.09%)
Non-fatal Injury Collisions	41 (9%)	1218 (27%)
Personal Damage Collisions	221 (47%)	1795 (40%)
Non-reportable Collisions	210 (44%)	1489 (33%)

Of all occupants involved in collisions at roundabouts and traffic signals 91% and 73% respectively suffer no injuries if involved in a collision.

Based on collisions in 2009 and 2010, roundabouts are currently experiencing an average of 9.5 collisions per roundabout per year while traffic signals are experiencing 3.4 collisions per year. Long term collision trends at roundabouts suggest that collision rates are decreasing with time, however assuming roundabout collision rates remain constant, Region staff compared 20-year present value societal collision costs (as established by Transport Canada) for roundabouts and traffic signals operating under similar AADT environments. The Highway Traffic Act defines a reportable collision as a property damage collision apparently exceeding \$1,000. Non-reportable collisions therefore were excluded from this analysis. Staff determined that average societal collision costs at traffic signals and roundabouts are very comparable, however when comparing fatal and injury collisions only, roundabouts compare better than traffic signals.

Staff expects roundabout collision rates to continue falling as the public becomes more accustomed to roundabouts in the Region of Waterloo. Although roundabouts at this time see more collisions, these collisions tend to be less severe, and from a societal collision cost perspective compete well with traffic signals. Staff continues to believe that collision rates will continue on the decline. As well societal costs of injury collisions vary depending on the severity of injuries. If on average, the severity of injury incurred at a roundabout is less severe than an injury sustained at a traffic signal the above societal injury collision cost averages should be adjusted lower for roundabouts.

Retrofitted Intersections

In total, Regional staff has retrofitted 5 intersections that have at least one full year of roundabout operation to compare. Table 6 compares the before and after injury and total collisions of retrofitted intersections.

Table 4 – Before vs. After Collisions at Retrofitted Intersections

Roundabout	Average Before Injury Collisions per Year	Average After Injury Collisions per Year	% Injury Change	Average Before Total Collisions per Year	Average After Total Collisions per Year
Arthur Street at Sawmill Road	4.4	1.8	-59%	13	16.8
Blair Road at Fountain Street	4.2	0.75	-82%	13.4	7
Fischer-Hallman Road at Huron Road	2	0.67	-67%	4.2	5.7
Ira Needles Boulevard at University Avenue	0.4	0.33 *	-18%	1.8	7 *
Bridge Street at Lancaster Street	2.6	0	-100%	8.6	9
Total Average	2.7	0.7	-74%	8.2	9.1

* There has been a 66% increase in traffic volume at this location due to the completion of Ira Needles Boulevard

Pedestrians

Between 2006 and 2010 there were 2 pedestrian collisions at roundabouts. The first pedestrian collision occurred March 4, 2009 at Conestoga Boulevard and Can-Amera Parkway. This pedestrian was crossing through the central island of the roundabout and was struck by an unsuspecting motorist. The pedestrian suffered minimal injuries and walked away from the incident. The second incident also occurred at Conestoga Boulevard and Can-Amera Parkway on October 21, 2010. The incident involved 3 motorists making a southbound right-turn onto Can-Amera Parkway, 2 of which were stopped for a pedestrian crossing on the west leg. A third vehicle rear-ended the second car which hit the first car which was pushed forward into the pedestrian. The pedestrian suffered no injuries.

To help put these pedestrian collisions into perspective, 2 pedestrian collisions between 2006 and 2010 in the Region of Waterloo represents 0.04 pedestrian collisions per roundabout per year or an average of 1 pedestrian collision every 25 years per roundabout. Staff have been tracking the number of pedestrians crossing at roundabouts in the Region of Waterloo. Table 7 provides an overview of daily pedestrian volumes at regional roundabouts. It is estimated that over 300,000 pedestrians crossed 13 roundabouts in 2010. It is also estimated that the 13 roundabouts yielded an average of 70 pedestrian crossings per roundabout per day in 2010.

Table 5 – Average Daily Pedestrian Volumes

	2006	2007	2008	2009	2010
Sawmill Road at Arthur Street		10	15	*16	16
Erb Street at Ira Needles Boulevard	52	*67	81	*75	69
University Avenue at Ira Needles Boulevard			6	*23	40
Victoria Street at Ira Needles Boulevard			16	*35	53
Highland Road at Ira Needles Boulevard			53	*70	87
Highview Avenue at Ira Needles Boulevard		74	167	*136	105
Fischer Hallman Road at Seabrook Drive			2	*2	2
Fischer Hallman Road at Huron Road			3	*4	5
Fountain Street at Blair Road		6	50	*46	42
Can-Amera Parkway at Conestoga Boulevard		309	386	*375	363
Townline Road at Can-Amera Parkway	*15	15	16	*9	2
Pinebush Road at Thompson Drive					2
Lancaster Avenue at Bridge Street					126

* denotes Average Daily Pedestrian Volume estimated based on prior and post counts

To help compare roundabouts to traffic signals in terms of pedestrian collisions, staff queried the Region's collision database to obtain the number of pedestrian collisions occurring at traffic signals having traffic volumes between 10,000 and 25,000 AADT and 0 to 363 and 0 to 140 pedestrians per day similar to the operating environments of the Region's roundabouts. These queries yielded the following results:

Table 6 – Pedestrian Collisions at Traffic Signals with 0-363 Pedestrians per Day

	2006	2007	2008	2009	2010
# Traffic Signals AADT 10,000 to 25,000 and 0-363 Pedestrians per day	142	151	153	155	155
Pedestrian Collisions	11	15	13	10	12
Annual Pedestrian Collisions Per Signal	0.08	0.10	0.08	0.06	0.08
Average Pedestrians per Signal	139				
Overall Average Pedestrian Collisions per Location per Year	0.08				

Table 7 – Pedestrian Collisions at Traffic Signals with 0-140 Pedestrians per Day

	2006	2007	2008	2009	2010
# of Traffic Signals AADT 10,000 to 25,000 and 0-140 Pedestrians per day	72	79	78	79	77
Pedestrian Collisions	3	4	6	3	4
Annual Pedestrian Collisions Per Signal	0.04	0.05	0.08	0.04	0.05
Average Pedestrians per Signal	42				
Overall Average Pedestrian Collisions per Location per Year	0.05				

Based on this study of pedestrian collisions between 2006 and 2010 at roundabouts and traffic signals operating in similar environments, it appears that roundabouts continue to perform better than traffic signals in terms of pedestrian safety.

Severity of Pedestrian Collisions

Police report the severity of pedestrian collision on police collision records. Police rate the severity of injuries using the following index:

- 0 = No injuries;
- 1 = Minimal injuries;
- 2 = Minor injuries;
- 3 = Major injuries; and
- 4 = Fatal

Between 2006 and 2010, 2 pedestrians were involved in collisions at roundabouts. The severity of their injuries averaged 0.5 while 61 pedestrians hit a traffic signals suffered injuries averaging 1.64 based on the police injury rating index.

Cyclist Collisions

Between 2006 and 2010, there were 3 collisions involving cyclists at roundabouts. This represents an average 0.07 cyclist collisions per roundabout per year or 1 cyclist collision every 14 years per roundabout. Roundabouts in the Region see an average of 31 cyclists over the highest 8 hours of the day with volumes ranging between 0 and 59 cyclists. Alternatively traffic signals operating under similar conditions as the Region's roundabouts yield a cyclist collision rate of 0.11 collisions per signal per year or 1 cyclist collision every 9 years per signal.

Table 8 – Cyclist Collisions at Traffic Signals

	2006	2007	2008	2009	2010
Traffic Signals AADT 10,000 to 25,000 and 0-59 Cyclists per day	208	235	232	238	235
Cyclist Collisions	17	31	25	25	28
Annual Cyclist Collisions Per Signal	0.08	0.13	0.11	0.11	0.12
Average Cyclists per Signal	12				
Overall Average Cyclist Collisions per Location per Year	0.11				

CORPORATE STRATEGIC PLAN:

This report addresses the Region's goal to implement proven roadway safety strategies and education to enhance the safety of our roadways (Strategic Objective 3.3.2).

FINANCIAL IMPLICATIONS: NIL

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

NIL

ATTACHMENTS:

NIL

PREPARED BY: *Bob Henderson*, Manager, Transportation Engineering

APPROVED BY: *Thomas Schmidt*, Commissioner, Transportation and Environmental Services