1. MOTION TO GO INTO CLOSED SESSION

THAT a closed meeting of the Planning and Works Committee be held on Tuesday, May 28, 2013 at 8:30 a.m. in the Waterloo County Room, in accordance with Section 239 of the Municipal Act, 2001, for the purposes of considering the following subject matters:

a) proposed or pending acquisition of land in the City of Kitchener
b) proposed or pending litigation and receiving of legal advice that is subject to solicitor-client privilege related to an agreement
c) receiving of legal advice that is subject to solicitor-client privilege related to an agreement
d) receiving of legal advice that is subject to solicitor-client privilege related to an agreement
e) proposed or pending acquisition of land in the City of Kitchener

2. MOTION TO RECONVENE INTO OPEN SESSION

3. DECLARATIONS OF PECUNIARY INTEREST UNDER THE MUNICIPAL CONFLICT OF INTEREST ACT

4. DELEGATIONS

a) E-13-071, Green Bin Program Update (staff presentation)
   i. Craig Gammie re: Compost Liners Paper vs. Plastic the myths and the facts

b) E-13-068/P-13-059, Roseville Road (Regional Road 46) Near Barrie’s Lake Turtle Crossing, Township of North Dumfries
   i. Sue Stubley

CONSENT AGENDA ITEMS

Items on the Consent Agenda can be approved in one motion of Committee to save time. Prior to the motion being voted on, any member of Committee may request that one or more of the items be removed from the Consent Agenda and voted on separately.
5. **REQUEST TO REMOVE ITEMS FROM CONSENT AGENDA**

6. **MOTION TO APPROVE ITEMS OR RECEIVE FOR INFORMATION**

   a) P-13-036, Monthly Report of Development Activity for April 2013 (*Approval*)

   b) P-13-055, Funding Application to the Province to Support a Study on Balancing Environmental Protection and Transportation Considerations in Environmentally Sensitive Landscapes (*Approval*)

   c) P-13-049, Recommended Modifications to the Regional Implementation Guidelines for Transportation Corridor Design - Final Report (*Approval*)

   d) P-13-056, Draft Ontario Ministry of Transportation Cycling Strategy (*Approval*)

   e) CR-RS-13-046, Surplus Declaration and Transfer – Land on The South Side of Louisa Street, West of Weber Street, Kitchener (*Approval*)

   f) E-13-058, Consultant Selection 2013-07 – Preliminary Design, Detailed Design and Contract Administration Services, King Street from Bishop Street to Eagle Street, City of Cambridge (*Approval*)

   g) CR-RS-13-049/E-13-075, Weber Street Grade Separation and Road Improvements, Assumption of Part of Lane, Established by Registered Plan 376, City of Kitchener Part of PIN 22319-0189 (*Approval*)

   h) E-13-029, Proposed 15 Minute Loading Zone on Frederick Street (Regional Road 6) Between Duke Street and Weber Street (Regional Road 8), City of Kitchener (*Approval*)


   j) E-13-069, Region of Waterloo Traffic Congestion Tracker Project (*Information*)

   k) Waste Management Master Plan – Materials in Advance of Public Information Centre (*Information*)


   m) **Memo:** Planning Approvals Received for the Multi-Modal Transit Hub Property (*Information*)

   n) **Memo:** Region of Waterloo Bike Month (*Information*)

---

**REGULAR AGENDA RESUMES**

7. **REPORTS – TRANSPORTATION AND ENVIRONMENTAL SERVICES**

   **DESIGN AND CONSTRUCTION**
a) **E-13-057**, Approval of Plans for Roadway Improvements on King Street in St. Jacobs (Printery Road to Sawmill Road), Township of Woolwich

b) **E-13-059**, Proposed Sidewalk Construction on Sawmill Road from Harriet Street to Golf Course Road in the Village of Conestogo, Township of Woolwich

**RAPID TRANSIT**

c) **E-13-062**, Region of Waterloo Rapid Transit Project: Hydro One Corridor Study Agreement

d) **E-13-074/F-13-049**, Stage 1 Light Rail Project – Request For Proposal

**TRANSPORTATION**

e) **Memo**: Motion of Reconsideration – Grass and Weed Cutting on Regional Roads

f) **E-13-072**, Grass and Weed Cutting on Regional Roads

**WATER SERVICES**

g) **E-13-065**, Biosolids Heat Drying Facility Class Environmental Assessment - Updated Communication Plan

**INTERDEPARTMENTAL REPORTS**

h) **E-13-053/P-13-054**, 2013 Water and Wastewater Monitoring Report

**REPORTS – PLANNING, HOUSING AND COMMUNITY SERVICES**

**COMMUNITY PLANNING**

i) **P-13-057**, “The Big Shift Toolbox” - Planning, Infrastructure and Financial Assistance Tools to Shape Our Community (*staff presentation*)

8. **INFORMATION/CORRESPONDENCE**

a) Resolution from **City of Kitchener** re: Maintenance Service related to turf cutting

b) Council Enquiries and Requests for Information Tracking List

9. **OTHER BUSINESS**

10. **NEXT MEETING** – June 18, 2013

11. **ADJOURN**
### NEXT MEETINGS

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planning and Works Committee</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>June 18, 2013</td>
<td>9:00 A.M.</td>
<td>Planning and Works Committee</td>
<td>Council Chamber 2nd Floor, Regional Administration Building 150 Frederick Street Kitchener, Ontario</td>
</tr>
<tr>
<td>August 13, 2013</td>
<td>1:00 P.M.</td>
<td>Planning and Works Committee</td>
<td>Council Chamber 2nd Floor, Regional Administration Building 150 Frederick Street Kitchener, Ontario</td>
</tr>
<tr>
<td><strong>Transportation and Environmental Services</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monday, June 10, 2013</td>
<td>3:00 P.M. 6:00 P.M.</td>
<td>Waste Management Master Plan – Public Information Centre No. 2</td>
<td>Kitchener City Hall Rotunda 200 King Street West, Kitchener, Ontario</td>
</tr>
<tr>
<td>Tuesday, June 11, 2013</td>
<td>5:00 P.M. 8:00 P.M.</td>
<td>Waste Management Master Plan – Public Information Centre No. 2</td>
<td>Region of Waterloo Community Health &amp; Public Services 150 Main Street, Cambridge, Ontario</td>
</tr>
<tr>
<td>Wednesday, June 12, 2013</td>
<td>5:00 P.M. 8:00 P.M.</td>
<td>Waste Management Master Plan – Public Information Centre No. 2</td>
<td>Wilmot Recreation Complex 1291 Nafziger Road, Baden, Ontario</td>
</tr>
<tr>
<td>Thursday, June 13, 2013</td>
<td>5:00 P.M. 8:00 P.M.</td>
<td>Waste Management Master Plan – Public Information Centre No. 2</td>
<td>Knox Presbyterian Church 50 Erb Street West, Waterloo, Ontario</td>
</tr>
<tr>
<td>Tue., June 25, 2013</td>
<td>7:00 P.M</td>
<td>Notre Dame Drive and Snyder’s Road Reconstruction, Petersburg, Township of Wilmot Public Input Meeting</td>
<td>Rebel Creek Golf Course, 1517 Snyder’s Road Petersburg, Ontario</td>
</tr>
</tbody>
</table>
REPORT:

GREEN BIN PROGRAM UPDATE

RECOMMENDATION:

THAT the Region of Waterloo direct staff to:

1. Expand the current Green Bin promotional campaign to allow residents the option to use certified compostable plastic bags to line green bins (those with the Certified Compostable BPI or BNQ logo), beginning July 1, 2013;

2. Investigate the possibility of curbside collection service changes (e.g. bag limits, bi-weekly garbage collection) within the scope of our existing collection contract as a way to increase green bin participation, and report back to Council in the fall of 2013; and,

3. Extend the Green Cart Demonstration Project (which ends October 2013) to align with the end of the current Region-wide collection contract that ends in February 2016.

SUMMARY:

NIL

REPORT:

Curbside Residential Program

The multi-year rollout of the curbside residential green bin program was completed in November 2010, resulting in approximately 132,000 households now having access to the program. The amount of green bin material diverted since the program began has gradually increased with the number of households added to the program, but now appears to have levelled off at approximately 10,000 tonnes collected annually.

Waste Management staff continue to emphasize Green Bin promotion and education, including focusing on the beneficial use of green bins as part of our environmental education program and at community events, distributing green bin “thank you” packages, and through the award-winning “Don’t Waste Another Day” campaign (RCO Gold Award for Communications, 2012) which included social media (Facebook, Twitter), print media (newspaper ads, community posters, billboards), TV commercials (CTV) and videos (website, Facebook). All collection vehicles carry promotional signs, many of which feature the green bin, and information regarding the green bin program was delivered to every household in the Region as part of the 2012 Waste Collection Calendar (townships) and 2012/2013 Tri-City Guide to waste services.

Participation in the green bin program, as with all of the Region’s diversion programs, is voluntary and set out rates range from 15-35%, depending on the neighbourhood. Waste audits show that only 19% of the green bin organics thrown out are captured through the green bin program; the rest
(equivalent to approximately 40,000 tonnes) is still going to landfill. Resident surveys (summer 2012 partnership with Reduce the Juice surveyed over 1,000 residents; fall 2012 Waste Management Master Plan survey with over 600 respondents) indicate that the number one reason residents do not participate in the program is the “yuck factor”. Many of these same residents say that they would use the green bin (again, or for the first time) if they could use certified compostable plastic bags.

No plastics of any kind have been allowed in the Region’s green bin program, as they were not accepted by the organics processing facilities taking our material. Region staff recently received approval from the City of Guelph, the Region’s current processing facility, to allow the use of certified compostable plastic bags in the green bin program. (Only those bags with the Certified Compostable BPI or BNQ logo are acceptable.)

Staff recommend a July 1 implementation date for acceptance of certified compostable plastic bags in the Region’s green bin program. This implementation date will allow adequate time to educate residents, retailers and the collection contractor on the acceptable kinds of compostable plastic bags allowed in the program, and plan how to distinguish unacceptable plastics in the green bin. Unacceptable plastics in the green bin may result in loads of organics being rejected by the processor and sent to landfill for disposal instead.

Staff believe that allowing certified compostable plastic bags in the green bin program will improve program participation but that this change alone will not be enough to fully optimize this program. Green bin participation is a challenge, even for well-established programs. The City of Hamilton and Region of Peel implemented their programs in 2006 and 2008, respectively, and had 2010 green bin capture rates of 59% and 33%. Both municipalities allow certified compostable plastic bags in their programs, however, bag limits also restrict the amount of garbage that residents can dispose of each week: one bag per week in Hamilton, and two bags per week in Peel. The Region of Peel is also currently running a bi-weekly garbage collection pilot to further increase participation in green bin and blue box diversion. Durham Region, City of Ottawa, and other municipalities have also implemented bi-weekly collection of garbage to encourage greater diversion.

As part of the Waste Management Master Plan (WMMP) study, staff are reviewing diversion programs to make recommendations to improve overall waste reduction and diversion from landfill. Although the WMMP study has not yet been completed, study information to-date suggests that investigating the possibility of curbside collection service changes (e.g. bag limits, bi-weekly garbage collection) within the scope of our existing collection contract should be considered as a way to increase curbside residential green bin participation (and curbside diversion programs in general). Staff therefore recommend researching options and reporting back to Council on possible full-scale programs and potential cost impacts in the fall of 2013. (Note that the current curbside collection contract ends in February 2016.)

Green Cart Demonstration Projects – Multi-Residential and IC&I Properties

Report E-10-049 was approved by Council in May 2010, directing staff to work on green bin demonstration projects at multi-residential and industrial, commercial and institutional (IC&I) properties. The demonstration program serves two purposes:

- to determine the suitability and effectiveness of a collection method for larger multi-residential properties before recommending a permanent green cart program for these properties;
- to demonstrate that IC&I properties can implement organic waste diversion in a practical and cost effective manner, if a ban on organic waste from landfill is considered.
Participants currently include:

- 34 large multi-residential buildings, representing approximately 2254 individual units;
- seven commercial and institutional properties;
- 51 schools; and
- 37 Regional buildings.

Approximately 40 tonnes/month of organic waste material has been collected through the demonstration projects. The multi-residential and food service industry participants generally account for the greatest amount of material by weight; schools and office buildings have higher volumes of paper-based organics. Focused promotion programs for green cart participants included handbooks, posters, stickers for carts, presentations at participating schools, training for building supervisors, and newsletters for multi-residential tenants twice a year.

Contamination levels vary, but are generally highest in multi-residential settings where a larger number of participants are accessing the bins. In the majority of IC&I settings, generally a smaller number of dedicated participants control access to green bin disposal, resulting in less contamination. Staff have also observed low levels of contamination at schools as well as higher rates of participation in the curbside residential green bin program in neighbourhoods around participating schools.

It should be noted that while organics collected through the Green Cart Demonstration Projects contribute to the Region’s overall green bin diversion, these programs do not have a large impact on reducing waste going to the Region’s landfill. The Region does not provide garbage service to large multi-residential or IC&I locations, and their commercial waste contractors may not be using the Region’s landfill for disposal of their garbage.

The demonstration project is scheduled to run until the end of October 2013, when the green cart pilot collection contract ends. Staff recommend extending the program to align with the end of the current curbside collection contract, to see whether the use of compostable plastic bags may increase/improve multi-residential participation (some multi-residential participants have indicated that having to bring a container down to empty, and then return the container to their unit is not as convenient as being able to simply drop off a bag of organics). The extension would also allow for the recommendations from the WMMP study to be presented to Council, some of which may result in Council direction regarding multi-residential and IC&I diversion programs, as part of the next collection contract required for February 2016.

Processing of Green Bin Material

The four year green bin processing contract awarded to Aim Waste Management Inc. (Aim) in October 2009 is drawing to a close. Per report E-10-020, the Region entered a 10-year processing contract (with two optional five year extensions) effective October 2013 with the City of Guelph. The Region is guaranteed 20,000 tonnes of processing capacity annually.

When the City of Guelph processing facility first opened, restrictions on their operating Certificate of Approval (CofA) from the Province of Ontario prevented them from receiving organics in any type of plastic, including certified compostable plastic. An amendment to their CofA has made certified compostable plastic bags acceptable at the facility, and the City of Guelph has indicated that the Region of Waterloo can now use certified compostable plastic bags (with the Certified Compostable BPI or BNQ logo) in our program.
CORPORATE STRATEGIC PLAN:

This report has been prepared consistent with the Corporate Strategic Objective of Focus Area 1 “Environmental Sustainability: Protect and enhance the environment” and particularly action 1.3 “Reducing the Amount of Waste Requiring Landfill”.

FINANCIAL IMPLICATIONS:

The approved 2013 Waste Management base operating budget for the Green Bin Program has a provision for the Green Cart Demonstration Project, and therefore this extension can be accommodated within the existing base budget. Staff estimate that some additional promotion and education activities will be required to support the introduction of certified compostable plastic bags in the Green Bin Program. The additional promotion and education costs are estimated to be $50,000, which can be accommodated within the Waste Management operating budget through anticipated savings in Green Bin processing costs resulting from fewer tonnes of material collected in 2013 than budgeted for.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE: NIL

ATTACHMENTS: NIL

PREPARED BY: Cari Rastas Howard, Project Manager, Waste Management Programs

APPROVED BY: Thomas Schmidt, Commissioner, Transportation and Environmental Services
Paper and Compostable Plastic Green Bin Liners: 

The Myths and the Facts

A Submission to the Planning and Works Committee

Region of Waterloo

May 22, 2013

Submitted by Craig Gammie for George Colgan of Bag-To-Earth
Programs have been developed for collection and processing of residential Source Separated Organics (SSO). As part of these programs residents collect food waste in bins often stored under the kitchen sink and then transfer the food waste to a larger outside bin that is put at curbside where the bin is emptied into a collection truck. For various reasons, primarily convenience and mess minimization, residents typically, but not always, line their kitchen bins.

The two common liners are paper bags made specifically for lining kitchen bins and compostable plastic liners made for the same purpose.

All municipalities accept paper bags in their collection programs, which compost as readily as the organic contents inside them.

But lots of communities decided from the start that they would not accept compostable plastic bags.

Reasons for not accepting compostable plastic included:

- they do not compost as well as the contents inside
- higher processing costs vs. paper
- poorer compost quality vs. paper
- lower compost value
- more contamination with regular plastic

Some manufacturers of compostable plastic bags have been lobbying those communities that have paper–only programs, that is programs which do not accept compostable plastic bags (like Waterloo), to switch to a system in which residents have a choice of using a paper liner or a compostable plastic liner (or no liner at all).

This is touted as being good for consumers because it gives them “choice”.

But the situation is more complex than just having “choice”.

Other factors include:

- compostability
- processing costs
- performance
- compost quality
- compost value
- contamination
- participation rate

In order for councils to make informed decisions regarding whether to have a “paper-only” program or a “choice” program, it is important that staff and council members have the facts before them.
We submit to you that in some of the comparisons of paper bags to compostable plastic bags, the truth may have been stretched a tad.

This is of course unacceptable, anticompetitive, and potentially detrimental to the residents.

The purpose of this paper is to identify the issues in dispute and to set the record straight.

**Effect on Participation Rate**

*False Claim #1:*

"[allowing biodegradable plastic kitchen catcher bags] can triple recovery over paper bag only programs"

Keith Edwards (BASF), November 27, 2012, Municipal Waste Association Organics Committee meeting, also same from Dave Douglas, representing GLAD, date, place

This claim is carefully couched as “can” triple recovery, but when it is presented the clear implication is that allowing biodegradable plastic “will” significantly increase recovery.

The claim is unfounded.

The claim is based on a trick I call “data cherry picking”.

When I asked the Author of the statement above what support he had, he replied:

“Comparing Waterloo, a paper bag only location, with Halton, a choice location, the effective capture rate is much more than 3 times higher. This …substantiates the claim …, since the claim says specifically "can" and not "will", the claim is not of an all inclusive nature.”

*(correspondence Edwards to Gammie)*
The data that was used to make the claim is in the graph below:

![Graph showing capture rate (kg/household-yr.) for different locations.]

There are two problems with the data presentation.

The first problem is that only two data points were used, even though many were available. The data was “cherry picked” to support a pre-determined conclusion. Data that the author had at his fingertips, as below, tells a much different story than the claim.

![Graph showing different data sets for various locations.]

- Both edwards data
- PAPER and Bioplastic Kelleher Data
- PAPER only Kelleher data
- PAPER ONLY edwards data
When you look at a fuller data set participation rates do not seem to be significantly different for “paper-only” programs and “choice” programs. And the two highest participation rate municipalities in the data set are paper-only programs.

And there is much more data not shown for BC municipalities that shows high rates for paper-only programs.

The second point is that the authors suggest that the higher rates in Halton Region vs. Waterloo Region are a result of Halton being a choice program and Waterloo a paper-only program. In other words they are claiming a cause and effect relationship.

They are claiming that the higher rates in Halton are a direct result of Halton having a “choice” program, and that the higher rates are not a result of any other factor.

This is wrong. The higher rates in Halton could just as well be explained by age of the programs, differences in promotion, difference in education/persuasion, waste fees, or other factors.

The impact of other factors (other than choice) on recovery and participation rate is articulated well in a report by Kelleher-Robins (attachment 1):

“A key research question was to identify the extent to which allowing different kitchen catcher bags in the SSO program impacts on the amount of SSO collected, processing operations and the quality and amount of finished compost produced.”

The conclusion of the analysis was that many factors impact on the performance of the SSO program:

- Age of the program (number of years in operation): participation in SSO programs generally increases over time and the amount of SSO collected in Green Bin programs generally increases over time as long as a consistent promotion and education program is maintained and residents become used to the program requirements;
- Frequency of garbage collection – participation in SSO programs and capture of SSO are both generally higher in communities which only collect garbage every other week. Less frequent garbage collection service encourages residents to use the Green Bin more effectively;
Curbside policies – participation and capture are higher in communities with lower garbage bag/container set out limits and where charges are in place for extra bags or containers of garbage.

Size of curbside Green Bin containers provided and the extent to which leaf and yard waste is included in the Green Bin: Some communities choose small 46 litre Green Bin containers which have capacity for kitchen waste and other listed materials only whereas other communities chose a larger Green Bin container which has capacity for leaf and yard waste. The decision on the extent to which leaf and yard waste is permitted in the Green Bin is integrated with decisions on optimizing the collection system economics and also with processing operation capacity and technologies.

The research found that the choice of a particular type of bag (paper, certified compostable plastic, biodegradable plastic or plastic) did not significantly impact on participation or capture in the program – the other factors had more of an influence on participation and capture."

We have even heard people say that Halton started out as a paper-only program and switched to a choice program to get capture rates up, and was successful. This is absolutely false. Halton never really had a paper-only program. Halton has been very successful, but Halton’s success is due to a lot of things other than “choice”.

Going from a paper-only program to a “choice” program may actually decrease participation.

Many residents prefer paper to plastic and recognize the merits of paper and wish to continue with paper.

If a municipal that has a paper only program were to go to a “choice program” we expect that the major retailers would stop stocking paper liners.

If those who prefer paper are suddenly left without a convenient supply, they may decide to opt out rather than go to plastic.

This may reduce capture rates.

Hamilton started with a paper only program. Hamilton switched to a choice program (paper or certified compostable plastic).
When the program changed to “choice” many retailers discontinued stocking paper liners, and residents had trouble getting paper liners.

Many residents who preferred paper called the paper manufacturer with concerns that they could not get the paper liners.

We have only anecdotal evidence at this point, but the evidence is that many said that if they couldn’t easily get the paper liners they wouldn’t separate as much, and maybe would not separate at all.

**Compostability**

*False Claim #2 Compostable plastic disintegrates as readily as kitchen waste and as readily as paper*

All compostable plastics bags carry a logo supposedly signifying that they are certified compostable, and certifying that the logo means that they biodegrade and disintegrate as readily as kitchen waste and as readily as paper.

But the certification programs and their specifications are not valid.

All you need to demonstrate that the certification programs are invalid is to consider the compostable “sun chips” bags fiasco of a few years ago.

Sun chips “compostable” bags were certified not just by one program, but by two (BNQ and BPI). Yet the bag was not compostable. Many found that the sun chips bags were coming through their processes partially intact, and thus were not compostable. Many municipalities refused to accept the certified sun chips bags into their programs.

That the fully certified sun chips bags were not compostable was a clear indication that the certification specifications are invalid.

The fact is that the invalid certification programs will at times pass material that is not compostable and will at times fail material that is compostable.

Attachment 2 is a paper presented to Kingston City Council showing why the specification is invalid.

The specification is unreliable.
Cost

False Claim #3: “Compostable bags save an average family $83/yr. at least”??

This claim is based on two false assumptions. One false assumption is that people will use twice as many paper bags as they would plastic bags to do the same job. This assumption does not bear up under scrutiny. The assumption is false.

The second assumption is that paper bags cost five times as much per bag as plastic. Paper are more expensive, but not five times.

In addition shelf prices only tell part of the cost story.

Use of plastic results in higher processing costs (because plastic is less compostable) and lower compost quality (meaning lower revenue).

The Kelleher-Robins report (attachment 1) indicated this:

“All facility operators noted that certified compostable plastic bags compost more slowly than paper bags, and the processing operations experience higher residue rates from programs that use plastic bags, including biodegradable and certified compostable bags.”

This means higher processing cost and thus higher taxes for residents if plastic bags are allowed. These higher tax costs needs to be set off against the shelf costs of plastic bags to determine which costs more.

Paper-only programs have a big advantage. With no plastic contamination, processors know that their processing costs will be lower and their revenues will be higher.

They will generally quote lower contract costs for processing paper-only infeed stocks.

It is recognized that Waterloo’s contract does not come open for some time, but it is worth considering that when it does come open the paper-only nature of the current program will be an advantage.
The “yuk factor”

False Myth #4: That the “yuk factor” is associated with paper liners.

This is more a rumour than a claim, as I have never seen it on paper.

The paper liners commonly used have a water–resistant cellulose liner. The liner minimizes leaks and thus minimizes the “yuk factor”. The liner is not plastic. The cellulose comes from plants. The cellulose liner is completely and readily compostable.

There is a range of compostable plastic liners available. Some are made with a thicker film than others. Our observation is that these are generally very good at retaining fluids and not leaking, but because they are made with thick film, they are less compostable than thinner film compostable plastic bags, and are less compostable that paper bags.

The compostable plastic bags made with thinner film do compost much better than the thick film bags (but not as well as the paper bags), but they are more prone to leaking fluids or even failing altogether in use.

To the best of our knowledge, it is only the cellulose lined bin bags that provide excellent disintegration in composter processes combined with excellent fluid retention and leak minimization under the kitchen sink.

Ways to increase capture and participation rate:

The attached report by Kelleher-Robins (attachment 1) provides many ideas for increasing capture and participation rates.

In addition the experience of the many municipalities with very high paper-only programs and very high capture rates is available through the Municipal Waste Association organics committee.

Recommendation:

Waterloo Region should continue with the paper-only program.
Impacts of Kraft, Plastic and Certified Compostable Plastic Bags on Green Bin Program Performance

Submitted to:

Bag To Earth

April, 2012

in association with

Kelleher Environmental

in association with

ROBINS ENVIRONMENTAL
Table of Contents

Table of Contents ........................................................................................................................................... 0
Tables and Figures .............................................................................................................................................. 0
Executive Summary ........................................................................................................................................ 1
  1.  Introduction ........................................................................................................................................... 1
  2.  Research Approach ................................................................................................................................. 2
    2.1  Ontario Municipalities With SSO Programs ..................................................................................... 2
    2.2  Canadian Municipalities With SSO Programs .................................................................................. 3
    2.3  Selection of Municipalities For Research And Analysis ................................................................. 5
  3.  Municipal Research ................................................................................................................................. 6
    3.1  Garbage Collection Frequency and Policies ...................................................................................... 6
    3.2  Green Bin Program Collection Frequencies and Curbside Policies .............................................. 7
    3.3  Process Involved in Selection of Kitchen Catcher Bags .................................................................. 8
    3.4  Green Bin Program Capture Rates ................................................................................................... 10
    3.5  Participation Rates ............................................................................................................................. 15
    3.6  Collection Issues ................................................................................................................................. 16
    3.7  Resident Comments on Paper Vs Certified Compostable Plastic Bags ........................................... 16
  4.  Processing Facility Issues ....................................................................................................................... 18
    4.1  Facilities Used For Processing of Green Bin Organics ...................................................................... 18
    4.2  Comments From Composting Facility Operators ............................................................................ 20
    4.3  Finished Compost Quality Issues .................................................................................................... 21
    4.4  Financial And Other Impacts on Municipalities Of Permitting Certified Compostable Plastic Bags 21
  5  Conclusions .............................................................................................................................................. 22

Tables and Figures

Table 1:  Ontario Municipalities with Green Bin SSO Programs Of Interest To The Study Research .......... 3
Table 2:  Canadian Municipalities Outside Ontario with Green Bin SSO Programs .................................. 4
Table 3: Municipalities Selected For Study Research .................................................................................. 5
Table 4: Garbage Collection Frequency And Policies At Selected Green Bin Communities ...................... 7
Table 5: Green Bin Program Features In Selected Communities ............................................................... 8
Table 6: Capture Rates For Ontario Green Bin Programs By Year (kg/household/year) ........................... 12
Table 7: Comparison of The Performance of SSO Green Bin Programs That Permit Kraft Paper and  
  Certified Compostable Plastic Bags (Not Yet Mature Programs Shown In Italics) .................................. 13
Table 8: Residue Rates from Green Bin Processing .................................................................................... 19

List of Figures

Figure 1: Selected Green Bin Program Capture Rates Reported in 2011 ................................................... 10
Figure 2: Green Bin Collection Statistics For Selected Green Bin Programs, 2009 and 2010 ............... 14
Executive Summary

Residential collection of source separated organics (kitchen organics) is increasing rapidly across Canada. Implementation of residential source separated organics (SSO) programs requires many decisions: what materials to collect; how they should be stored in the home and collected at the curb, the processing approach used (composting or AD), policies which could increase participation and capture in residential SSO programs, and the most appropriate end markets for finished compost. One of the decisions is which type of kitchen catcher bag (paper, certified compostable plastic, biodegradable plastic or plastic) to allow for set out of SSO in curbside bins.

Bag to Earth, a manufacturer of kraft paper kitchen catcher, Green Bin and leaf and yard waste bags, commissioned Kelleher Environmental in association with Robins Environmental Design to examine the impacts of different bag choices (paper, certified compostable plastic, biodegradable plastic or plastic) on SSO program performance. A key research question was to identify the extent to which allowing different kitchen catcher bags in the SSO program impacts on the amount of SSO collected, processing operations and the quality and amount of finished compost produced.

Operating data were collected from SSO programs across Canada. The information collected included:

- Year the SSO program was implemented;
- Households served;
- Size of curbside bin (generally 46, 80, 120, 140 or 240 litres);
- Materials accepted in the SSO Green Bin program (kitchen organics or a broader list which includes pet waste and sanitary products; whether leaf and yard waste is collected in the Green Bin, etc.);
- Tonnes of SSO collected annually for each year since the program was initiated;
- Type of bags permitted in SSO bins (paper only, certified compostable plastic, biodegradable plastic or plastic);
- Frequency of garbage collection (weekly or bi-weekly);
- Policies which would impact on participation (bag limits, PAYT programs, etc);
- Location where SSO was processed and
- Residue rates at the processing operation.

The conclusion of the analysis was that many factors impact on the performance of the SSO program:

- **Age of the program (number of years in operation):** participation in SSO programs generally increases over time and the amount of SSO collected in Green Bin programs
generally increases over time as long as a consistent promotion and education program is maintained and residents become used to the program requirements;

- **Frequency of garbage collection** - participation in SSO programs and capture of SSO are both generally higher in communities which only collect garbage every other week. Less frequent garbage collection service encourages residents to use the Green Bin more effectively;

- **Curbside policies** - participation and capture are higher in communities with lower garbage bag/container set out limits and where charges are in place for extra bags or containers of garbage.

- **Size of curbside Green Bin containers provided and the extent to which leaf and yard waste is included in the Green Bin**: Some communities choose small 46 litre Green Bin containers which have capacity for kitchen waste and other listed materials only whereas other communities chose a larger Green Bin container which has capacity for leaf and yard waste. The decision on the extent to which leaf and yard waste is permitted in the Green Bin is integrated with decisions on optimizing the collection system economics and also with processing operation capacity and technologies.

The research found that the choice of a particular type of bag (paper, certified compostable plastic, biodegradable plastic or plastic) did not significantly impact on participation or capture in the program - the other factors had more of an influence on participation and capture.

The figure below presents collection levels for programs which permit paper and certified compostable plastic bags, but not programs like Toronto and York which allow all types of plastic bags and collect a wider range of materials than most Green Bin programs. Capture levels among the programs profiled are low for Kingston and Waterloo as the programs are new - both were launched in 2009 and 2010.
The reasons for the decision on which kitchen catcher bag to allow vary by community. Some communities start out the SSO program allowing one type of bag, and move to a different set of rules over time depending on resident feedback and also on feedback from the composting or organics processing facility operator.

Composting facility operators contacted for the study expressed a preference for paper bags, as these compost readily in existing systems, and reportedly result in residue rates of “virtually zero”. All facility operators noted that certified compostable plastic bags compost more slowly than paper bags, and the processing operations experience higher residue rates from programs that use plastic bags, including biodegradable and certified compostable bags. Operators commented that a well-run composting operation should be able to achieve a residue rate of below 5%.

Municipal staff commented that there is a big difference between biodegradable plastic bags and plastic bags which are certified as compostable. The latter are acceptable in many programs, but the biodegradable plastic bags are not. Municipal staff commented that it is confusing for residents to know the difference between certified compostable plastic bags and biodegradable plastic bags, and that even with good intentions, when plastic of any type is permitted in the Green Bin, non-compostable plastic bags always appear in the composting pile, thus increasing residue rates at the processing operation.

Green Bin programs are being implemented across Canada. A number of years ago communities were faced with making decisions without significant information on what impacts the design decisions might have on program performance. There is now significant operational experience to draw on to help program designers choose a system which suits the needs of their community. Well performing programs include a blend of policies and practices which best meet community needs and diversion targets, while integrating collection decisions with the broader integrated waste management system, and taking account of the implications of program design decisions on the organics processing operation.
1. Introduction

As more and more Canadian communities introduce curbside collection of household organics - source separated organic (SSO) - through Green Bin programs, there is a need to address the type of collection system that will be used to support the program and the impacts of program design decisions on participation, capture, processing operations and costs.

The majority of Green Bin programs in Canada process the collected source separated organic (SSO) materials in aerobic processing facilities that convert the raw organic material into finished, high quality compost. Aerobic composting systems generally do not handle film plastic bags in their systems, as operators report that the plastic bags do not break down and impact on the quality of the finished compost. The City of Toronto processes some of the collected Green Bin organics in an anaerobic digestion (AD) system which uses a hydro-pulper to remove plastics ahead of the digestion system.

With the recent introduction of certified compostable (distinct from biodegradable) plastic bags into the market, many communities are trying to decide whether or not to allow residents to use certified compostable plastic bags in their program.

This research report was commissioned by Bag To Earth, which manufactures paper kitchen catcher bags, to identify the extent to which bag choices impact on performance and capture on Green Bin programs.

The study research concludes that various program factors including the age of the program, frequency of organics collection, frequency of garbage collection, garbage fee structure, garbage bag limits, materials collected in the program, capacity of the Green Bin, whether the Green Bin can be “topped up” with leaf and yard waste all influence Green Bin program performance, including participation and recovery rates.

The project research is presented in the following sections:

- Section 2 describes the research approach;
- Section 3 presents the findings of interviews with municipalities on collection aspects of Green Bin programs;
- Section 4 presents the findings of interviews with staff at processing facilities and
- Section 5 presents the conclusions from the study research.
2. Research Approach

The research workplan involved a number of components:

- A literature search (internet, websites and journals);
- Identification of relevant Green Bin programs to include in the study;
- Interviews with staff at selected communities with Green Bin programs based in Ontario and the Maritimes;
- Analysis of the data provided by the selected programs;
- Documentation of research findings in a Research Study Report.

A list of those interviewed for the study is presented in Appendix A to this report.

The research study identified a number of Green Bin programs that used kraft paper bags, certified compostable plastic bag, or plastic bags. Programs where plastic bags were permitted (such as the City of Toronto and York Region) were not addressed in any detail in the study.

2.1 Ontario Municipalities With SSO Programs

The Waste Diversion Ontario (WDO) Datacall files were reviewed to identify municipalities in Ontario which collect SSO and the number of years SSO tonnages have been reported in the annual WDO Municipal Datacall. Websites for each of the municipalities were reviewed to identify policies in place for managing the organics in the household.

Very small communities were not included in the analysis to any great extent, as larger communities provide a sense of how larger, more diverse communities will respond to an SSO program.

Ontario municipalities which currently have source separated household organics curbside collection programs include:

- Town of Shelburne
- Simcoe County
- Southgate Township
- Town of St Marys
- City of Toronto
- Waterloo Region (som)
- York Region
- Town of Meaford
- Town of Mono
- Niagara Region
- Durham Region
- City of St. Thomas
- City of Ottawa
- Town of Orangeville
- District of Ottawa Valley
- Peel Region
- Peterborough City and County
- City of Guelph
- Halton Region
- City of Hamilton
- District of Kawartha Lakes
- City of Barrie
- City of Orillia
- Simcoe County
- City of Kingston
For each of these programs, the year of Green Bin program implementation and the type of collection containers permitted for use in the kitchen or other parts of the home were identified.

The study focused on municipalities where the Green Bin program has been in place for a few years. The research showed that the amount of SSO collected generally increases over time as communities get used to the new SSO collection behavior and schedule. Therefore, programs of most interest to the study were those which had been in place for at least 4 years. In some cases programs which had been in place for a shorter period of time were also included in the analysis.

Table 1 identifies larger urban programs of interest to the study research.

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Year of Full SSO Program Implementation</th>
<th>Collection Kitchen Catcher Bags Permitted</th>
<th>Green Bin Container Size (litres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamilton, Ontario</td>
<td>2006</td>
<td>yes yes no</td>
<td>120</td>
</tr>
<tr>
<td>Halton Region Ontario</td>
<td>2008</td>
<td>yes yes no</td>
<td>46</td>
</tr>
<tr>
<td>Toronto, Ontario</td>
<td>2005</td>
<td>yes yes yes</td>
<td>46</td>
</tr>
<tr>
<td>York Region, Ontario</td>
<td>2007</td>
<td>yes yes yes</td>
<td>46</td>
</tr>
<tr>
<td>Region of Peel, Ontario</td>
<td>2004</td>
<td>yes yes no</td>
<td>46</td>
</tr>
<tr>
<td>Durham Region, Ontario</td>
<td>2006</td>
<td>yes yes no</td>
<td>46</td>
</tr>
<tr>
<td>Ottawa, Ontario</td>
<td>2010</td>
<td>yes no no</td>
<td>80</td>
</tr>
<tr>
<td>Barrie, Ontario</td>
<td>2006</td>
<td>yes yes no</td>
<td>46</td>
</tr>
<tr>
<td>Waterloo, Ontario</td>
<td>2010</td>
<td>yes no no</td>
<td>46</td>
</tr>
<tr>
<td>Kingston, Ontario</td>
<td>2009</td>
<td>yes no no</td>
<td>80</td>
</tr>
<tr>
<td>Guelph, Ontario</td>
<td>1996</td>
<td>yes no no</td>
<td>120</td>
</tr>
<tr>
<td>Ottawa Valley, Ontario</td>
<td>2002</td>
<td>yes no no</td>
<td>120</td>
</tr>
<tr>
<td>Township of Southgate, Ontario</td>
<td>2003</td>
<td>yes no no</td>
<td>240</td>
</tr>
<tr>
<td>St. Thomas, Ontario</td>
<td>1994</td>
<td>yes yes no</td>
<td>240</td>
</tr>
<tr>
<td>Simcoe County, Ontario</td>
<td>2008</td>
<td>yes yes no</td>
<td>13 gal (46 litres approx.)</td>
</tr>
<tr>
<td>Niagara Region, Ontario</td>
<td>2008</td>
<td>yes yes no</td>
<td>46</td>
</tr>
</tbody>
</table>

2.2 Canadian Municipalities With SSO Programs

A scan of waste management web pages of major urban centres in Canada was conducted to identify which communities collected SSO as part of their curbside service. Within Canada there are relatively few municipalities with Green Bin SSO programs outside of Nova Scotia and Ontario. In the past SSO collection programs were mostly concentrated in the Maritime
provinces (for instance Halifax Regional Municipality and PEI both have large SSO programs), with some programs also in BC. More programs are being implemented in BC, and the City of Calgary plans to pilot test an SSO curbside program in 2012.

In total, eighteen (18) Canadian municipalities were identified outside Ontario with SSO collection programs.

It should be noted that communities in British Columbia (with the exception of the Regional District of Nanaimo) have a hybrid SSO program where fruits, vegetable, bread and dairy waste are permitted in the yard waste container, and the collected material is composted in outdoor windrows.

The British Columbia programs were not analysed in the study as they had been launched recently (mostly in 2009, 2010 and 2011).

Table 2: Canadian Municipalities Outside Ontario with Green Bin SSO Programs

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Full SSO Program</th>
<th>SSO Collection Bags Permitted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Paper Kraft Bags</td>
</tr>
<tr>
<td>Burnaby, BC</td>
<td>June 2010</td>
<td>yes</td>
</tr>
<tr>
<td>Port Coquitlam, BC</td>
<td>2009</td>
<td>yes</td>
</tr>
<tr>
<td>Vancouver, BC</td>
<td>April 2010</td>
<td>yes</td>
</tr>
<tr>
<td>Coquitlam, BC</td>
<td>2011</td>
<td>yes</td>
</tr>
<tr>
<td>Regional District of Nanaimo, BC</td>
<td>Dec 2011</td>
<td>yes</td>
</tr>
<tr>
<td>Prince Edward Island</td>
<td>2002</td>
<td>yes</td>
</tr>
<tr>
<td>Bay of Fundy, NB</td>
<td>2001</td>
<td>yes</td>
</tr>
<tr>
<td>Westmoreland-Albert, NB</td>
<td>1999</td>
<td>yes</td>
</tr>
<tr>
<td>Halifax, NS</td>
<td>1999</td>
<td>yes</td>
</tr>
<tr>
<td>South Shore/Lunenburg SW Region, NS</td>
<td>1998</td>
<td>yes</td>
</tr>
<tr>
<td>Northern SW Region, NS</td>
<td>2011</td>
<td>yes</td>
</tr>
<tr>
<td>Valley Waste Resource Management, NS</td>
<td>1999</td>
<td>yes</td>
</tr>
<tr>
<td>Western SW Region, NS</td>
<td>1999</td>
<td>yes</td>
</tr>
<tr>
<td>Gatineau QC</td>
<td>May 2010</td>
<td>yes</td>
</tr>
<tr>
<td>Sherbrooke, QC</td>
<td>2008</td>
<td>yes</td>
</tr>
<tr>
<td>Victoriaville, QC</td>
<td>1998</td>
<td>yes</td>
</tr>
</tbody>
</table>
2.3 Selection of Municipalities For Research And Analysis

A number of selection criteria were applied to the list to identify those programs whose staff would be interviewed for the Research Study:

- The year the SSO program was launched (preferably no later than 2006) to ensure the availability of WDO Municipal Datacall data on the tonnage of SSO collected for Ontario programs;
- The size of the community (some towns and smaller communities were eliminated, unless elements of their program were particularly relevant);
- The use of kraft bags only or certified compostable plastic bags as well, and
- Full implementation of the SSO program (communities with partial programs were not interviewed).

Applying the above criteria, the following communities were selected for further research and interviews.

Table 3: Municipalities Selected For Study Research

<table>
<thead>
<tr>
<th>Programs Allowing Only Kraft Bags</th>
<th>Full Scale SSO Green Bin Program Launch Year</th>
<th>Green Bin Size (litres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Ottawa, ON</td>
<td>2010</td>
<td>80</td>
</tr>
<tr>
<td>Township Southgate, ON</td>
<td>2003</td>
<td>240</td>
</tr>
<tr>
<td>Regional Municipality of Waterloo, ON</td>
<td>2010</td>
<td>46</td>
</tr>
<tr>
<td>City of Kingston, ON</td>
<td>2009</td>
<td>80</td>
</tr>
<tr>
<td>Ottawa Valley Waste Recovery Centre, ON</td>
<td>2002</td>
<td>120</td>
</tr>
<tr>
<td>Halifax Regional Municipality, NS</td>
<td>1999</td>
<td>240</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Programs Allowing Certified Compostable Plastic Bags</th>
<th>Full Scale SSO Green Bin Program Launch Year</th>
<th>Green Bin Size (litres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Municipality of Halton, ON</td>
<td>2008</td>
<td>46</td>
</tr>
<tr>
<td>City of Hamilton, ON</td>
<td>2006</td>
<td>120</td>
</tr>
<tr>
<td>Regional Municipality of Durham, ON</td>
<td>2006</td>
<td>46</td>
</tr>
<tr>
<td>Regional Municipality of Peel, ON</td>
<td>2007</td>
<td>46</td>
</tr>
<tr>
<td>City of St. Thomas, ON</td>
<td>1994</td>
<td>240</td>
</tr>
<tr>
<td>Island Waste Management Corporation, PEI</td>
<td>2002</td>
<td>240</td>
</tr>
<tr>
<td>South Shore/Lunenburg, NS</td>
<td>1998</td>
<td>140</td>
</tr>
</tbody>
</table>
3. Municipal Research

This section describes research collected on various aspects of municipal curbside SSO collection programs, including:

- Year the program started;
- Kitchen catcher bags permitted (kraft only, kraft plus certified compostable plastic; biodegradable plastic; non-biodegradable plastic, etc)
- Frequency of garbage collection;
- Frequency of Green Bin collection;
- Green Bin container size;
- Garbage curbside policies (bag limits; user pay, etc).

Section 4 addresses issues related to processing of the collected SSO.

3.1 Garbage Collection Frequency and Policies

The following tables describe various aspects of the selected Green Bin SSO program designs, including garbage collection frequency, Green Bin collection frequency and curbside collection policies.

Most of the featured communities have switched from weekly to bi-weekly garbage collection with about half of the programs implementing user pay or Pay-as-you-throw (PAYT) programs. Most communities have reduced the number of permitted garbage bag set outs to three bags or less per week (see Table 4). All of these policies increase participation in the Green Bin program by forcing residents to reduce garbage amounts and use the Green Bin program more effectively.
Table 4: Garbage Collection Frequency And Policies At Selected Green Bin Communities

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Number of Single Family Households 2009</th>
<th>Garbage Collection Frequency</th>
<th>User Pay</th>
<th>Garbage Bag Or Container Limits (weekly)</th>
<th>Tags For Additional Garbage</th>
<th>Green Bin Container Size (litres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programs allowing only kraft bags</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Ottawa, ON</td>
<td>251,719</td>
<td>Weekly*</td>
<td>no</td>
<td>3 bag limit</td>
<td>no</td>
<td>80</td>
</tr>
<tr>
<td>Township Southgate, ON</td>
<td>2565</td>
<td>Bi-weekly</td>
<td>yes</td>
<td>240 litre</td>
<td>$2</td>
<td>240</td>
</tr>
<tr>
<td>Regional Municipality of Waterloo, ON</td>
<td>144,360</td>
<td>Weekly</td>
<td>yes</td>
<td>Up to 10 bag limit</td>
<td>no</td>
<td>46</td>
</tr>
<tr>
<td>City of Kingston, ON</td>
<td>38,278</td>
<td>Weekly</td>
<td>no</td>
<td>2 bag limit</td>
<td>$2</td>
<td>80</td>
</tr>
<tr>
<td>Ottawa Valley Waste Recovery Centre, ON</td>
<td>16,169</td>
<td>Bi-weekly</td>
<td>no</td>
<td>2 bag limit</td>
<td>no</td>
<td>120</td>
</tr>
<tr>
<td>Halifax Regional Municipality, NS</td>
<td>130,961</td>
<td>Bi-weekly</td>
<td>no</td>
<td>3 bag limit</td>
<td>no</td>
<td>240</td>
</tr>
<tr>
<td>Programs Allowing Certified Compostable Plastic Bags</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional Municipality of Halton, ON</td>
<td>143,266</td>
<td>Bi-weekly</td>
<td>no</td>
<td>3 bag limit</td>
<td>no</td>
<td>46</td>
</tr>
<tr>
<td>City of Hamilton, ON</td>
<td>157,814</td>
<td>Weekly</td>
<td>no</td>
<td>1 bag limit</td>
<td>no</td>
<td>120</td>
</tr>
<tr>
<td>Regional Municipality of Durham, ON</td>
<td>181,614</td>
<td>Bi-weekly</td>
<td>yes</td>
<td>2 bag limit</td>
<td>$1.50</td>
<td>46</td>
</tr>
<tr>
<td>Regional Municipality of Peel, ON</td>
<td>302,000</td>
<td>Bi-weekly</td>
<td>yes</td>
<td>1 bag limit</td>
<td>$1</td>
<td>46</td>
</tr>
<tr>
<td>City of St. Thomas, On</td>
<td>12,077</td>
<td>Weekly</td>
<td>yes</td>
<td>2 bag limit</td>
<td>$1.75</td>
<td>240</td>
</tr>
<tr>
<td>Island Waste Management Corporation, PEI</td>
<td>60,521</td>
<td>Bi-weekly</td>
<td>no</td>
<td>240 litre cart</td>
<td>no</td>
<td>240</td>
</tr>
<tr>
<td>South Shore/Lunenburg, NS</td>
<td>15,897</td>
<td>Bi-weekly</td>
<td>no</td>
<td>1.5 bin limit</td>
<td>no</td>
<td>140</td>
</tr>
</tbody>
</table>

* going to bi-weekly in November 2012

3.2 Green Bin Program Collection Frequencies and Curbside Policies

The majority of the communities featured in Table 5 provide weekly Green Bin collection service. The size of the collection containers varies considerably from 46 litre Green Bin containers to 240 litre Green Bin containers. Most communities seem to provide kitchen catchers (counter top bins) to their residents as part of the Green Bin program.
Table 5: Green Bin Program Features In Selected Communities

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Number of Single Family Households 2009</th>
<th>Green Bin Program</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Community wide availability</td>
</tr>
<tr>
<td><strong>Programs Allowing Only Kraft Bags</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Ottawa, ON</td>
<td>251,719</td>
<td>2010</td>
</tr>
<tr>
<td>Township Southgate, ON</td>
<td>2565</td>
<td>2003</td>
</tr>
<tr>
<td>Regional Municipality of Waterloo, ON</td>
<td>144,360</td>
<td>2010</td>
</tr>
<tr>
<td>City of Kingston, ON</td>
<td>38,278</td>
<td>2009</td>
</tr>
<tr>
<td>Ottawa Valley Waste Recovery Centre, ON</td>
<td>16,169</td>
<td>2002</td>
</tr>
<tr>
<td>Halifax Regional Municipality, NS</td>
<td>130,961</td>
<td>1999</td>
</tr>
<tr>
<td><strong>Programs Allowing Certified Compostable Plastic Bags</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional Municipality of Halton, ON</td>
<td>143,266</td>
<td>2008</td>
</tr>
<tr>
<td>City of Hamilton, ON</td>
<td>157,814</td>
<td>2006</td>
</tr>
<tr>
<td>Regional Municipality of Durham, ON</td>
<td>181,614</td>
<td>2006</td>
</tr>
<tr>
<td>Regional Municipality of Peel, ON</td>
<td>302,000</td>
<td>2007</td>
</tr>
<tr>
<td>City of St. Thomas, On</td>
<td>12,077</td>
<td>1994</td>
</tr>
<tr>
<td>Island Waste Management Corporation, PEI</td>
<td>60,521</td>
<td>2002</td>
</tr>
<tr>
<td>South Shore/Lunenburg, NS</td>
<td>15,897</td>
<td>1998</td>
</tr>
</tbody>
</table>

3.3 Process Involved in Selection of Kitchen Catcher Bags

Experience from a number of programs interviewed for the study is summarized below.

Most programs have made a decision at program launch whether or not to permit certified compostable plastic bags in the Green Bin program. Those communities that have decided to permit only kraft paper bags have tended to stick with the decision and do not change their policy, although there are a few exceptions, including Hamilton, Ontario, described below.

Hamilton, Ontario: The City of Hamilton is an exception to the general rule that municipalities make their decision at the outset of the SSO program and do not change later. It launched its Green Bin program allowing only kraft bags (2006 -2008). The City decided to allow certified compostable plastic bags in the Green Bin from 2008 on. The public had become used to paper bags so some have not switched to compostable plastic. Hamilton makes significant efforts to educate the public to look for the certified compostable plastic symbol when purchasing plastic bags.
bags. The reason to allow the use of certified compostable plastic bags in the program included:

- Hamilton were part of a group of southern Ontario municipalities (Hamilton, Niagara, Durham, Halton and Peel) with Green Bin programs which was formed to develop standards for the type of bags that would be accepted in the Green Bin program and developed shelf promotional materials for stores to use to promote acceptable bags. All the programs accept certified compostable plastic bags in their Green Bin programs;
- Halton (which allows certified compostable plastic bags) sends their Green Bin material to Hamilton’s Composting Facility so it made sense to standardize the Hamilton and Halton programs as much as possible. The processor indicated that they could handle the certified compostable plastic bags;
- Hamilton were making changes to their program anyway in 2008. As a trade-off to lowering the garbage bag limit, and also to be consistent with their GTA neighbours, Hamilton felt that it was a good time to introduce a change to the bags accepted.

South Shore/Lunenburg Solid Waste Region was required by its politicians to allow the certified compostable plastic bags, but do not encourage their use and have not recognized this as a formal policy. In other instances, such as the Island Waste Management Corporation (IWMC) staff “turn a blind eye” to the use of certified compostable plastic bags by some residents (estimated at up to 25%).

The Regional Municipality of Halifax tested the use of biodegradable plastic bags (certified compostable plastic bags were not available at that time) in its system in 1999 to determine whether the bags would break down during the composting process. The biodegradable plastic bags did not break down during the enclosed aerobic composting process nor did they break down during the curing process. The end market compost material contained pieces of biodegradable plastic material which reduced the quality of the product and the viability of it being sold. The processor indicated that if Halifax decided to accept biodegradable plastic bags in its system, the processor (Miller Waste) and the curing company (Elmsdale Landscapers) would need to invest in additional technology to screen out the plastics - this would result in higher processing costs. Halifax Council chose to ban the biodegradable plastic bags instead.

City of Ottawa: In the case of the City of Ottawa, the restriction to use only kraft paper bags was required by the operating Certificate of Approval for the Orgaworld composting facility. The Certificate of Approval did not permit any plastic in the organic stream (only paper) at the time the decision on collection was made. The City’s legal department interpreted this to mean that certified compostable plastic bags as well as non-biodegradable plastic bags were not permitted. When asked in fall, 2011, staff responded that even if the Certificate of Approval was amended to permit certified compostable plastic bags, the City would not be inclined to permit them at this stage in the program. Orgaworld appealed the decision to Ontario’s Environmental Review Tribunal in November 2009. The company argued that the contract with the city allowed it to process those materials. In November, 2011, the tribunal decided that plastic bags, dog feces, dirty diapers and some other items not allowed before could be composted by Orgaworld’s Ottawa plant. The city does not plan to add any materials to the Green Bin program.

Region of Peel: The decision to allow certified compostable plastic bags was made by Council in September of 2006 after considerable research by Regional staff. Peel Council approved a 6 month window allowing residents to use any type of plastic bag in the Green Bin from the April
2007 launch to October 2007. In retrospect, it might have been less confusing for residents if paper/certified compostable bags/no liners were clear at the outset of the program, as enforcement of the “no plastic” rule later in the program caused resident confusion.

**Region of York:** While not part of the study research (as the Region permits plastic bags and also collects the same broad list of materials in the Green Bin as City of Toronto), the Region is an interesting case study as it made an effort in spring, 2011 to move from permitting plastic bags in the Green Bin program to allowing certified compostable plastic bags only. This change was in an effort to reduce residue in the composting program. The Town of Markham elected not to require their residents to move to certified compostable plastic bags as they wanted to evaluate various diversion options as part of a larger package. Collection is the responsibility of local area municipalities in the Region of York, while the Region is responsible for processing and disposal of collected materials.

The plastic bag issue was raised in Summer, 2010 when a number of composting facilities experienced significant odour problems and were temporarily closed to get the odours under control. The MOE was revising the Compost Quality Guidelines at the time and wanted to ban plastic bags in organics going to composting facilities. The Regional Public Works Commissioners of Ontario (RPWCO) lobbied the MOE to carry out some best practice research to prove that odours were not caused by plastic bags but rather a number of poor operating practices. City of Toronto staff were called as witnesses at a hearing related to the Orgaworld facility in Ottawa. The revised Compost Quality Guidelines have not been released as of April, 2012.

### 3.4 Green Bin Program Capture Rates

In a presentation at the 2011 BioCycle Globe Conference in San Diego\(^1\) a chart was presented showing the 2009 kg/household/year values of collected SSO performance for programs which permit kraft bags vs programs which permit certified compostable plastic bags. The chart used is presented in Figure 1.

**Figure 1:** Selected Green Bin Program Capture Rates Reported in 2011

---

\(^1\) Utilization of Certified Compostable Bags – A Canadian Experience. Presented by Dave Douglas of Vision Quest at the BioCycle Globe Conference, April 13th 2011 in San Diego, California
Waterloo and Kingston were used as examples of programs permitting only kraft kitchen catcher bags in the Green Bin. These programs were presented as achieving less than 65 kg/hhld/yr capture rates compared to other programs including Peel, Simcoe, Dufferin, Durham and Halton (which allow certified compostable plastic bags) achieved capture rates in the range of 103 to 179 kg/hhld/yr. One key program parameter - the age and maturity of the Green Bin program, was not included in the presentation or the analysis. This helps to explain the low capture rates for Waterloo and Kingston - these were both new programs at the time.

Data on Green Bin program capture rates compiled from the Waste Diversion Ontario Municipal Datacall are presented in Table 6. While many factors are in play, including the size of Green Bins used, frequency of Green Bin and garbage collection, whether leaf and yard waste is included in the Green Bin, etc. the tables generally show that capture in Green Bin programs increases over time.
Table 6: Capture Rates For Ontario Green Bin Programs By Year (kg/household/year)

<table>
<thead>
<tr>
<th>Municipality/Region</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>SF Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOUTHGATE, TOWNSHIP</td>
<td>0</td>
<td>91</td>
<td>250</td>
<td>0</td>
<td>311</td>
<td>269</td>
<td>293</td>
<td>306</td>
<td>319</td>
<td>2,411</td>
</tr>
<tr>
<td>OTTAWA VALLEY WASTE RECOVERY CENTRE</td>
<td>206</td>
<td>242</td>
<td>235</td>
<td>226</td>
<td>247</td>
<td>241</td>
<td>258</td>
<td>273</td>
<td>260</td>
<td>15,401</td>
</tr>
<tr>
<td>HAMILTON</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>167</td>
<td>190</td>
<td>225</td>
<td>241</td>
<td>251</td>
<td>150,231</td>
</tr>
<tr>
<td>TORONTO</td>
<td>8</td>
<td>58</td>
<td>105</td>
<td>172</td>
<td>251</td>
<td>236</td>
<td>260</td>
<td>228</td>
<td>241</td>
<td>453,048</td>
</tr>
<tr>
<td>PERTH</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>0</td>
<td>33</td>
<td>188</td>
<td>220</td>
<td>1,587</td>
</tr>
<tr>
<td>OTTAWA,</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>7</td>
<td>206</td>
<td>259,243</td>
<td></td>
</tr>
<tr>
<td>ST. THOMAS,</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>204</td>
<td>286</td>
<td>194</td>
<td>12,896</td>
</tr>
<tr>
<td>YORK, REGION</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>43</td>
<td>88</td>
<td>131</td>
<td>199</td>
<td>244</td>
<td>187</td>
<td>283,491</td>
</tr>
<tr>
<td>HALTON, REGION</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>125</td>
<td>168</td>
<td>182</td>
<td>147,203</td>
</tr>
<tr>
<td>MONO, TOWN OF</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>85</td>
<td>104</td>
<td>107</td>
<td>127</td>
<td>149</td>
<td>2,784</td>
</tr>
<tr>
<td>DURHAM, REGION</td>
<td>0</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>76</td>
<td>142</td>
<td>140</td>
<td>148</td>
<td>149</td>
<td>185,024</td>
</tr>
<tr>
<td>SHELBURNE, TOWN OF</td>
<td>0</td>
<td>0</td>
<td>89</td>
<td>124</td>
<td>88</td>
<td>108</td>
<td>151</td>
<td>148</td>
<td>143</td>
<td>1,842</td>
</tr>
<tr>
<td>AMARANTH, TOWNSHIP</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>122</td>
<td>127</td>
<td>133</td>
<td>1,361</td>
</tr>
<tr>
<td>EAST LUTHER GRAND VALLEY, TOWNSHIP</td>
<td>0</td>
<td>53</td>
<td>61</td>
<td>82</td>
<td>79</td>
<td>88</td>
<td>122</td>
<td>115</td>
<td>127</td>
<td>1,313</td>
</tr>
<tr>
<td>PEEL</td>
<td>9</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>12</td>
<td>93</td>
<td>120</td>
<td>116</td>
<td>118</td>
<td>308,000</td>
</tr>
<tr>
<td>KINGSTON,</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>84</td>
<td>102</td>
<td>102</td>
<td>38,649</td>
</tr>
<tr>
<td>MULMUR, TOWNSHIP</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>75</td>
<td>99</td>
<td>101</td>
<td>101</td>
<td>1,637</td>
</tr>
<tr>
<td>ORANGEVILLE,</td>
<td>13</td>
<td>14</td>
<td>15</td>
<td>17</td>
<td>10</td>
<td>74</td>
<td>99</td>
<td>97</td>
<td>97</td>
<td>10,109</td>
</tr>
<tr>
<td>SIMCOE, COUNTY</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>28</td>
<td>92</td>
<td>91</td>
<td>125,920</td>
</tr>
<tr>
<td>EAST GARAFAIXA,</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>69</td>
<td>71</td>
<td>76</td>
<td>913</td>
</tr>
<tr>
<td>NIAGARA,</td>
<td>0</td>
<td>0</td>
<td>102</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>78</td>
<td>74</td>
<td>156,994</td>
</tr>
<tr>
<td>BARRIE, CITY OF</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>55</td>
<td>65</td>
<td>57</td>
<td>62</td>
<td>66</td>
<td>44,306</td>
</tr>
<tr>
<td>MELANCTHON,</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>72</td>
<td>64</td>
<td>65</td>
<td>65</td>
<td>1,135</td>
</tr>
<tr>
<td>GREATER SUDbury, CITY OF</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>15</td>
<td>56</td>
<td>56</td>
<td>57,946</td>
</tr>
<tr>
<td>WATERLOO,</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>11</td>
<td>34</td>
<td>52</td>
<td>147,830</td>
</tr>
<tr>
<td>MEAFORD,</td>
<td>20</td>
<td>11</td>
<td>26</td>
<td>41</td>
<td>53</td>
<td>40</td>
<td>38</td>
<td>28</td>
<td>34</td>
<td>5,449</td>
</tr>
<tr>
<td>MUSKOKA,</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>16</td>
<td>26</td>
<td>19</td>
<td>44,827</td>
</tr>
<tr>
<td>MADAWASKA VALLEY,</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>2,937</td>
</tr>
<tr>
<td>PETERBOROUGH, CITY</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>26,240</td>
</tr>
<tr>
<td>BRANT, COUNTY</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>13,580</td>
</tr>
<tr>
<td>PETERBOROUGH, COUNTY</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>34,269</td>
</tr>
<tr>
<td>THE BLUE MOUNTAINS, TOWN OF</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6,987</td>
</tr>
<tr>
<td>KAWARTHA LAKES, CITY OF</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>17</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>35,746</td>
</tr>
<tr>
<td>GUELPH, CITY OF</td>
<td>162</td>
<td>242</td>
<td>257</td>
<td>254</td>
<td>96</td>
<td>289</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>36,807</td>
</tr>
</tbody>
</table>

Table 7 presents a comparison of the performance of Green Bin programs that permit only kraft bags with those that permit both kraft bags as well as certified compostable plastic bags. If we set a program maturity date at SSO Green Bin programs which have been in operation a full four years after implementation community wide, then 3 of the 6 (or 50%) of the Green Bin
Programs that permit only kraft bags would be considered not yet mature programs that have not attained their full capture rate potential. These programs include the City of Ottawa, Waterloo Region and the City of Kingston.

Table 7: Comparison of The Performance of SSO Green Bin Programs That Permit Kraft Paper and Certified Compostable Plastic Bags (Not Yet Mature Programs Shown In Italics)

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Programs Allowing Only Kraft Bags</th>
<th>Community wide availability</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>kg/SF hhld/yr</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Ottawa, ON</td>
<td>2010</td>
<td>0</td>
<td>0</td>
<td>142</td>
<td></td>
</tr>
<tr>
<td>Township Southgate, ON</td>
<td>2003</td>
<td>275</td>
<td>287</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>Regional Municipality of Waterloo, ON</td>
<td>2010</td>
<td>12</td>
<td>35</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>City of Kingston, ON</td>
<td>2009</td>
<td>80</td>
<td>85</td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>Ottawa Valley Waste Recovery Centre, ON</td>
<td>2002</td>
<td>251</td>
<td>260</td>
<td>289</td>
<td></td>
</tr>
<tr>
<td>Halifax Regional Municipality, NS</td>
<td>1999</td>
<td>267</td>
<td>273</td>
<td>260</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Programs Allowing Certified Compostable Plastic Bags</th>
<th>Community wide availability</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Municipality of Halton, ON</td>
<td>2008</td>
<td>132</td>
<td>173</td>
<td>182</td>
</tr>
<tr>
<td>City of Hamilton, ON</td>
<td>2006</td>
<td>218</td>
<td>230</td>
<td>228</td>
</tr>
<tr>
<td>Regional Municipality of Durham, ON</td>
<td>2006</td>
<td>146</td>
<td>151</td>
<td>147</td>
</tr>
<tr>
<td>Regional Municipality of Peel, ON</td>
<td>2007</td>
<td>124</td>
<td>118</td>
<td>90</td>
</tr>
<tr>
<td>City of St. Thomas, On</td>
<td>1994</td>
<td>193</td>
<td>188</td>
<td>194</td>
</tr>
<tr>
<td>Island Waste Management Corporation, PEI</td>
<td>2002</td>
<td>252</td>
<td>254</td>
<td>247</td>
</tr>
<tr>
<td>South Shore/Lunenburg, NS</td>
<td>1998</td>
<td>384</td>
<td>245</td>
<td>251</td>
</tr>
</tbody>
</table>

Note - the blue and orange highlighted programs are less mature programs that were launched in or after 2007.

There are too many variables at play, and too few data sets available for a sufficiently long time series to draw any firm conclusions on the impacts of kraft vs compostable plastic bags on program participation and capture, as many other factors listed previously impact on overall program performance.
Factors that likely impact on program performance include:

- Size of the Green Bin bin (five bin sizes - 46, 80, 120, 140 or 240 litres) are used in the programs evaluated;
- Garbage collection frequency is either weekly (Waterloo, Kingston, Ottawa, Hamilton and St Thomas) with the remaining programs providing bi-weekly garbage collection;
- User pay policies for additional garbage are in place in some of the communities evaluated (Southgate, Waterloo, Durham, Peel and St Thomas);
- Weekly bag limits vary widely among the communities evaluated with a 1-bag limit in place in Hamilton and Peel.

Of particular note is the fact that the programs that have bi-weekly garbage collection - Southgate, Ottawa Valley, Halifax with kraft bags and Halton, Durham, Peel, Island Waste Management Corp and South Shore/Lunenburg which allow certified compostable plastic bags, all have good capture rates. Hamilton’ high capture rate is likely to be partially as a result of the 1-bag garbage limit, and also because leaf and yard waste are included in the 120 litre Green Bin, so comparing Hamilton performance with a 120 litre Green Bin, to Peel and Halton (both of which use 46 litre Green Bins) is comparing “apples to oranges”.
3.5 Participation Rates

Few communities have conducted formal participation studies but some results from studies and informal studies include:

Programs that permit only kraft paper bags

- **Southgate** estimates that it is achieving almost 100% participation in its urban areas and 85% participation in its rural areas;
- **Halifax** conducts satisfaction surveys every ten years and in its last 2010 survey 90% of residents were satisfied with the Green Bin program;
- **Ottawa Valley**: In a 2008 waste audit conducted in Ottawa Valley, the four season average capture rate for the Green Bin program was 62%, which demonstrates good participation rates. The General Manager of the Ottawa Valley Waste Recovery Centre does not believe that the decision not to allow the use of biodegradable plastic bags has impacted on participation rates in the Green Bin program.
- **Ottawa**: Early into the City of Ottawa’s Green Bin program, the city is achieving about 40% participation rate;
- **Kingston** measured participation at 55% to 57%\(^2\).

Programs that permit certified compostable plastic bags

- Hamilton has experienced a gradual increase in participation rates over the years - 36% in 2006 (first year of program); 54% in 2008; 71% in 2009;
- South Shore/Lunenburg reports that it has a participation rate of 80% for its Green Bin program;
- Peel has measured 42% participation levels and comment that these participants place about 130 kgs/hhld/year at the curb\(^3\).

The City of Hamilton conducts participation audits every two years, and at the same time, tracks bags used as liners in its Green Bin program. In 2009 it found that liner bag use consisted of 44% paper bags, 44% certified compostable plastic bags, and 12% plastic bags. This is an improvement from the previous study, where more plastic bags and fewer certified compostable plastic bags were identified.

\(^2\) Person communication John Giles, City of Kingston, January, 2012

\(^3\) Personal communication Trevor Barton, Region of Peel, March, 2012
3.6 Collection Issues

A number of the communities interviewed that permit certified compostable plastic bags in their Green Bin program, commented that they would rather that residents not use them and don’t endorse their use. For example:

- **The City of St. Thomas** staff said that they don’t advertise the use of certified compostable plastic bags and would prefer that residents did not use them from an environmental perspective.

- **The Region of Waterloo** has found that allowing only kraft bags in its Green Bin program has made for easier communication and education of residents. Since paper is paper, there is no confusion among residents about what can be used to collect the scrap food wastes in their kitchen.

- **While South Shore/Lunenburg** allows certified compostable plastic bags in their program, staff do not advertise this and do not put the information in any of their promotion and education literature because they would rather residents use only kraft bags and paper liners.

- **Staff from the South Shore/Lunenburg Green** Bin program feel that allowing certified compostable plastic bags sends a mixed signal to residents that it is ok to use plastic bags in general in the Green Bin program and this in turn causes contamination challenges. Furthermore, since the certified compostable plastic bags are opaque, they conceal materials that should not be in the Green Bin program and make it impossible for collection crews to catch and reject inappropriate material at the curb.

- **City of Halifax** staff (as well as Southgate Township staff) also feel that inclusion of certified compostable plastic bags into the Green Bin program would cause confusion among residents leading to the use of non-biodegradable plastic bags in the program. Staff felt that allowing certified compostable plastic bags would make it difficult for the collection crew to distinguish between them and other non-certified bags.

According to feedback provided from the residents, to the IWMC staff, the residents love the bag-to-earth bags because of the liner.

3.7 Resident Comments on Paper Vs Certified Compostable Plastic Bags

- **City of Ottawa** staff have received inquiries from residents that want to be able to use the certified compostable plastic bags. Staff have heard that other programs that permit the use of the certified compostable plastic bags have received complaints from residents that the bags break down in the kitchen causing a mess.

- In the **South Shore/Lunenburg** program, residents want to use the certified compostable or other plastic bags for the “yuck” factor. Although staff attempted to have the certified compostable plastic bags eliminated from the program, local Councillors rejected the suggestion.
• In a survey conducted by the City of Ottawa, 88% of Bag to Earth users rated the bags as effective.
4. Processing Facility Issues

4.1 Facilities Used For Processing of Green Bin Organics

Table 8 presents information collected on processing facilities used by selected Green Bin programs, and includes the tipping fee charged at the facilities where publicly available.

Table 8: Composting Facilities Used For Processing of Green Bin Organics From Selected Programs

<table>
<thead>
<tr>
<th>Municipality</th>
<th>Facility Name and Ownership</th>
<th>Characteristics</th>
<th>Tipping Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programs Allowing Only Kraft Bags</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of Ottawa, ON</td>
<td>Orgaworld Owned by Orgaworld</td>
<td>Aerobic, enclosed 21 day retention time</td>
<td>$93.50</td>
</tr>
<tr>
<td>Township Southgate, ON</td>
<td>Southgate Windrow Owned by Southgate</td>
<td>Aerobic outdoor windrow system</td>
<td>$29</td>
</tr>
<tr>
<td>Regional Municipality of Waterloo, ON</td>
<td>Guelph Composting Facility Owned by Guelph</td>
<td>Aerobic, in vessel, 21 day retention time</td>
<td>$87.50</td>
</tr>
<tr>
<td>City of Kingston, ON</td>
<td>Norterra Organic Processing Owned by Scott Environmental Group</td>
<td>Aerobic, Gore system 6 week retention time</td>
<td>$80</td>
</tr>
<tr>
<td>Ottawa Valley Waste Recovery Centre, ON</td>
<td>OVWRC Composting Facility Owned by OVWRC</td>
<td>modular containerized aerobic composting</td>
<td>$120</td>
</tr>
<tr>
<td>Halifax Regional Municipality, NS</td>
<td>Miller Compost Dartmouth Owned by Miller Waste And New Era Farms Composting facility (Owned by Stinnes Enerco Inc.)</td>
<td>Aerobic, in vessel Up to 30 days retention time</td>
<td>$75 commercial</td>
</tr>
<tr>
<td>BC Programs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Richmond, Maple Ridge, New Westminster, North Vancouver, West Vancouver, District of North Vancouver, Vancouver, Coquitlam, Port Moody, Port Coquitlam, Langley, Langley Township, Delta, Surrey, Burnaby, Chilliwack, White Rock and Pitt Meadows.</td>
<td>Fraser Richmond Soil &amp; Fibre Ltd. Owned by Harvest Power Use aerobic composting - Unturned Covered Aerated Static Pile technology</td>
<td>Aerobic windrow composting 8-9 weeks retention time</td>
<td>$60</td>
</tr>
<tr>
<td>Regional Municipality of Nanaimo, City of Nanaimo, Lantzville, Parksville, Qualicum Beach, CRD pilot</td>
<td>ICC Group Aerobic in-vessel bioreactor technology</td>
<td>Aerobic, in vessel 21 day retention time</td>
<td>$90</td>
</tr>
<tr>
<td>Programs Allowing Certified Compostable Plastic Bags</td>
<td>Hamilton Centralized Composting Facility Owned by Hamilton</td>
<td>Aerobic, tunnel 21 days retention time</td>
<td>$80</td>
</tr>
<tr>
<td>City of Hamilton, ON</td>
<td>Hamilton Centralized Composting Facility Owned by Hamilton</td>
<td>Aerobic, tunnel 21 days retention time</td>
<td>n.a.</td>
</tr>
</tbody>
</table>
### Table 8: Residue Rates from Green Bin Processing

<table>
<thead>
<tr>
<th>Programs Allowing Only Kraft Bags</th>
<th>% residue (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Ottawa, ON</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>Township Southgate, ON</td>
<td>Outdoor windrow, n.a.</td>
</tr>
<tr>
<td>Regional Municipality of Waterloo, ON</td>
<td>5%</td>
</tr>
<tr>
<td>City of Kingston, ON</td>
<td>1-2%</td>
</tr>
<tr>
<td>Ottawa Valley Waste Recovery Centre, ON*</td>
<td>10.9% 2009, 15% 2010; 12.3% 2011</td>
</tr>
<tr>
<td>Halifax Regional Municipality, NS</td>
<td>3% or less</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Programs Allowing Certified Compostable Plastic Bags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Municipality of Halton, ON</td>
</tr>
<tr>
<td>City of Hamilton, ON</td>
</tr>
<tr>
<td>Regional Municipality of Durham, ON</td>
</tr>
<tr>
<td>Regional Municipality of Peel, ON</td>
</tr>
<tr>
<td>City of St. Thomas, On</td>
</tr>
<tr>
<td>Island Waste Management Corporation, PEI</td>
</tr>
<tr>
<td>South Shore/Lunenburg, NS</td>
</tr>
</tbody>
</table>

4 Incoming and residue tonnages (residue from sorting plus screened to landfill cover after finishing for three years provided by Sue McCrae, Facility Manager
5 Residue rate reported in Municipal Datacall (2009)
4.2 Comments From Composting Facility Operators

A number of composting facility operators were interviewed for the project research. Without exception, all compost facility operators had a strong preference for programs which only permitted SSO to be collected in kraft paper bags. For the most part, operators stated that they “loved” the kraft paper bags like Bag To Earth bags, as they did not cause any problems and broke down readily in the composting facility, with virtually zero residue, thus providing additional compost for sale. Comments included:

- **Halifax** reports that with its capacity exceeding 80% it can’t afford to process the compost twice in order to increase retention time sufficiently for the certified compostable plastic bags to finish breaking down. This takes up valuable capacity and increases the processing costs.

- The **Island Waste Management Corporation (IWMC - PEI)** has problems with the certified compostable plastic bags getting caught in the screens and winding around the shredders, where they then need to be removed manually. The compost facility operators do not like the certified compostable plastic bags and do not want them entering their processing system.

- Two communities **(Region of Fundy Solid Waste Commission, NB and South Shore/Lunenburg, NS)** have reportedly had problems with certified compostable plastic bags in the compost processing system (it wraps around the augers, causing a shutdown).

- The **Ottawa Valley Waste Recovery Centre** tested the use of biodegradable plastic bags (certified compostable plastic bags were not available at the time) several years ago. The bags reportedly composted well at the processing facility, but they got stuck in the auger, which mixes and blends the organic materials before going into the processing containers, and this resulted in maintenance problems.

- The **South Shore/Lunenburg and Island Waste Management Corporation** Green Bin programs also report experiencing problems with the bags getting stuck in the auger. Operators at the IWMC composting facility do not want the certified compostable plastic bags in the incoming feedstock material for this reason.

- **South Shore/Lunenburg** processing facility staff report that when the Green Bin program receives a lot of the certified compostable plastic bags in one collection period, they tend not to break down as quickly. Screening out the extra bags adds to the processing costs. Sometimes, the staff will send the material through the process a second time to break down the un-composted certified compostable plastic bags or just have them go into the residue (overs) pile.

- **City of Hamilton** staff observed that the certified compostable plastic bags do not break down as fast as the industry claims and it is not uncommon for the bags to be run through the City’s compost processing system twice.

- **Region of Peel** staff have observed that there is a lot of plastic material in the residue (overs) stream from the compost processing but the portion that is from certified compostable plastic bags has not been measured. Samples were sent to the supplier of
a lot of the bags (not Glad) in France, but the results showed that the remaining plastics were regular plastics, not certified compostable plastics.

- In the **City of Ottawa**, the paper bags are used as carbonaceous product for new batches of organics when the tunnels in the composting facility are re-filled. This practice also reportedly helps to reduce odours by deterring organics from becoming anaerobic.

### 4.3 Finished Compost Quality Issues

None of the communities interviewed identified any problems with the finished compost quality. Those programs that permitted the use of the certified compostable plastic bags required some additional screening but it did not impact on the quality of the finished compost.

- **The Halifax Regional Municipality** tested the Bag to Earth bags at the Miller Waste Composting Facility to ensure that they would break down and not impact on compost quality. The bags reportedly had no problem breaking down during the composting process, which has a residence time of 18-21 days.

- **IWMC (Island Waste Management Corporation in PEI)** staff reported that they were having problems with the new oxy-biodegradable bags being used as take out bags by retailers. Residents think that they can be composted since they are called biodegradable. There is confusion and the IWMC is having to put additional resources into properly educating residents to use only the certified bags.

### 4.4 Financial And Other Impacts on Municipalities Of Permitting Certified Compostable Plastic Bags

- **The Halifax Regional Municipality (HRM)** is at 80-90% capacity at the Miller Waste composting facility. The HRM is looking at enhancing capacity and possibly constructing a new facility in the next several years. Miller has told HRM that they could accommodate plastic but it would cost more to add in the technology to remove the bags. This is being done at its composting facility in Durham Region.

- The **City of Kingston** was allowed the option of including certified compostable plastic bags in their Green Bin program at an additional processing cost of $10/tonne because the bags didn't break down as quickly. When the City went out to tender for the processing contract, they received information that some processors would not bid on the contract if certified compostable plastic bags were permitted in the program.
5 Conclusions

Earlier sections of this report summarize the information collected through interviews with SSO program designers and operators, as well as composting facility operators.

The key differences between SSO programs include:

- The list of materials collected in the SSO program;
- The age of the SSO program;
- The collection schedule for organics;
- The collection schedule for garbage;
- Bag limits for garbage;
- Fee rates for garbage;
- How leaf and yard waste is handled;
- Green Bin container size;
- Type of community and demographics.

The data collected from Green Bin programs analysed in this research study were evaluated to try to separate out the impacts of different factors on participation and capture of organics in different programs. The conclusion of the research and analysis is that there are too many factors at play to be able to point to one factor (particularly the use of kraft vs certified compostable plastic bags) as having a particular impact on participation and capture rates in SSO programs. Many factors go into the design of a successful SSO program, and the choice of bags is only one factor which will contribute to the success of the program. It will take a few more years of data from similar programs in terms of age of program, materials allowed in the Green Bin, bin size, curbside policies, etc. where one program uses kraft bags and the other uses certified compostable plastic bags to be able to see if there is a difference in the participation and capture experienced by these programs that can be directly attributable to the choice of bag.

Operators report somewhat higher residue rates in programs that use certified compostable plastic bags rather than kraft bags, but note that a good operator should be able to get the residue to below 5% for programs using certified compostable plastic bags.
Appendix A

List of Contacts

Interviews Regarding Municipal Programs

Adam Watson, Recycling Coordinator, City of Hamilton
Pat Parker, City of Hamilton
John Giles, Manager of Solid Waste, City of Kingston
Lindsay Waller, Recycling Coordinator, Durham Region
Craig Bartlett, Durham Region
Trevor Barton, Region of Peel
Chris Wood, Waste Diversion Coordinator City of Ottawa
Shirley Maclean, Manager, Halton Region
Larry Conrad, Manager of Waste Operations, Region of Peel
David Millner, Environmental Services Manager, Township of Southgate
Kim Kidd Kitagawa, Waste Management Coordinator, Region of Waterloo
Sue McCrae, General Manager, Ottawa Valley Waste Recovery Centre
Michelle Shannon, Waste Management Coordinator, City of St. Thomas
Heather Myers, Disposal Manager, Island Waste Management Corporation, PEI
Valda Walsh, South Shore Resource Management, Region 6, Nova Scotia
Lori Lewis, Manager of Solid Waste Resources, Halifax Regional Municipality
Mike Kopanski, Miller Waste Systems Compost Manager
Lydia Torbicki, Region of Niagara
Brad Whitelaw, Region of Niagara
Greg Robles, Walker Industries (Niagara Composting Facility)
Attachment 2– Report to City of Kingston Council “CHOOSE THE GOLD STANDARD IN COMPOSTABILITY: CHOOSE PAPER”, Craig Gammie and George Colgan, September 13, 2011
CHOOSE THE GOLD STANDARD IN COMPOSTABILITY

CHOOSE PAPER

Submission to the
Environment, Infrastructure, & Transportation Policy Committee (EITP)
City of Kingston

By George Colgan and Craig Gammie
September 13, 2011
Many municipalities chose “paper only” for green bin liners and/or garden waste bags because paper is the better choice.

Municipalities in Canada which do not accept certified compostable bioplastic bags in their food waste organics program include:

- Pembroke, ON
- Gatineau, PQ
- Delta, BC
- Port Moody, BC
- Langley, BC
- City of Kingston
- Pictou County NS
- Halifax Region
- City of Burnaby, BC
- Coquitlam BC
- City of Port Coquitlam
- White Rock BC
- Township of Southgate
- Region of Waterloo ON
- City of Ottawa
- Dorval

Municipalities in Canada which do not accept certified compostable bioplastic bags in their Leaf And Garden Waste Program include:

- Peel Region
- Toronto
- Durham Region
- City of Kingston
- City of Fredericton
- City of Barrie
- County of Simcoe ON
- City of Burnaby BC
- City of Port Coquitlam BC
- Coquitlam BC
- White Rock BC
- Surrey BC
- City of Pembroke
- Ottawa, ON
- Orangeville, ON
- Town of Shelburne ON
- City of Hamilton
- Region of Waterloo
- Halifax Region
- Peel Region
- Dorval

While many municipalities do not accept bioplastic yard waste bags, and many do not accept bioplastic food waste bags, paper, kraft paper bags, and kraft paper bags with transparent paper liner (cellulose) are encouraged and accepted everywhere.

So why is it that so many municipalities do not accept bioplastic bags that are certified “compostable”?

There are many reason, but the key one is that meeting the compostable products standard (BNQ 17-088) and wearing the “compostable” logo is no assurance that certified products will satisfactorily compost in municipal composters. Some certified products are just not satisfactorily compostable.

This means that the “compostable products” standard is invalid. It means that the certification is bogus.
“Not allowed in the Green Bin are: ………., compostable or biodegradable bags that look like plastic (as they do not break down quickly enough), ……….”

(http://www.cityofkingston.ca/residents/waste/greenbin/index.asp)

“Why am I not allowed to use plastic or compostable bags to line my container? Plastic or compostable bags contaminate and interrupt the composting process, resulting in unmarketable compost.”

(http://www.burnaby.ca/cityhall/departments/engnrn/engnrn_snttnr/Food_Scraps_Reycling.html)

“Biodegradable & Compostable Bags
Some retailers in HRM have recently begun stocking plastic bags designated as 'biodegradable' or 'compostable'. Plastic of any kind is NOT ACCEPTABLE in HRM's green cart organics program. These bags get caught in machinery at the compost facilities and do not allow contents to be inspected for sharp or potentially hazardous items.”

(http://www.halifax.ca/recycle/greencart.html#bio)

“Halifax Regional Municipality and other waste authorities say they won’t accept bags labeled as compostable, biodegradable or photodegradable in the composting bins because they gum up the machinery and don’t necessarily break down as fast as the food waste inside.” (Halifax Chronicle Herald 12 April 2009)

“NO PLASTIC BAGS (EVEN BIODEGRADABLE, COMPOSTABLE, OR CORN-BASED) WILL BE ACCEPTED.”


“Biodegradable plastics do not compost well in Toronto’s or other municipalities’ systems”

(http://www.toronto.ca/garbage/biodegradable_plastic.htm)
What makes specification BNQ 17-088 invalid?

The claim is that specification BNQ 17-088 can be used to identify:

1. products that compost satisfactorily in municipal composters
2. products that compost as well as kraft paper or garden waste

The claims are false. In fact:

1. Some products which pass specification 17-088 do not compost satisfactorily in many municipal composters.
2. Some products which compost well and are universally accepted fail specification 17-088.
3. Products with up to 10 percent plastic non-degradable plastic can pass the specification and be certified—these certainly do not biodegrade as well as kraft paper or garden waste

The specification cannot do what is claimed – the spec is invalid

DISINTEGRATION – impact of sample preparation

Materials that are cut into 1 inch squares for the laboratory disintegration test may pass the test (red line). But if the same material were tested in the laboratory with knots in the bag (as they go into real composters – green line) they may fail the test.
This makes the specification invalid.

**DISINTEGRATION – impact of composting time**

The lab test allows 12 weeks to reach 90% disintegration. Composting time in real composters is generally between four and eight.

So materials that reach 90% disintegration in about 12 weeks will generally not reach 90% disintegration in real composters.

An example is a snack bag that disintegrated well in the lab and so passed several specifications but did not disintegrate well in many real composters.

The specification is invalid.
BIODEGRADATION – Humus formation is not properly counted

The standard measure of degradation into compost is carbon dioxide (CO2) formation during laboratory composting. The test does not measure or count the organic carbon being converted to humus or to biomass, even though conversion to humus or biomass is actually better than conversion to CO2.
Materials pass the biodegradability test if more than 90% of the organic carbon is converted to carbon dioxide (pink squares), relative to a reference material (cellulose). The specification will generally fail materials (blue diamonds) that convert more than 10% of their carbon into humus, even if 100 percent is converted to CO2, humus, and biomass.

A readily compostable recycled kraft bag (purple diamonds) will generally fail the biodegradation test. Kraft paper bags made from virgin pulp (pink squares) we expect will on average reach 90 per cent of conversion to CO2 relative to the reference material. This means that around half will fail the biodegradation test.

Specification BNQ 17-088 wrongly fails some kraft materials that in fact convert to compost better than certified plastics (yellow triangles). The specification wrongly fails materials that should pass.

The specification is invalid.
BIODEGRADATION - Non-degradable plastic mixed with biodegradable plastics

Two Competition Bureau Documents make it clear that products or packages that contain non-degradable plastics should not be labeled as or claimed as “compostable”.

The first is from a guide for industry and advertisers:

"Compostable" claims would be appropriate on products or packages that will break down or become part of usable compost (for example, soil-conditioning material or mulch) in a safe and timely manner. For composting, a "timely manner" is approximately the same time it takes for composting organic compounds like leaves, grass, and food.”

Plus 14021 - Environmental claims: A guide for industry and advertisers, CSA/Competition Bureau (2008)

http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/02701.html

Non-degradable plastic does not “break down or become part of usable compost”, and certainly not in “the same time it takes for composting organic compounds like leaves, grass, and food.”

So product containing any non-degradable plastics cannot be “compostable” according to the guideline for industry and advertisers.

The second is from an enforcement guideline:

“A claim that a product or package is compostable should be supportable by……evidence that the entire product …..will completely break down …..and ultimately biodegrade into carbon dioxide, water, inorganic compounds, or biomass”

(underline added)(1993)

http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/00557.html

Non-degradable plastic does not “biodegrade into carbon dioxide, water, inorganic compounds, or biomass”. So product containing any fossil fuel plastics cannot be compostable according to the competition bureau enforcement guideline.
Yet product containing at least 90 percent degradable bioplastic and up to 10 percent non-degradable plastic:

- can pass the biodegradation test
- is “compostable” according to the BNQ specification.

So the specification must be invalid.

In summary:

1. The biodegradation test fails materials that should pass (recycled kraft)
2. The biodegradation test passes some materials that should fail (containing non-degradable plastic)
3. The disintegration test passes material that should fail (some bioplastic)

The specification is clearly invalid.

The table below shows the many advantages of paper.
<table>
<thead>
<tr>
<th>Conversion to compost</th>
<th>100 Percent</th>
<th>Less than 100 per cent if contains non-degradable plastics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disintegration in composting process</td>
<td>fast, complete</td>
<td>…….</td>
</tr>
<tr>
<td>Program Participation rate</td>
<td>excellent</td>
<td>No evidence any better than paper or any worse than paper</td>
</tr>
<tr>
<td>Cost</td>
<td>Per purchased bag is higher than bioplastic. But if all free paper sources are included (cereal boxes, newspapers), paper can be far less expensive</td>
<td>At one bag per week bioplastic is less than purchased kraft bags.</td>
</tr>
<tr>
<td>Functionality</td>
<td>Strong even when damp</td>
<td>Varies by manufacturer. Some break in use.</td>
</tr>
<tr>
<td>Contain fossil fuel derived plastic?</td>
<td>Zero</td>
<td>Some do. Depends on manufacturer.</td>
</tr>
<tr>
<td>Contains non-degradable plastics?</td>
<td>Zero</td>
<td>?? Allowed by specification.</td>
</tr>
<tr>
<td>Breathability</td>
<td>High permeability to air, water vapour</td>
<td>Low permeability</td>
</tr>
<tr>
<td>Moisture evaporation</td>
<td>Some evaporation. Reduces trucking and tipping fees.</td>
<td>Little or no moisture loss</td>
</tr>
<tr>
<td>Maintain aerobic conditions/ minimize odour</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>Communications clarity – what is accepted</td>
<td>Very clear if say no plastic of any kind</td>
<td>If allow bioplastic may get a lot more fossil plastic</td>
</tr>
<tr>
<td>Renewable resources used?</td>
<td>100%</td>
<td>Depends on manufacturer – can be up to 10% non renewable</td>
</tr>
<tr>
<td>Foodsource used?</td>
<td>No – all forest</td>
<td>Mostly corn derived – uses resources that could be used for food processing</td>
</tr>
<tr>
<td>processing costs</td>
<td>Less screening of contamination</td>
<td>More screening of contamination</td>
</tr>
<tr>
<td>processing waste</td>
<td>lower</td>
<td>higher</td>
</tr>
<tr>
<td>yield</td>
<td>Higher</td>
<td>lower</td>
</tr>
<tr>
<td>finished compost revenues</td>
<td>excellent</td>
<td>Less because of contamination and lower</td>
</tr>
<tr>
<td>Is it plastic</td>
<td>No - cellulose is not plastic – kraft paper is not plastic – transparent paper inner liner is not plastic</td>
<td>Yes – bioplastic is plastic!</td>
</tr>
</tbody>
</table>
Recommendations:

1. Use specification BNQ 17-088 with extreme caution.

2. CHOOSE GOLD – CHOOSE PAPER, because:
   - Paper disintegrates better
   - Paper decomposes better
   - Paper makes better quality compost (humus content)
   - Paper-only programs reduce contamination of final compost
   - Paper reduces odour
   - Paper reduces water content
   - Paper gives less Waste / Higher Yield/ Lower Processing Cost/ Higher Revenue
TO: Chair Jim Wideman and Members of the Planning and Works Committee
DATE: May 28, 2013
FILE CODE: C13-30/T&P, T01-20/46

SUBJECT: ROSEVILLE ROAD (REGIONAL ROAD 46) NEAR BARRIE’S LAKE TURTLE CROSSING, TOWNSHIP OF NORTH DUMFRIES

RECOMMENDATION:

THAT the Regional Municipality of Waterloo approve the following actions with respect to Roseville Road (Regional Road 46) near Barrie’s Lake as outlined in Report E-13-068/P-13-059, dated May 28, 2013;

a) Investigate the feasibility and potential effectiveness of erecting temporary exclusion fencing along Roseville Road to prevent turtles from entering the road and if feasible install the fencing at the earliest opportunity;

b) Investigate whether suitable turtle breeding habitat conditions could be created along the south side of Roseville Road on the Regional Road right-of-way and adjacent property in collaboration with the adjoining landowner, in order to eliminate the need for the turtles to cross the road to the ploughed farm fields on the other side of the road, and if feasible undertake the work at the earliest opportunity;

c) Investigate the potential for constructing one or more eco-passages north of Barrie’s Lake across Roseville Road; and

d) Allocate up to $10,000 from the environmental stewardship stream of the Community Environmental Fund for the costs this initiative.

SUMMARY:

NIL

REPORT:

Regional staff received concerns with regard to the significant numbers of turtles being struck by motorists along Roseville Road (Regional Road 46) in the vicinity of Barrie’s Lake, in the Township of North Dumfries just west of the City of Cambridge boundary. It was requested that staff review the need for warning signs to alert motorists to turtles crossing Roseville Road and to also consider reducing the posted speed limit.

Existing Conditions

Roseville Road in the vicinity of Barrie’s Lake is a 2-lane rural cross section with a posted speed limit of 80 km/h. This section of Roseville Road attracts an Average Annual Daily Traffic Volume (AADT) of approximately 2,435 vehicles per day.
The Barrie’s Lake area is located within the Blair-Bechtel-Cruickston Environmentally Sensitive Landscape (ESL), a landscape notable for its rich diversity of wildlife. Between April and June of each year turtles migrate from Barrie’s Lake on the south side of Roseville Road to nesting habitat in farm fields located on the north side of Roseville Road. The recent peak in turtle deaths and injuries along Roseville Road near Barrie’s Lake coincides with the reptiles’ emergence from hibernation in the lake and their search for suitable nesting sites. The gentle south-facing slopes on ploughed farmland north of the road present a good nesting habitat. Later, the turtles will return across Roseville Road back to the lake and still later, the hatchlings will also make their way to Barrie’s Lake. During this migration period turtles are being struck and killed by passing motorists. Figure 1 shows the section of Roseville Road in the vicinity of Barrie’s Lake where turtles are migrating across the road.

Figure 1 - Roseville Road in the Vicinity of Barrie’s Lake

To help reduce turtle road deaths and to inform motorists, on May 2, 2013, Transportation staff installed oversized “Wildlife Crossing” warning signs facing both eastbound and westbound motorists approaching the area where turtles are migrating. In addition to the wildlife crossing signs staff later installed turtle signs above the wildlife crossing signs. Figure 2 provides a photo of the warning signs including the location where the signs were installed.
To further assess concerns regarding the current 80 km/h posted speed, speed studies completed on Roseville Road between 2007 and 2010 indicate that the average travel speed on this section of Roseville Road is approximately 76 km/h. The table below provides a summary of the speed surveys along this section of Roseville Road between 2007 and 2010.

<table>
<thead>
<tr>
<th>Location</th>
<th>Survey Date</th>
<th>Posted Speed</th>
<th>Average Speed</th>
<th>85th%ile Speed</th>
<th>Vehicles Surveyed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roseville Road between Brown Ave and Blenheim Road (Cambridge Boundary)</td>
<td>Jul. 14, 2010</td>
<td>80 km/h</td>
<td>76 km/h</td>
<td>88 km/h</td>
<td>2,635</td>
</tr>
<tr>
<td></td>
<td>Nov. 13, 2007</td>
<td>80 km/h</td>
<td>75 km/h</td>
<td>87 km/h</td>
<td>2,306</td>
</tr>
<tr>
<td></td>
<td>May 2, 2007</td>
<td>80 km/h</td>
<td>78 km/h</td>
<td>90 km/h</td>
<td>2,315</td>
</tr>
</tbody>
</table>

Staff generally recommend that speed limits be set at or about the average speed because this is most likely to produce a uniformly moving traffic stream. Traffic flowing at a uniform speed results in increased safety and fewer collisions. With uniform speed, drivers are less impatient, pass less often, and are less likely to tailgate, which reduces both head-on and rear-end collisions. The posting of an appropriate speed limit also simplifies the work of enforcement officers because most of the traffic is moving at or near the posted speed. With an appropriate speed limit, blatant speeders are easily spotted, safe drivers are not penalized, and police officers are not asked to enforce and defend unrealistic and arbitrary speed limits. For these reasons Transportation Division staff do not recommend a lower posted speed limit along this section of Roseville Road.

In general it is very difficult to control speed. Speed limit signs do not slow down traffic. Research has shown that most drivers travel at a speed they consider to be comfortable, regardless of posted speed limits. Simply changing the signs in the absence of clear signals to motorists to reduce their speed will likely result in little to no change to the average travel speed along this section of Roseville Road. More importantly, a reduced speed limit can cause the people assisting turtles to feel safer as they assume motorists will slow down when in reality they will not thus creating a more hazardous environment. Citizens are requesting the speed be reduced so they can assist turtles. Figure 3 shows the existing speed zones along Roseville Road. As shown in Figure 3, two areas have limited visibility of pedestrians within the road segment due to the road curvature. These
curves are signed with curve advisory signs and advisory speed limits where warranted which are also shown in Figure 3.

**Figure 3 - Existing Speed Zones Along Roseville Road**

![Figure 3 - Existing Speed Zones Along Roseville Road](image)

**Eco-Passage**

The most effective way of reducing wildlife mortality on roads is the construction of eco-passages. Eco-passages are under-passes, or more rarely over-passes, that allow animals to cross roads in relative safety. The effectiveness of the culverts or small tunnels is to a large extent dependent upon the construction of funnel walls or exclusionary fencing that prevents animals from crossing a road at any location and guides them to the opening of an eco-passage. The design of the structures will also determine whether animals feel safe entering them. The Region was a relatively early adopter of eco-passages, having installed the first one under Blair Road within the rare Charitable Research Reserve when that road was up-graded in 2010. This eco-passage was featured as a case study in the Ontario Road Ecology Group’s OREG’s Guide to Road Ecology in Ontario (2010). All new Regional Road projects are now reviewed to determine whether eco-passages are warranted and feasible.

Given the annual toll of turtles killed or injured and the risk to citizens trying to rescue them, the Barrie’s Lake location warrants special consideration. The recent erection of signage is a necessary first step. It is recommended that the signs remain in place until October, or at least until turtles cease to cross the road for the season. It is also recommended that the signage be re-erected in April, 2014 for next year’s season.

Preliminary review of the Guide to Road Ecology in Ontario indicates that exclusion fencing could also deter turtles from crossing, or at least concentrate them in locations where they could cross. In the short term, this can take the form of erosion and sedimentation control fabric fencing stapled to small stakes and heeled into the ground. There may be a potential to supplement this with dense native vegetation. As the turtles are migrating in search of suitable ground in which to lay their eggs, it is also recommended that staff investigate whether suitable nesting habitat could be created on the south side of the road. There may be some potential to create such habitat within the road right-of-way or perhaps in private property in collaboration with the landowners who are deeply concerned
about the turtles. Staff has contacted the Toronto Zoo which has developed considerable expertise in conserving native turtle populations in the wild. Zoo staff has forwarded designs for exclusion fencing and guidelines for the creation of turtle nesting habitat. Staff will endeavour to apply this information to the Barrie’s Lake site.

As this location lies within the Blair-Bechtel-Cruickston ESL, it is recommended that the cost of installing temporary exclusion fencing and trying to improve breeding habitat on the south side of the road be defrayed from the stewardship granting stream of the Community Environmental Fund. Sufficient funds remain after Council’s approval of the 2013 stewardship projects earlier this year.

As noted, above, the optimum solution would be the installation of two or three eco-passages. The draft Natural Environment Report for the Cambridge West Master Environmental Servicing Plan (MESP) contains a map which identifies this stretch of Roseville Road as an area where three ecological linkages should be created or enhanced. Figure 4 shows the linkages recommended in the draft report. It is further recommended that staff carefully review the site at the earliest opportunity for opportunities where one or more eco-passages could be considered.

When the MESP is completed late in 2013 or early in 2014, elements of it that pertain to four defined areas of Regional interest will be submitted to Regional Council for approval. One of those deals with the protection and management of Landscape Level Features such as the Blair-Bechtel-Cruickston ESL. A second item deals with implications for Regional infrastructure. Upon review and consideration of the recommendations concerning Roseville Road in the final draft of the MESP, staff will be in a position to provide more detailed recommendations concerning potential eco-passages in this location. Staff is not in a position to install eco-passages at this time because the current road profile cannot readily facilitate them. In order to install eco-passages north of Barrie’s Lake, some reconstruction of this stretch of Roseville Road may be required.

**Figure 4 - Recommended Locations of Potential Ecological Linkages**
CORPORATE STRATEGIC PLAN:

This report addresses the Region’s goal to optimize existing road capacity to safely manage traffic throughout Waterloo Region (Strategic Objective 3.3). By seeking to protect wildlife populations in this part of the Barrie’ Lake ESL, it would also help achieve Strategic Objective 1.5.

FINANCIAL IMPLICATIONS:

The cost to investigate and install temporary exclusion fencing along Roseville Road north of Barrie’s Lake and to create breeding habitat on the south side of the road is estimated to be approximately $10,000. There is sufficient funding remaining in the Stewardship Granting Stream of the Community Environmental Fund within the 2013 approved Regional Budget to fund these initiatives.

The installation of eco-passages will be considered during the completion of the MESP and will require revisions to the 10 Year Transportation Capital Program.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

NIL

ATTACHMENTS:

NIL

PREPARED BY:  Mike Jones, Supervisor, Traffic Engineering
                Chris Gosselin, Manager of Environmental Planning

APPROVED BY:   Thomas Schmidt, Commissioner, Transportation and Environmental Services
                Rob Horne, Commissioner, Planning, Housing and Community Services
REGION OF WATERLOO
PLANNING, HOUSING AND COMMUNITY SERVICES
Community Planning

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

DATE: May 28, 2013

FILE CODE: D18-20

SUBJECT: MONTHLY REPORT OF DEVELOPMENT ACTIVITY FOR APRIL 2013

RECOMMENDATION:


SUMMARY:

In accordance with the Regional By-law 01-028, as amended, the Commissioner of Planning, Housing and Community Services has:

1. Accepted the following plan of condominium;
2. Draft approved the following plan of subdivision;
3. Modified the following plan of condominium; and
4. Approved the following official plan amendments.

REPORT:

City of Cambridge

1. **Draft Approval of Plan of Subdivision 30T-08103**
   
   Applicant: D5D Enterprises Limited
   
   Location: Allendale Road, Fountain Street North and Maple Grove Road
   
   Proposal: To permit the development of 5 industrial lots, 1 future commercial lot and 1 stormwater management block.
   
   Regional Processing Fee: Paid February 20, 2013
   
   Commissioner’s Approval: April 18, 2013
   
   Came Into Effect: May 9, 2013

2. **Registration of Draft Plan of Condominium 30CDM-12102**
   
   Draft Approval Date: December 20, 2012
   
   Phase: Phase II
   
   Applicant: Deerfield Homes Ltd.
   
   Location: 750 Lawrence Street
   
   Proposal: To permit the development of 15 townhouse units.
   
   Regional Processing Fee: Paid April 12, 2013
   
   Commissioner’s Release: April 30, 2013
City of Kitchener

1. **Official Plan Amendment No. 95**
   - **Applicant:** Regional Municipality of Waterloo
   - **Location:** 490 to 520 King Street West and 16, 50, 60 Victoria Street North
   - **Proposal:** To add Special Policy 49 to the existing City Official Plan Warehouse District designation to broaden the range of permitted uses, including permission for the full range of retail uses, residential and hotel uses, increase the maximum floor space ratio of 7.5 and to establish special policy direction of the future development of the subject lands. As there are no specific development plans for the subject lands, the OPA contains specific policy that will guide future development of the site.

   - **Regional Processing Fee:** Paid April 8, 2013
   - **Commissioner’s Approval:** April 8, 2013
   - **Came Into Effect:** April 29, 2013

City of Waterloo

1. **Plan of Condominium Application 30CDM-13403**
   - **Date Accepted:** April 15, 2013
   - **Applicant:** 1073297 Ontario Ltd.
   - **Location:** 91 to 97 Milford Avenue
   - **Proposal:** To permit the conversion of 51 existing townhouse units from rental to condominium units.

   - **Regional Processing Fee:** Paid April 1, 2013

2. **Modification to Draft Plan of Condominium 30CDM-12401**
   - **Draft Approval Date:** July 4, 2012
   - **Applicant:** 1N8 (Sage Developments Inc.)
   - **Location:** 4, 10, 12 Hickory Street West and 310 Spruce Street
   - **Proposal:** To remove 17.57m² of land, described as Part 1 on Reference Plan 58R-17756 and shown as the same on the Draft Plan of Condominium, from the northerly side of the property.

   - **Regional Processing Fee:** Paid April 5, 2013
   - **Commissioner’s Approval:** April 19, 2013
   - **Came Into Effect:** Immediately.

Township of North Dumfries

1. **Official Plan Amendment No. 23**
   - **Applicant:** Hamish and Indy Inc.
   - **Location:** 88 Gibson Street, Ayr
   - **Proposal:** To redesignate the lands from Urban Residential and Ancillary Area to Urban Residential and Ancillary Area with a Special Policy Area Designation to permit for an office building.

   - **Regional Processing Fee:** Paid April 2, 2013
   - **Commissioner’s Approval:** April 23, 2013
   - **Came Into Effect:** May 14, 2013
Township of Woolwich

1. Official Plan Amendment No. 20

Applicant: Mercedes Corporation
Location: 10 Front Street and 1441 King Street North, St. Jacobs
Proposal: To re-designate a 600-square metre portion of a property located at the northwest corner of Front Street and King Street in St. Jacobs from “Core Area” to “Residential and Ancillary Use” in order to facilitate a 14-unit residential development consisting of ground level flats with two-storey loft apartments on the second level on a 0.3 hectare parcel along Front Street. OPA 20 also makes a minor adjustment to the Open Space Land Use Area designation to reflect the limits of the environmental features as identified and accepted.

Regional Processing Fee: Paid March 20, 2013
Commissioner’s Approval: April 24, 2013
Came Into Effect: May 15, 2013

Residential Subdivision Activity January 1, 2013 to April 30, 2013

<table>
<thead>
<tr>
<th>Area Municipality</th>
<th>Units in Residential Registered Plans</th>
<th>Residential Units Draft Approved</th>
<th>Pending Plans (Units Submitted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Kitchener</td>
<td>27</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Waterloo</td>
<td>0</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Cambridge</td>
<td>122</td>
<td>26</td>
<td>203</td>
</tr>
<tr>
<td>Woolwich</td>
<td>0</td>
<td>0</td>
<td>531</td>
</tr>
<tr>
<td>Wilmot</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>North Dumfries</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wellesley</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Region of Waterloo</td>
<td>149</td>
<td>51</td>
<td>734</td>
</tr>
</tbody>
</table>

*The acceptance and/or draft approval of plans of subdivision and condominium processed by the City of Kitchener under delegated approval authority are not included in this table.

For comparison the following table has also been included:

Residential Subdivision Activity January 2012 to April 30, 2012

<table>
<thead>
<tr>
<th>Area Municipality</th>
<th>Units in Residential Registered Plans</th>
<th>Residential Units Draft Approved</th>
<th>Pending Plans (Units Submitted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Kitchener</td>
<td>117</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Waterloo</td>
<td>198</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cambridge</td>
<td>55</td>
<td>0</td>
<td>26</td>
</tr>
<tr>
<td>Woolwich</td>
<td>0</td>
<td>0</td>
<td>154</td>
</tr>
<tr>
<td>Wilmot</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>North Dumfries</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wellesley</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Region of Waterloo</td>
<td>370</td>
<td>0</td>
<td>180</td>
</tr>
</tbody>
</table>

*The acceptance and/or draft approval of plans of subdivision and condominium processed by the City of Kitchener under delegated approval authority are not included in this table.

Area Municipal Consultations/Coordination:

These planning approvals, including consultation with Area Municipalities, have been completed in accordance with the Planning Act. All approvals contained in this report were supported by the Area Municipal councils and/or staff.
CORPORATE STRATEGIC PLAN:

This report reflects actions taken by the Commissioner in accordance with the Delegation By-law adopted by Council. The activities described in this report are operational activities with the objective of Focus Area A: Growth Management and Prosperity.

FINANCIAL IMPLICATIONS:

NIL

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

NIL

ATTACHMENTS:

NIL

PREPARED BY: Andrea Banks, Program Assistant

APPROVED BY: Rob Horne, Commissioner, Planning, Housing and Community Services
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: D16-50

SUBJECT: FUNDING APPLICATION TO THE PROVINCE TO SUPPORT A STUDY ON BALANCING ENVIRONMENTAL PROTECTION AND TRANSPORTATION CONSIDERATIONS IN ENVIRONMENTALLY SENSITIVE LANDSCAPES

RECOMMENDATION:

THAT the Regional Municipality of Waterloo submit an application for funding from the Provincial Places to Grow Implementation Fund to support completion of a study on Balancing Environmental Protection and Transportation Considerations in Environmentally Sensitive Landscapes, as described in Report No. P-13-055, dated May 28, 2013.

SUMMARY:

On April 30, 2013, Dr. Dianne Ensing, Vice-Chair of the Laurel Creek Headwaters Environmentally Sensitive Landscape Public Liaison Committee, appeared before Planning and Works Committee to discuss the need to protect the integrity of the Laurel Creek Headwaters (LCH) Environmentally Sensitive Landscape (ESL) and other ESLs from the effects of existing and future traffic on LCH ESL roads. Regional Council approved a Motion that directed staff to report back regarding potential terms of reference and funding sources.

Staff is recommending that the Region of Waterloo submit an application for up to $70,000 in funding from the Provincial Places to Grow Implementation Fund that would support completing a study on Balancing Environmental Protection and Transportation Considerations in Environmentally Sensitive Landscapes. This work potentially includes hiring transportation and environmental expertise and students.

Regional staff will work with staff from Wellesley, Wilmot and Woolwich Townships and the City of Waterloo, and the LCH ESL Public Liaison Committee to develop a terms of reference, a business plan and a work plan for the study in accordance with Places to Grow Implementation Fund application requirements. Regional staff will also submit the detailed funding application to the Ministry of Infrastructure.

REPORT:

On April 30, 2013, Dr. Dianne Ensing, Vice-Chair of the Laurel Creek Headwaters Environmentally Sensitive Landscape Public Liaison Committee appeared before Planning and Works Committee to discuss the need to protect the integrity of the Laurel Creek Headwaters (LCH) Environmentally Sensitive Landscape (ESL) and other ESLs from the effects of existing and future traffic on ESL roads. A similar presentation was previously made to Wellesley, Wilmot, Woolwich and Waterloo Councils.

On May 8, 2013, Regional Council approved a Motion that directed staff to report back regarding potential initiatives to protect the integrity of the Laurel Creek Headwaters (LCH) Environmentally Sensitive Landscape.
Sensitive Landscape (ESL) and other ESLs, with particular emphasis on environmental, safety and social issues related to traffic on roads running through ESLs.

Project Scope and Costs

Staff considered various options for proceeding with such a study and concluded that the study should include both the Laurel Creek Headwaters and the Blair-Bechtel-Cruickston ESLs because they are experiencing similar environmental and transportation issues. Given the size of the two ESLs, it is proposed that the project be phased over two years with the Laurel Creek Headwaters ESL phase of the study beginning in the summer of 2013 and the Blair-Bechtel-Cruickston ESL phase of the project beginning in summer of 2014.

The basic components of the first phase of the project (Laurel Creek Headwaters ESL) and the estimated costs are:

<table>
<thead>
<tr>
<th>Project Component</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation Study</td>
<td>$30,000</td>
</tr>
<tr>
<td>Wildlife Movement Study</td>
<td>$20,000</td>
</tr>
<tr>
<td>Environmental Impacts Study</td>
<td>$20,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$70,000</strong></td>
</tr>
</tbody>
</table>

The transportation study would focus on problem and issue identification through an analysis of existing conditions (e.g. vehicular, bicycle and pedestrian traffic, safety, parking and signage) and forecast traffic growth to identify possible actions that can be undertaken. The identified actions would reflect best practices in other jurisdictions and be presented in the context of an impact evaluation framework that could be used for similar future studies. The wildlife movement study would document where animals tend to cross roads in the ESL, the extent to which animals are being injured or killed at these crossings, and suggest ways to provide wildlife with a safe means to cross the roads. The environmental impacts study would focus on documenting the effects of sedimentation, salt and other road-based contaminants on the water quality of Laurel and Monastery Creeks. Some of the above-noted costs may be associated with hiring students to help undertake the necessary fieldwork and data analysis. The typical cost for a co-op student for a four-month work term is about $10,000.

The basic components of the second phase of the study (Blair-Bechtel-Cruickston ESL) are expected to be the same as noted above. However, the costs would be higher because the Blair-Bechtel-Cruickston ESL is larger than the Laurel Creek Headwaters ESL and has more roads and creeks that may need to be studied. Staff has not yet prepared detailed cost estimates for the second phase of the study.

Submitting an Application for Funding from the Provincial Places to Grow Implementation Fund

The proposed study could be of value to the many other communities within the Greater Golden Horseshoe that are faced with the challenge of protecting sensitive environmental areas which are located in close proximity to rapidly growing and intensifying urban areas.

The proposed study clearly aligns with the first objective of the Ministry of Infrastructure’s recently announced Places to Grow Implementation Fund which is to “support research and data collection that furthers implementation of growth planning in Ontario.” Likewise, the proposed project also aligns with the descriptions of some of the specific types of research that the Places to Grow Implementation Fund is designed to support, including:

- “Collect/disseminate data integral to the implementation of current or future growth plans;
Inform and guide growth management initiatives, including, but not limited to …the coordination of planning and development among municipalities…;

Promote or participate in research…success stories and innovative practices in Ontario and other jurisdictions demonstrating effective growth planning.

Train, educate and/or communicate activities and events undertaken for the purposes of expanding public or stakeholder awareness and understanding of growth planning principles and solutions.”

Funding is available for projects (including studies) for one year only, from April 1, 2013 to March 31, 2014. The Fund has been capped at $100,000 and may provide a minimum of $2,000 and up to $100,000 towards any one project.

Accordingly, staff is recommending that the Region of Waterloo submit an application for up to $70,000 in funding from the Provincial Places to Grow Implementation Fund to support completing a study on Balancing Environmental Protection and Transportation Considerations in Environmentally Sensitive Landscapes.

Next Steps

Regional staff will work with staff from Wellesley, Wilmot and Woolwich Townships and the City of Waterloo, and the LCH ESL Public Liaison Committee to develop a terms of reference, business plan and work plan for the first phase of the project in accordance with Places to Grow Implementation Fund application requirements. Regional staff will be responsible for consolidating this information into a detailed project funding application and submitting it to the Ministry of Infrastructure for consideration by June 2013. Staff will report back to Regional Council at a later date regarding the Ministry of Infrastructure’s decision on the proposed funding application and provide details of the proposed study including, if necessary, optional sources of funding.

Staff will continue to explore other options for securing funding to complete the study in the event that the Region’s application for funding from the Places to Grow Implementation Fund is not successful.

Area Municipal Consultation/Coordination

The Councils of all the Area Municipalities that contain parts of the Laurel Creek Headwaters Environmentally Sensitive Landscape have seen the presentation by Dr. Ensing and are familiar with the request by the LCH ESL Public Liaison Committee. If the funding application is successful, staff from Wellesley, Wilmot and Woolwich Townships and the City of Waterloo, will be consulted in the development of a project terms of reference, business plan and work plan for the first phase of the project.

CORPORATE STRATEGIC PLAN:

The proposed funding application supports Focus Area 1.1 – Integrate environmental considerations into the Region’s decision making and Focus Area 1.5 – Restore and preserve green space, agricultural land and sensitive environmental areas.

FINANCIAL IMPLICATIONS:

If the Region is awarded a portion or none of the requested funding from the Places to Grow Implementation Fund, staff will explore other options for securing funding to complete the project including using funds from the Environmental Stewardship Fund.
OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

If the project funding application is successful, staff from Transportation and Environmental Services will be also be involved in planning and implementing this research project.

ATTACHMENTS:

NIL

PREPARED BY:  Kevin Curtis, Manager, Reurbanization Planning

APPROVED BY:  Rob Horne, Commissioner, Planning Housing and Community Services
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: D09-00/TCDG

SUBJECT: RECOMMENDED MODIFICATIONS TO THE REGIONAL IMPLEMENTATION GUIDELINES FOR TRANSPORTATION CORRIDOR DESIGN – FINAL REPORT

RECOMMENDATION:

That the Regional Municipality of Waterloo adopt the modifications to the Implementation Guidelines for Transportation Corridor Design outlined in Report P-13-049, dated May 28, 2013, as a Regional Implementation Guideline, in accordance with Section 12.2.2 of the Regional Official Policies Plan and with Section 5A, Policy 5.A.2 of the Regional Official Plan.

SUMMARY:

Regional Council approved the Implementation Guidelines for Regional Transportation Corridor Design on June 16, 2010. The Guidelines provide “context-sensitive” design standards for Regional transportation corridors and clarify the relative priority and treatment for the various travel modes and community uses. The objective was to create greater transportation choice by providing space, improving aesthetics and creating an environment within the transportation corridor for all modes. The Guidelines are also supportive of the Regional Transportation Master Plan and the Community Building Strategy.

Staff was directed to review the effectiveness of these guidelines after a year and identify the need for any modifications. An internal review was undertaken with planning and engineering staff that applies the guidelines to construction projects. The following components were identified as requiring adjustments:

- Sight triangles
- Curb lane widths
- Cycling lane widths
- Curb radii at intersections
- Fencing
- Roadway classifications

Input received during the ongoing Active Transportation Master Plan was used for review during this process, specifically for the cycling lane widths.

The modifications to the Guidelines as recommended were circulated to stakeholders including the Area Municipalities, members of the public that had previously expressed an interest and the development industry. The revisions were also posted on the Region’s website. A formal Public Meeting is required in accordance with the Regional Official Policies Plan and the Regional Official Plan and was held on April 9, 2013.

Several comments were received about specific projects undertaken by the Region. Comments requesting a minimum cycling lane width of 1.5 m were also received. For the majority of Regional
roads, it is recommended that a preferred cycling lane width of 1.5 m be provided. For some of the lower speed roads that tend to be in more constrained areas, a preferred cycling lane width of 1.25 m is proposed, however, a gutter width of 0.3 m provides additional clearance for cyclists to 1.55 m. Depending on the context, consideration may be given to widening the cycling lanes to 1.5 m.

**REPORT:**

The influence transportation facilities and their design have on the built form and the health and vibrancy of the community is considerable. All modes of transportation need to be reflected in design guidelines so that community planners and design engineers can incorporate and prioritize design elements early in the design process. Road designers and planners should consider the role of the entire road corridor as a public space and the role of roads in shaping the character, function, and livability of adjacent land uses and communities.

The Implementation Guidelines for Regional Transportation Corridor Design have been in operation for over 2 years. Staff has gained considerable experience using these Guidelines during this period. Two of the most notable projects that have been constructed using these Guidelines include Queen Street between Courtland Avenue and Highland Road, and Frederick Street between Bruce Street and Lancaster Avenue.

An internal review of these Guidelines has been undertaken over the past year. In general, the Guidelines have been effective, however, there are a few areas where modifications would be helpful including:

- Sight triangles
- Curb lane widths
- Cycling lane widths
- Curb radii at intersections
- Fencing
- Roadway classifications

**Sight Triangles**

Sight triangles ensure sufficient sight distance is provided for the driver of the vehicle approaching an intersection to perceive potential conflicts and carry out the necessary action to avoid a conflict and negotiate the intersection safely. Sight triangles can also be used to accommodate traffic signal control and other utility equipment.

The previous Regional practice was to require, as a condition of development, the dedication of road widening’s for sight triangles with the maximum length of the side of a sight triangle bordering on either road of 15 m. The current Guidelines suggest the use of the Transportation Association of Canada (TAC) methodology for Visibility Triangles. The TAC methodology resulted in a considerable amount of property dedication from new development and objections from developers were raised.

It is recommended that the Guidelines be modified to reflect the previous Regional practice for dedication with the maximum length of the side of a sight triangle bordering on either road of 15 m. In addition, during the development approval process, applicants may be required to ensure that there are no sight obstructions higher than 24 inches within the calculated sight triangle as defined by the TAC methodology. This will reduce the amount of property to be dedicated, provide sufficient room for utilities and maintain appropriate sightlines.

The current Guidelines also suggest that sight triangles are not required in built-up areas. The intent of this wording was to minimize property dedications on streets with buildings adjacent to the property line particularly on Main Streets. It is recommended that this statement be modified to read “In built-up areas, specifically Urban Growth Centres, consideration to reducing the sight triangle may be given if...”
there is no demonstrated collision history and the land is not required for utility/traffic signal equipment.”

**Curb Lane Widths**

The Guidelines indicate a preferred lane width of between 3.25 and 3.35 m depending on the road classification. An additional .65 m in urban areas and an additional 1.0 m in rural areas could be provided on curb lanes where there are no cycling lanes available. It has been observed that wider lanes encourage faster traffic and the intent is to design for the appropriate speed of travel for the land use context of the road. Additional width on the curb lane can provide room for right turning vehicles and snow storage.

It is recommended that the preferred curb lane width be modified to between 3.65 and 3.75 depending on the road classification and that the additional .65 m be discontinued. An additional 1.0 m lane width would still be considered optional for Rural Connectors and Rural Village-Main Street. This modification would provide some additional curb lane width while not encouraging speeding.

**Cycling Lane Widths**

The current Guidelines indicate a preferred cycling lane width of 1.25 m on all road classifications with the exception of the Community Connector where it is 1.5 m. A 1.0 m minimum cycling lane width was also identified for some road classifications. The Guidelines indicate the needs for cycling facilities are optional on a Community Connector but important on all other road classifications and that the need should be considered in conjunction with the 2004 Cycling Master Plan/Active Transportation Master Plan. The Cycling Master Plan was approved by Regional Council in November, 2004 and is the plan currently referenced. The Active Transportation Master Plan is nearing completion and will be brought to Regional Council for consideration late summer/early fall of 2013. If approved by Council, it would then become the new plan.

The proposed Active Transportation Master Plan is recommending additional separation be considered for cyclists. As a result, it is recommended that the Guidelines be modified to indicate that the preferred cycling lane width be increased to 1.50 m for road classifications with higher speeds (Community Connector, Neighbourhood Connector-Avenue and Rural Connector) and 1.25 m for road classifications with lower speeds (Neighbourhood Connector-Main Street, Residential Connector and Rural Village: Main Street). The minimum cycling lane width would be increased to 1.25 m for all road classifications. It is also recommended, to add clarity, that the optional or important designation be replaced with a reference to the need being consistent with the 2004 Cycling Master Plan/Active Transportation Master Plan. Additional comments would be included that states the width of the cycling lane should be considered in conjunction with the width of the adjacent travel lane and if there is no gutter present, a wider bike lane should be considered.

**Curb Radii at Intersections**

The curb radii should be designed to accommodate the largest vehicle type that will frequently turn at the intersection. It is also preferred to minimize the curb radii to shorten the distance a pedestrian has to cross the road. The current Guidelines indicate a maximum curb radius of 9 m. In some locations based on geometrics and volume of trucks turning, a larger radius may be required and it is recommended that this be reflected in the modifications to the Guidelines.

**Fencing**

Fencing is a physical and sometimes visual barrier that prevents access to properties adjacent to a Regional road. Regional staff has required that fences be installed for back and side-lotted residential properties. Although preventing access to a Regional road is one element of this policy, it is also
important to restrict encroachments such as sheds, plantings etc. on to the Regional right-of-way. Generally, the entire right-of-way is required for Regional purposes such as sidewalks and utilities which can be obstructed with these types of encroachments. Often times a property owner may erect a private fence inside the chain-link fence required as part of the development agreement. This can result in an area that cannot be maintained well and garbage collects or grass cannot be cut.

It is recommended that Regional staff continue to ask for the installation of fences for back and side-lotted residential properties adjacent to Regional roads. However, if the developer proposes installing their own fence on private property and the appropriate security is provided to the Region to ensure the fence is installed, the Region would delete this condition. If an individual property owner does not wish for a fence to be installed they could apply to the Region to have this condition waived with agreement that the Region would have the right to remove any encroachments immediately upon being discovered on the Regional right-of-way.

Roadway Classifications

Roads that are classified as Community Connectors are intended to help move goods and people effectively and not provide access to adjacent properties. Regional staff is currently reviewing the Access Policy and have identified additional roads that should be access controlled and classified as Community Connectors. It is recommended that the Guidelines be modified to change the classification of the following roads from Neighbourhood Connector–Avenue to Community Connector:

1. Regional Road 17 (Fountain Street) from Woolwich Street South to Victoria Street North;
2. Regional Road 85 (Arthur Street South) from the interchange with Regional Road 15 to Regional Road 21 (Arthur Street); and
3. Regional Road 33 (Townline Road) from Avenue Road to Can-Amera Parkway.

Public Input Meeting

A Public Input Meeting was held on April 9, 2013 with the Planning and Works Committee. There were two delegations that appeared before Committee. An email response was also provided. The concerns raised are summarized below:

1. All cycling lanes should be a minimum width of 1.5 m

The preferred cycling lane width for road classifications with higher posted speeds (generally 60-80 kph) is proposed to be increased to 1.5 m. These road classifications would include the majority of regional urban and rural roads. In some cases, where there is limited space, consideration may be given to reducing the width to 1.25 m but must be thoroughly reviewed in context with other cross sectional features.

On road classifications with lower posted speeds (generally 50 kph), the preferred cycling lane width is proposed to be 1.25 m. Depending on the context of the road, the width may be increased to 1.5 m. The road classifications for which these widths would apply are commonly in areas where there is limited right-of-way such as urban downtown or rural main streets (e.g. King Street, Waterloo or Sawmill Road, Conestogo) or residential streets (e.g. portions of Westmount Road, Kitchener).

On most urban roads, there is a gutter which provides an additional 0.3 m of clearance that is not included in the above dimensions. Although it is understood that cyclists will not ride in the gutter area, it does provide additional clearance for cyclists to move away from traffic. This results in effective widths of 1.8 m or 1.55 m. Our current standard for stormwater grates is to install the inlet on the side of the curb when cycling lanes are present to eliminate any potential conflict with bike tires.
The modifications to the guidelines do not propose any designated cycling facilities less than 1.25 m.

2. Cycling lanes should have been built on Queen Street between Highland Road and Courtland Avenue

This section of Queen Street was not designated in the Cycling Master Plan for a cycling route. Notwithstanding, the Project Team reviewed the potential for including cycling lanes and concluded that there was insufficient width. It was discussed and understood at the time that there were other parallel routes that provided cycling options into the city core. Also, the existing right-of-way on Queen Street was very limited (40 feet in some areas).

3. The pedestrian refuge island on Queen Street provided for the Iron Horse Trail should not be at an angle and is too narrow

The pedestrian refuge island is wide enough to accommodate a cyclist at 3 m wide. An average bicycle is 1.8 m. The spacing on the island was constructed at an angle so that caution would be used by cyclists when crossing the road and the spacing is at an angle so that users have a better view of oncoming traffic. The Queen Street Iron Horse Trail pedestrian crossing is designed to Regional standards and observations show that it is operating properly.

4. Use “elephant feet” markings for crossings of the Iron Horse Trail

Elephant feet are a new concept that indicate that a cyclist can use a crossing without dismounting. There is a pilot project in Mississauga testing these markings. Currently the use of these markings is being reviewed by staff. These markings do not currently have supporting provincial legislation (Highway Traffic Act).

5. Cycling improvements at the Courtland Avenue/Stirling Avenue intersection

Several suggestions were made for the cycling facilities at this intersection including bike boxes, curb cuts, reduced lanes, pedestrian refuge islands, and bike route signs. The project team did engage and receive input from the Cycling Advisory Committee throughout the design process. The curb cut width reduction was intentional for several reasons. Collision statistics indicated there was a history of collisions at this location between bikes and cars turning into the Stampede Corral Plaza. With the wider curb drop at this location, there was a potential conflict between cyclists and vehicles turning into this plaza. The Cycling Advisory Committee and the Project Team felt the safest alternative was to encourage cyclists at this location to dismount and use the sidewalk and use the signalized intersection at Stirling Avenue to connect to the trail entrance/exit at the south east corner of Stirling Avenue and Courtland Avenue. The Project Team committed to reviewing wider sidewalks and reviewing the possibility for improved trail signage to facilitate this pedestrian/cyclist movement. Wider sidewalks were completed on the west side of Courtland Avenue and trail signage improvements are still being discussed with the City of Kitchener. The location of the GRT bus stops landing pad behind the sidewalk at the trail location also helps to provide a physical barrier to stop cyclists from short-cutting behind the trail’s exit barrier and creating a conflict with right turning vehicles into the plaza.

6. Consult with the Bridgeport, Pioneer Tower and Doon Communities regarding cycling connections

The Active Transportation Master Plan has developed a proposed cycling network. There has been three separate opportunities for public input during this process. Further opportunity for public input will be provided in the fall and a final report for consideration by Regional Council is planned by the end of 2013.
7. Reference the Scenic Roads and Special Character Streets Resource Document

The Heritage Planning Advisory Committee has requested that this document be referenced in the Design Guidelines. It is recommended that this reference be provided.

8. Would it be possible to introduce a design that allows a wider turning radius for the largest vehicles, while it keeps the majority of drivers doing the tighter turn, such as the skirts on the roundabouts?

This type of design could be unsafe for pedestrians as it introduces some ambiguity into where they need to stand as they wait to cross the street. The wider radius proposed in this report would only be used in limited applications. No change is recommended.

9. Consider renaming “Decorative lighting” to “Pedestrian Scale lighting” and provide specifics regarding the quality of light, the amount of light, the light/colour temperature, light angles, continuity of lighting, impact on the nearby buildings, etc.

Street lighting on Regional roads should be provided for all users including pedestrians. It is recognized that street lighting is an important element for the pedestrian, however, the term “decorative lighting” is more inclusive of all modes. It isn’t the intent of these Guidelines to provide specifics about lighting design. If it is decided to provide decorative lighting on a street, these details would be determined by the light designer based on the local context.

10. Would it be within the guidelines ability to make a statement about how signage and canopies mustn't drip on pedestrian’s heads?

It is recommended that a statement be added to the Guidelines to indicate the design of signage and canopies should consider how water and ice may impact pedestrian activity.

11. Would it be possible to do some changes to the rooftop of transit shelters so they may provide some shade?

The design of transit shelters is not part of these Guidelines. Transit Development staff will investigate this request further.

The City of Waterloo reviewed the Guidelines and asked for the following revisions:

1. The section describing the City of Waterloo Official Plan should be updated to recognize the 2012 Official Plan which includes specific policies on complete streets, urban design and character and should include commentary on the City of Waterloo Urban Design Manual, Council-approved guidelines that affect Waterloo’s public realm.

The wording will be updated in the Guidelines.

2. In many cases, street trees will not be able to be planted along Waterloo Streets because of conflicts with overhead hydro wires. Wording that provides greater flexibility in the type of vegetation is requested.

It is proposed that additional wording be provided in the section on landscaping that states: “Plant material, including tree species, will be considered based on the existing conditions and may be adjusted on a site by site basis.”
3. Waterloo Development Services staff would support a Regional process that would continue to permit private street furniture along King Street in the Uptown to add vibrancy and interest along our Main Street.

It is proposed that additional wording be added to the section on site furnishings that states: “Only publically (regional or city) owned and maintained furniture should be located within the Regional right-of-way with some consideration for private furniture on roads classified as Main Streets to the satisfaction of the Region.”

Area Municipal Consultation/Coordination

Area Municipal representatives participated on an External Agency Team and provided input into the original Guidelines. Some of the Area Municipalities have developed Urban Design Guidelines and this information was considered as input into the process. The Area Municipalities were circulated these proposed modifications and asked for input. The City of Kitchener staff reviewed and commented on the proposed modifications and had no objections to the proposed changes to the guidelines. The City of Waterloo provided comments that have been considered in this report.

CORPORATE STRATEGIC PLAN:

The Guidelines supports Strategic Objective 2.2 “Develop, optimize and maintain infrastructure to meet current and projected needs” and Strategic Objective 3.2 “Develop, promote and integrate active forms of transportation (cycling and walking).”

FINANCIAL IMPLICATIONS:

The Guidelines in their entirety are expected to result in less asphalt than previous practice, resulting in nominal savings of road construction costs. These cost savings, in addition to existing allocations for landscaping, could be applied to boulevard improvements such as public art, landscaping, street furniture, accent paving etc. One of the objectives of the Guidelines is to improve the street environment to encourage more active transportation.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Transportation and Environmental Services provided input to the review of the Guidelines.

ATTACHMENTS:

NIL

PREPARED BY: Paula Sawicki, Manager, Strategic Transportation Planning

APPROVED BY: Rob Horne, Commissioner, Planning, Housing and Community Services
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: D09-30

SUBJECT: DRAFT ONTARIO MINISTRY OF TRANSPORTATION CYCLING STRATEGY

RECOMMENDATION:

THAT the Regional Municipality of Waterloo request the Ontario Ministry of Transportation to consider the comments contained in Report, dated May 28, 2013, in the development of the Ontario Ministry of Transportation Cycling Strategy.

SUMMARY:

On November 30, 2012, The Ministry of Transportation (MTO) released a draft Cycling Strategy for the Province of Ontario. The Strategy is the first update to provincial cycling policy in over 20 years and describes MTO plans to provide for a comprehensive safe cycling environment throughout the Province.

The Strategy outlines MTO’s three-pronged approach to increasing the number of people cycling in Ontario and improve the safety of all road users:

- Enhancing Cycling Infrastructure in the Province,
- Enhancing Cycling Safety through Education and Legislation, and;
- Ensuring Relevancy through Monitoring, Researching and Coordinating.

The creation of an updated cycling strategy for Ontario is an important planning tool to help develop and provide a cycling-friendly environment of infrastructure, education and research for both MTO and municipalities. As the Region aims to increase the use of active transportation through Regional policies such as the Regional Official Plan and draft Active Transportation Master Plan, having a provincial cycling strategy can help improve the coordination of cycling initiatives between the Province, the Region and area municipalities.

Regional staff have reviewed the Strategy in consultation with the Active Transportation Advisory Committee and incorporated the committee’s comments into this report. Staff has found that although the Strategy is an important planning tool that can help develop an environment of cycling-friendly infrastructure, education and research in Ontario, the details regarding infrastructure planning, funding allocation, and monitoring activities are limited. Staff believe that MTO should consider incorporating the following comments into future drafts of the Cycling Strategy:

- Outlining specific roles and responsibilities of MTO and municipalities for implementing the Strategy’s approaches as they relate to infrastructure provision, safety education and monitoring,
- Defining resources, action items and timelines for the Strategy’s implementation,
- Identifying standardized metrics, activities and frequencies for monitoring,
- Defining project planning criteria that prioritize the provision of cycling infrastructure for MTO projects,
- Identifying opportunities for collaboration and consultation with municipalities, public health agencies, cycling organizations and other Provincial Ministries,
May 28, 2013

Report: P-13-056

- Improving education channels to reach wide audiences of cyclists and drivers,
- Increasing consistencies and legislative requirements between the Highway Traffic Act, Ontario Traffic Manuals, and drivers education materials,
- Dedicating funding provision for cycling infrastructure and monitoring,
- Broadening the classification of bicycle vehicle types in the HTA to reflect new trends in cycling activities.

Staff recommend MTO consider incorporating these comments into subsequent drafts of the Cycling Strategy.

REPORT:

The Ministry of Transportation (MTO) released a draft Cycling Strategy for the Province on November 30, 2012. The draft Strategy is the first update in cycling policy from MTO since the Ministry released its Bicycle Policy in 1992. The Strategy describes MTO plans to provide a safe cycling network that connects the Province while reducing cycling collision and injury rates. The draft Strategy addresses a number of the recent Coroner’s recommendations for MTO to improve cycling safety by outlining the Ministry’s plans for infrastructure, education and legalisation, and potential legislative amendments to the Highway Traffic Act.

MTO has drafted the Strategy in the following sections:

Section 1 – Context
This section provides an overview of cycling in Ontario, including the benefits of cycling as well as the current policies and programs established by the Ontario Government and the actions the MTO.

Section 2 – A Cycling Strategy for Ontario’s Ministry of Transportation
This section identifies the Ministry’s three-pronged approach to the cycling strategy that includes:
- Enhancing Cycling Infrastructure in the Province,
- Enhancing Cycling Safety through Education and Legislation, and;
- Ensuring Relevancy through Monitoring, Researching and Coordinating.

Regional Comments

The following comments on the draft Cycling Strategy have been prepared by Regional staff in consultation with the Active Transportation Advisory Committee:

1. Although the Strategy provides an overall approach that MTO will take to providing a cycling-friendly Ontario, it is requested that MTO outline its specific roles and responsibilities in implementing the Strategy.

2. A spirit of shared responsibility between the Province and municipalities is highlighted throughout this Strategy. The Region supports this and looks forward to continued cooperation with MTO. It is suggested that, in further development of the Strategy, MTO collaborate with other Provincial Ministries, such as the Ministry of Education and Ministry of Health, cycling organizations and public health agencies. This is recommended to assist MTO with taking into consideration a number of cycling perspectives and experiences that will help create a balanced approach to cycling solutions.

3. The Strategy highlights the importance of cycling to our environment, health and congestion. Regional staff recognize these benefits as well as the improved urban form that can result with increased cycling rates. It is strongly encouraged that MTO continue to prioritize active modes of transportation as part of MTO projects.
4. Research suggests that cyclists are more comfortable if they have enough dedicated space to cycle within, and that this comfort leads to increased cycling rates. To nurture a safe cycling environment and increase cycling rates, it is recommended that the Strategy reflect this and emphasize the creation of dedicated spaces for cyclists within MTO rights-of-way.

5. The Strategy highlights that MTO will work toward providing cycling infrastructure on provincial highways when certain criteria are met for MTO projects. MTO is encouraged to define these criteria though consultation with municipalities. It is also recommended that the application of the criteria prioritize the provision of cycling infrastructure.

6. MTO is encouraged to consider cycling infrastructure as a principle element in MTO projects as an alternative to warranting cycling infrastructure based on criteria. Alternatively, MTO should provide clarification on the criteria that must be met in order for a project to qualify for cycling features.

7. The Strategy references upcoming changes to the *Ontario Traffic Manual Book 18: Bicycle Facilities* and potential legislative amendments to the *Highway Traffic Act (HTA)*. MTO is encouraged to update the cycling strategy in concert with the changes to Book 18 and the HTA to ensure they complement each other to support a cycling-friendly Ontario. For example, the Book 18 development process has suggested changes to the HTA that would legally allow cyclists to ride on paved shoulders. This approach will help ensure that the design and use of cycling facilities outlined in Book 18 do not contravene the requirements outlined in the HTA.

8. Throughout the Strategy an emphasis is placed on cycling safety and a variety of means to achieve a safer Ontario for cyclists. Although the Strategy seeks to provide a greater education for cyclists and drivers about cycling safety, MTO is encouraged to provide more specific details regarding how this can be achieved through the further testing of class G2 and class G driver's licences.

9. The Strategy indicates that MTO will begin providing purchasers of new bicycles with cycling safety information. It is recommended that this information convey encouraging messages focused on collision prevention through expressing specific safe behaviours and/or statistics based on legislation and scientific research. The Region of Waterloo would be willing to work with MTO and other key partners in developing the prevention information.

10. As MTO commits to updating its series of Driver’s Handbooks, MTO is encouraged to make changes to the both the driver’s training curriculum and driver's handbooks through collaboration and consultation with strategic partners including municipalities, public health, and cycling organizations. Changes made to the HTA outlined in Book 18 revisions, (e.g. explicitly allow cyclists to ride on paved shoulders and requiring safe separation distances when overtaking a cyclist) should be incorporated as soon as possible.

11. The Strategy references the Ontario Coroner’s report on Cycling Deaths recommendation for mandatory helmet laws for all ages. The Region support’s the Strategy’s approach to both the review of research and conducting consultations on this issue.

12. The Strategy places an emphasis on closing the gaps in cycling facilities. One of the largest barriers to providing cycling infrastructure in municipalities is funding. It is recommended that MTO commit to hosting discussions with municipalities to determine new ways to fund cycling infrastructure projects; particularly for projects outside of Metrolinx’s transportation plan for the Greater Toronto and Hamilton Area. It is also recommended that funding be identified to develop the cycling network within corridors of Provincial jurisdiction.
13. While considering the Province-wide network, it is important for MTO consider that “alternative routes” that are available (e.g. unpaved or poorly maintained off-road trails) may not be appropriate or suitable for long-distance cycling.

14. The Strategy states that it does not want MTO infrastructure to be a barrier to existing municipal cycling routes. However, the Strategy also outlines that MTO will take steps to ensure that crossing of provincial highways are minimized. As provincial highways are one of the largest barriers to cycling in municipal cycling networks, all possible crossings are important to the connectivity of local cycling networks. MTO is encouraged to consider that in circumstances where crossings of provincial highways are needed to enhance the connectivity of a cycling network, they take steps to ensure that those crossings are prioritized. It is also recommended that when bridges or other structures need to be expanded to better accommodate cycling, the costs associated with the expansion be the responsibility of the Province.

15. The commitment in the Strategy to ongoing data collection and research is laudable. As part of this, MTO needs to identify long-term data collection activities with particular metrics and frequencies of measurement. MTO has requested that municipalities track and share cycling-related data within their jurisdictions. It may not be appropriate for the Strategy to specify metrics or data collection activities, but leadership from MTO on these will help to create a Province-wide standard, and may contribute to other Provincial initiatives such as the Ontario Municipal Benchmarking Initiative. It is recommended that MTO consider hosting discussions about creating standardized metrics and advising municipalities about the collection of cycling data.

16. Although is it encouraging to see that MTO is committed to the ongoing review of the strategy’s effectiveness, it is recommended that Strategy provide a more defined schedule for updates to facilitate changes in this rapidly evolving field.

17. An appendix to the Strategy describes the various types of bicycles as defined in the HTA, including Electric Bicycles or “e-bikes”. With the proliferation of electric bicycles, municipalities are continuing to struggle with their definition and usage on roads, local trails, and sidewalks. Additionally, as they are considered to be a ‘bicycle’ but defined under the Highway Traffic Act as “power-assisted bicycles”, it is recommended that the Ministry further re-define the Electric Bicycle category with input from municipalities, along with consideration of a re-classification or new classification of electric-assist bicycles.

Conclusion

Regional staff encourages MTO to incorporate the comments outlined in this report into the development of a new Ontario Cycling Strategy.

Area Municipal Consultation/Coordination

A copy of this report has been circulated to all Area Municipalities.

CORPORATE STRATEGIC PLAN:

By working with the Ministry of Transportation to encourage the provision of a safe environment, the Region is promoting the use and integration of active forms of transportation (Focus Area 3). By complementing correspondence to the Ministry of Transportation and area municipalities the Region is strengthening and enhancing partnerships with area municipalities and other orders of government (Focus Area 5).
FINANCIAL IMPLICATIONS:
NIL

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:
Public Health and Transportation and Environment Services were consulted in the development of this report.

ATTACHMENTS:
Appendix A – Ontario Ministry of Transportation’s Draft Cycling Strategy

PREPARED BY: James LaPointe, Principal Planner, Transportation Demand Management

APPROVED BY: Rob Horne, Commissioner, Planning, Housing and Community Services
Ontario Ministry of Transportation

DRAFT

Ontario Ministry of Transportation

Cycling Strategy

for Consultation
on the Environmental Registry
November 30, 2012
Ontario Ministry of Transportation’s Draft Cycling Strategy

Cycling is an increasingly popular means of transportation, exercise and recreation. Our latest statistics estimate that 630,000 Ontarians ride a bicycle on a daily basis, and that 48 per cent of almost 13 million Ontarians ride at least once a week during the spring, summer and fall.

There has been some recent discussion about the different types of bikes that are found on Ontario’s roads (see Appendix A for clarification), but what is not in question are the benefits that bikes can deliver. Cycling has a tremendous effect on our environment, reducing GHG emissions by getting cars off of our roads and easing gridlock. Cyclists also reap significant health benefits, which in turn save money for our health care system. There is no question that cycling is a mode of transportation that the government should continue to support.

The rate of cycling-related injury and fatality has dropped considerably over the last few decades; comparing 2009 to 1988, cyclist fatalities are down 70 per cent and major injuries are down 64 per cent. Ontario has the safest roads in North America, bar none, and the second safest in Canada for cyclists. Despite this, we know we need to do more.

We also recognize the potential economic benefits of cycling tourism through the development of a provincial cycling network. The Province of Quebec, for example, estimates that their network, known as “La Route Verte”, generates an annual economic return of about $30,000 per kilometre, amounting to more than $100 million each year.

Our vision is for a safe cycling network that connects the province, for collision rates and injuries to continue to drop, and for everyone from the occasional user to the daily commuter to feel safe when they get on a bicycle in Ontario. Our cycling strategy will serve as a map for how we make that vision a reality.

This draft Strategy addresses a number of the recent Coroner’s recommendations directed at the Ontario Ministry of Transportation (see Appendix B). It outlines our plans for infrastructure, education and legislation, including a separate consultation on potential legislative amendments to the Highway Traffic Act aimed at improving cycling safety, such as those proposed by the Coroner (i.e. mandatory helmets for all riders regardless of age and a minimum one-metre passing rule for vehicles passing cyclists)\(^1\).

The enclosed plan sets out a map for ongoing work and describes in detail the government’s plan and priorities. We recognize the important role of our many partners, and look forward to your feedback.

Sincerely,

The Honourable Bob Chiarelli
Minister of Transportation

---

1\(^1\) Consulting on these items would be a first step in evaluating recommendations 11 and 12 from the Coroner of Ontario’s “Cycling Death Review” (the Coroner’s Report), to make helmets mandatory for cyclists of all ages and introduce a one meter/three foot passing rule for vehicles when passing cyclists.
Contents

SECTION 1 – CONTEXT

1.1 Cycling in Ontario
- Benefits of Cycling
- What We Are Doing at the Provincial Level
- What We Are Doing at the Ministry of Transportation

SECTION 2 – A CYCLING STRATEGY FOR ONTARIO’S MINISTRY OF TRANSPORTATION

2.1 Enhancing Cycling Infrastructure in the Province
- Leading the Identification of a Province-Wide Cycling Network
- Supporting Municipalities in the Development of Local Cycling Networks
  - Assisting with Infrastructure Design
  - Providing Guidance Documents
  - Access to Funding for Municipalities

2.2 Enhancing Cycling Safety through Education and Legislation
- Public Education for Cyclists and Drivers
- Legislation that Provides for the Safety of Cyclists

2.3 Ensuring Relevancy through Monitoring, Researching and Coordination
- Monitoring and Research
- Co-ordination

Glossary

Appendix A – Types of Bikes in Ontario

Appendix B – Recommendations from the Chief Coroner of Ontario’s “Cycling Death Review” Directed at the Ministry of Transportation
SECTION 1 – CONTEXT

Cycling in Ontario

Research commissioned by the Ontario Ministry of Transportation (the Ministry) in 2011 found that 48 per cent of Ontarians ride a bicycle at least once a week during the spring, summer and fall. Exercise and recreation are the main reasons that Ontarians ride their bicycles, but around 50 per cent of Ontario cyclists also do so as a mode of transportation – to ride to work or school, for shopping, to run errands, or to visit family and friends.

While most cycling takes place on municipal roads, the Province still has an important role to play in increasing both the number and safety of cyclists.

Benefits of Cycling

Cycling offers many potential benefits, including:

- **Promoting active and healthy lifestyles** – in Enhancing Cycling Safety in Ontario (2011), the Ontario Medical Association advocates that people increase their daily physical activity through cycling in response to concerns about obesity and related chronic disease. Cycling is an activity that can be incorporated into the daily tasks of life, and is a cost-efficient means to meet recommended physical activity guidelines.

- **Reducing emissions of greenhouse gases and other harmful pollutants** – according to the Environmental Commissioner of Ontario (2010), the transportation sector contributes over one-third of Ontario’s greenhouse gas emissions and energy consumption. Passenger vehicles account for around 75 per cent of Ontario’s greenhouse gas emissions from transportation, which makes encouraging people to choose cycling particularly compelling.

- **Reducing congestion** – like many urban areas, traffic congestion in the Greater Toronto and Hamilton areas costs billions of dollars to the economy each year. Increasing commuter cycling has the potential to reduce passenger vehicle traffic during peak periods.

- **Providing economic development opportunities** – the economic potential of cycling tourism is increasingly being recognized. For example, the Province of Quebec estimates that its province-wide cycling network, known as “La Route Verte”, generates an annual economic return of about $30,000 per kilometre, totalling more than $100 million each year.

Creating an environment for encouraging cycling is a shared responsibility between the provincial government, municipalities, not-for-profit organizations and cycling associations.

What We Are Doing at the Provincial Level

The Ontario Government has established broad provincial planning objectives that encourage and support cycling and walking in Ontario. These objectives have been communicated through legislation such as the Planning Act (1990) and its supporting policy document the Provincial Policy Statement (2009).

The Provincial Policy Statement represents the government’s policy direction on land use planning. It provides direction for the entire province on matters of provincial interest related to land use.
5. To the Ministry of Transportation and the Ministry of Consumer Services

It should be a requirement that important bicycle safety information (such as rules of the road and helmet information) be provided to purchasers of any new or used bicycle. Such information could be included in a "hang tag" information card attached to the handlebar of every bicycle at the time of purchase which would include critical information and a reference to the Ministry of Transportation website and Service Ontario for additional bicycle safety information and publications.

7. To the Ministry of Transportation

The Official Driver’s Handbooks (Driver’s Handbook; Truck Handbook; Bus Handbook; Motorcycle Handbook) should be updated to provide expanded information around sharing the road with cyclists, and include cycling-related scenarios in driver examinations.

Recommendations on Legislation

8. To the Ministry of Transportation

A comprehensive review and revision of the Highway Traffic Act (HTA) should be conducted to ensure that it is consistent and understandable with respect to cycling and cyclists and therefore easier to promote and enforce.

11. To the Ministry of Transportation

The Highway Traffic Act should be amended to make helmets mandatory for cyclists of all ages in Ontario. This should occur in conjunction with an evaluation of the impact of mandatory helmet legislation on cycling activity in Ontario. Such an evaluation strategy should be developed and carried out in collaboration with the Ministry of Health and Long-Term Care and Public Health Ontario.

12. To the Ministry of Transportation

The Highway Traffic Act should be amended to include a one (1) meter / three (3) foot passing rule for vehicles when passing cyclists. This change in legislation should be reflected in the Ontario Driver’s Handbook, Beginning Driver Education curricula and the driver’s licence examination process.
planning and development, and promotes a provincial "policy-led" planning system. The Provincial Policy Statement encourages healthy, active communities through the planning of public streets, spaces and facilities that meet the needs of pedestrians and non-motorized movement (such as cycling). A revised draft Provincial Policy Statement is being developed. More information is available from the Ministry of Municipal Affairs and Housing's website at:
http://www.mah.gov.on.ca/.

Across the Ontario Government several ministries have taken actions to support cycling. For example:

- The Ministry of Tourism, Culture and Sport (MTCS) as the government lead for trails planning and coordination, currently oversees the implementation of the Ontario Trails Strategy (2005), which seeks to encourage on- and off-road cycling in order to promote sport/recreation, tourism and active transportation. MTCS has provided support for a range of cycling-related projects through its various funding programs towards achieving national physical activity targets.

- Through the Healthy Communities Fund Provincial Grants, the Ministry of Health and Long Term Care has provided funding to Green Communities Canada to support Walking and Wheeling: Healthy, Happy, Active School Travel, a project to promote walking and cycling to Ontario schools through key activities that build on the foundation of Active and Safe Routes to School.

- Under the Ontario Public Health Standards, public health units are required to deliver initiatives and programs related to healthy weights, physical activity, and prevention of injuries. This work includes active transportation (including cycling), access to recreation, and bike safety. As part of the Healthy Communities Fund Partnership Stream, public health units and host agencies are also developing policies to increase physical activity. In addition, cycling organizations, such as Share the Road Cycling Coalition have received $90,000 in funding through the Healthy Communities Grants Project Stream to deliver cycling promotion activities.

What We Are Doing at the Ministry of Transportation

The Ministry of Transportation's vision is "to be a world leader in moving people and goods safely, efficiently and sustainably, and to support a globally competitive economy and a high quality of life." Achieving this vision requires that we encourage cycling and improve the safety of cyclists in the Province.

The Ministry's support for cycling is consistent with its commitment to become a more sustainable organization, as described in its sustainability framework – Sustainability InSight. Through Sustainability InSight, the Ministry has established seven strategic sustainability goals, four of which relate to cycling - improving mobility choices, applying a context sensitive approach to Ministry projects, optimizing infrastructure design, and driving a cultural shift toward sustainability. Copies of Sustainability InSight can be downloaded at:

The actions the Ministry has taken to encourage cycling and improve safety can be grouped into the following four categories: infrastructure, safety, planning, and research.

Infrastructure

In 2008 Metrolinx, the Ministry's agency, released The Big Move, a 25-year regional transportation plan for the Greater Toronto and Hamilton Area (GTHA). That plan sets out a
vision for a sustainable, multi-modal transportation system across the GTHA, and includes cycling infrastructure within the definition of a transportation and/or transit system. The Big Move outlines active transportation targets, the need for a commitment of up to $20 million per year for active transportation infrastructure, which includes cycling, as well as measures to promote the development of communities that are pedestrian, cycling and transit-supportive. This includes the need for an integrated walking and cycling network in the GTHA, creating pilot bike-sharing programs in major urban centres, the inclusion of bicycle carrying devices on transit vehicles, and establishing bicycle storage facilities at major rapid transit stations. Metrolinx is developing an investment strategy to support The Big Move. More about The Big Move can be found at: http://www.metrolinx.com/thebigmove/en/default.aspx.\(^2\)

The Ministry is in the process of updating its bikeways planning and design guidelines. This document contains a set of guidelines for designing bicycle facilities on Ministry highways.

For the benefit of all road users, the Ministry has paved a minimum one metre shoulder on Highway 6 for 46 kilometres on Manitoulin Island and 66 kilometres on the Bruce Peninsula, as a pilot project. The Ministry is planning on monitoring and collecting information over the next few seasons on the results of this pilot, in order to inform its decisions on how its transportation network can accommodate and support active transportation.

Safety

New Beginner Driver Education curriculum standards were introduced in September 2009 to provide a solid foundation for safe and responsible driving and to help develop positive driving attitudes and behaviours in new drivers. Driving schools are required to include information about courteously sharing the road with cyclists in their curriculum and during in-vehicle practice. New drivers are further tested when obtaining a class G2 or G driver’s licence.

The Ministry has completed a stakeholder consultation on its suite of Driver Handbooks with a view to enhancing its “share the road with cyclists” section of the handbooks. Cycling safety groups were consulted as were representatives from enforcement, the insurance industry and the medical community. The Ministry plans to add new information and illustrations on bike lanes, road markings and right-of-way in future copies of the handbooks.

Specific to cycling, the Ministry publishes Cycling Skills: Ontario’s Guide to Safe Cycling and the Young Cycling Guide that are strongly focused on safety. These can be found at http://www.mto.gov.on.ca/english/pubs/cycling.

The Ministry also partners with, and provides funding to, local road safety organizations through its Road Safety Challenge and Road Safety Community Partnership Programs. These educational activities are tailored to the specific needs of communities and can involve public health units, police and members of the community working with Ministry staff to assist with the development and implementation of cycling safety initiatives across the province. A recent example is the Ministry’s collaboration with the Share the Road Cycling Coalition and the Canadian Automobile Association, to develop a provincial multimedia public education campaign that rolled out in summer 2012. Other Ministry-supported cycling safety initiatives include a public education campaign by EnviroCentre and the City of Ottawa in spring 2012. The campaign features a video series promoting cycling training and safe riding practices, including how to properly use bike boxes and cycling lanes. Cycling

\(^2\) Under The Big Move a transportation plan must (among other things) take into consideration all modes of transportation, including highways, railways, local transit systems, the regional transit system, cycling and walking.
safety was also a priority theme for the 2012 Road Safety Challenge which enabled the Ministry to support 27 community groups to promote cycling safety in their communities.

In Spring 2013, the Ministry will be piloting a new initiative to provide purchasers of new bicycles with cycling safety information at the point of sale.\(^2\)

Planning

Led by the Ontario Traffic Council, the Ministry continues to work in partnership with municipalities, engineering and planning consultants, and tourism organizations to update Ontario Traffic Manual Book 18: Bicycle Facilities. Book 18 will serve as a primary reference document for engineers, planners and designers throughout Ontario. The Book contains information on legal requirements, standards, best practices, procedures, guidelines and recommendations for the justification, design, timing and operation of bicycle facilities and control measures.

The Ministry has also published its Transit-Supportive Land Use Planning Guidelines to share strategies, best practices, and case studies on building communities that support cycling and the integration of cycling with transit services with municipalities.

Research

The Ministry has led a comprehensive review of existing and planned cycling touring routes in the province, as well as consulting with key cycling and tourism stakeholders on the key elements of a potential province-wide cycle touring network. This research shows hundreds of on-and off-road routes across the province, most of which are maintained by municipalities. The Ministry will publish maps of existing cycling routes through the Ministry of Natural Resources Land Information Ontario online database.

The Ministry also undertook a Bicycle Survey for the Greater Golden Horseshoe to determine who is cycling, why and how useful the existing facilities are. The results will enhance the Ministry’s forecasting for cycling, enabling the Ministry to produce more accurate forecasts in support of cycling, safe roads, and infrastructure planning and investment. The Ministry will share this information with municipal partners.

\(^2\) Providing the purchasers of bicycles with cycling safety information would address recommendation 5 from the Coroner’s Report. See Appendix B for further details.
SECTION 2 – A CYCLING STRATEGY FOR ONTARIO’S MINISTRY OF TRANSPORTATION

The Ministry is taking a three-pronged approach to its cycling strategy in order to increase the number of people cycling in Ontario and improve the safety of all road users. Some of this work is ongoing or underway, but enshrining this approach into the Strategy ensures that it will be a part of the Ministry’s ongoing business.  

2.1 Enhancing Cycling Infrastructure in the Province

In Ontario, roads and highways are either owned by the provincial or the municipal/regional levels of government. Cyclists are allowed on all roads throughout the province, except those where cycling is expressly prohibited and where “no bicycling” signs have been erected (e.g. 400-series highways). In general, most utilitarian or daily cycling occurs on municipal roads, while long-range recreational cycling mostly takes place on provincial roads. Creating an environment for encouraging cycling is a shared responsibility between both provincial and municipal governments.

Cycling can be accommodated in many ways, including bike lanes, shoulder bikeways, off-road trails or paths, and through simple signage where traffic volume and speed is low enough.

Leading the Identification of a Province-Wide Cycling Network

The Ministry will identify a province-wide cycling route network to connect cycling destinations to create recreational cycling and tourism opportunities.

Using data collected on existing municipal or regional local cycling routes, the Ministry will identify how connections can be made between local cycling routes to form a province-wide cycling route network in order to maximize existing municipal investments. The Ministry will focus its cycling infrastructure investments on closing the gaps between existing cycling routes to create a provincial cycling network.  

When the Ministry plans infrastructure projects for future funding – either constructing new provincial highways or rehabilitating existing provincial highways – it will evaluate on a case-by-case basis whether the addition of a cycling component is warranted based on outlined criteria and whether it can be accommodated without substantially altering the scope of the project. Priority will be given to projects that:

- Could form part of a province-wide cycling network.
- Have no viable alternative route.

4 Developing the Cycling Strategy addresses recommendation 2 from the Coroner’s Report. See Appendix B for further details.

5 Leading the identification of a province-wide cycling network partially addresses recommendation 1 of the Coroner’s Report. “Complete-streets” is a planning approach applied to urban settings to guide the redevelopment of existing communities and the creation of new communities, therefore the recommendation was jointly directed at the Ministry of Transportation (MTO) and Ministry of Municipal Affairs and Housing (MMAH).

6 Examples of the ways that cycling can be accommodated include bike lanes in urban areas, shoulder bikeways in rural areas, off-road trails or paths, and, where traffic volume and speed is low enough, simple signage. Providing paved shoulders where appropriate could also improve the safety of all road users. While paving shoulders on provincial highways responds to recommendation 3 of the Coroner’s Report, the Highway Traffic Act currently restricts driving on paved shoulders. It is the Ministry’s intention to initiate consultation on legislative and/or regulatory changes regarding cycling on paved shoulders as part of its consultation on other legislative and/or regulatory changes.
- Would connect with other existing or planned cycling routes.
- Are consistent with local tourism goals.
- Connect population centres and/or places of interest.
- Allow access to services and accommodation.
- Have a demonstrated demand for cycling.
- Are, or can, reasonably be made safe.
- Have strong local support.
- Are cost effective.

When a municipality or stakeholder group requests the addition of a cycling component to a provincial highway construction project, the Ministry will consider partnership agreements with municipalities or other stakeholder groups for the additional costs, subject to available funding.

For the safety of all road users, the Ministry will prioritize the use of off-road trails or lower speed, low volume roads where possible, and will take steps to ensure that crossings of provincial highways are minimized when identifying the network.

When a provincial road project is within municipal boundaries, the Ministry’s regional offices will consult with municipalities during the design of provincial highway rehabilitation and/or new construction projects to discuss cycling and other road issues.

Supporting Municipalities in the Development of Local Cycling Networks

_The Ministry provides support for municipalities in developing and enhancing their cycling routes. The Ministry does not want its infrastructure to be a barrier to existing municipal routes._

**Assisting with Infrastructure Design**

Municipalities planning on developing municipal cycling networks work in partnership with the Ministry when that proposed route would cross or otherwise touch upon Ministry infrastructure. The Ministry works with municipalities to identify the most appropriate design to accommodate all road users safely in these situations.

In these circumstances, funding for the redesign and construction of cycling-related portion of the agreed-upon treatment will continue to be assessed on a project-by-project basis taking into account the impact of the redesign on overall project costs. Given the magnitude of the expenses entailed, where bridges or other structures need to be expanded to better accommodate cycling, incremental costs associated with the expansion will be the responsibility of the requesting municipality.

**Providing Guidance Documents**

The Ministry provides technical and guidance documents, including guidelines for designing cycling infrastructure, that can be used by municipalities.

**Access to Funding for Municipalities**

The Ministry recognizes that most cycling occurs on municipal infrastructure and encourages municipalities to ensure that their proposed cycling infrastructure investments are integrated into their asset management plans. Asset management is a cornerstone of the government’s Municipal Infrastructure Strategy and helps prioritize needs to ensure the right investments are made at the right time. In this
2.2 Enhancing Cycling Safety through Education and Legislation

The Ministry seeks to improve the safety of road users, including cyclists.

Travelling safely on roads and highways in Ontario is the shared responsibility of all road users, including cyclists. The Ministry recognizes it has an important role to play in improving road safety.

In Ontario, cyclists are officially recognized in the Highway Traffic Act as legitimate road users. This includes all cyclists – from young children to seniors, occasional users, to experienced commuters. Cyclists have similar rights and responsibilities to other vehicle operators.

Public Education for Cyclists and Drivers

The Ministry publishes guides for the public on cycling skills that are focused on safety.

The Ministry partners with, and provides funding to, local road safety organizations to provide educational activities that assist with the development and implementation of cycling safety initiatives across the province.\(^7\)

The Ministry updates its series of Driver Handbooks regularly to enhance the safety of all road users, including cyclists.\(^8\)

Legislation that Provides for the Safety of Cyclists

The Ministry regularly reviews and updates the Highway Traffic Act and other relevant Ministry legislation and policies to improve cycling safety.\(^9\)

In determining the need for updates to the Highway Traffic Act, regulations or policy, the Ministry will undertake its own research, review the approaches of other jurisdictions, listen to the comments and concerns of stakeholders, including the Coroner, and consider the recommendations of other government bodies. The overall objective of any amendments will be to improve the safety of Ontario’s cyclists and other road users.

---

\(^7\) Public education for drivers and cyclists, in collaboration with road safety organizations, addresses elements of recommendation 4 from the Coroner’s Report. See Appendix B for further details.

\(^8\) Updating the Driver Handbooks to enhance the safety of all road users, including cyclists, addresses recommendation 7. See Appendix B for further details.

\(^9\) Reviewing and updating the Highway Traffic Act to improve cycling safety addresses recommendation 8 from the Coroner’s Report. See Appendix B for further details.
2.3 Ensuring Relevancy through Monitoring, Researching and Coordinating

The Ministry will review the effectiveness of this Strategy on a timely basis to determine how it can be improved and updated.

Monitoring and Research

The Ministry will monitor the implementation of this Cycling Strategy, as well as the cycling policies of other leading jurisdictions to ensure that the Ministry follows best practices.

The Ministry will continue to gather and analyze data related to collisions involving cyclists and motor vehicles which in turn will help inform planning and policy decisions. Cycling related collision data will continue to be published each year in the Ontario Road Safety Annual Report.

The Ministry monitors and supports research aimed at improving knowledge related to cycling in Ontario. This may include activities that lead to improved cycling safety, provide a better understanding of the current cycling mode share and cycling usage across the province, or identify barriers to cycling in Ontario. This research will help determine additional actions that can be taken to reduce or eliminate barriers to cycling. It will also serve to identify opportunities and strategies to connect existing cycling routes together across the province.

The Ministry will encourage municipalities to collect cycling-related data within their jurisdiction and to share this data with interested parties, including the Ministry, in order to better understand the needs, patterns and barriers to cycling in the province.

Co-ordination

The Ministry will continue to coordinate cycling initiatives and share cycling information through regular meetings of the Ministry’s Active Transportation Working Group, which includes representatives from all relevant Ministry divisions, including those with responsibility for road user education and highway design standards.

In addition, the Ministry will continue to share cycling information and coordinate cycling-related activities across all relevant provincial ministries and provincial agencies through regular meetings of the Inter-Ministerial Active Transportation Working Group.

The Ministry will continue to liaise with cycling stakeholders and organizations across the province on both local issues and broader Ministry activities as they relate to cycling as a mode of transportation.
Glossary

Below are definitions of terms as used in the draft Cycling Strategy.

Highway or Road – The term “highway” is interchangeable with the term “road.” A highway consists of the roadway itself and any adjacent land that lies between the lateral property lines.

Provincial Highway – A highway under the jurisdiction and control of the Ministry of Transportation. There are approximately 16,500 km of provincial highway in Ontario. Cycling is prohibited on about 2,000 kilometres of this network, mostly on controlled access (e.g. 400 series) highways. In addition to these, Ontario municipalities control a separate, much larger network of roads.

Municipal Highway – A highway under the jurisdiction and control of a municipality.

Roadway – The part of a highway that is improved, designed or ordinarily used for vehicular traffic, but does not include the shoulder.

Shoulder – The portion of a highway that provides lateral support to the roadway and that may accommodate stopped motor vehicles and emergency use.

Infrastructure – Examples of the ways that cycling can be accommodated include bike lanes in urban areas, shoulder bikeways in rural areas, off-road trails or paths, and, where traffic volume and speed is low enough, simple signage. Providing paved shoulders where appropriate could also improve the safety of all road users. While paving shoulders on provincial highways responds to recommendation 3 of the Coroner’s Report, the Highway Traffic Act currently restricts driving on paved shoulders. It is the Ministry’s intention to initiate consultation on legislative and/or regulatory changes regarding cycling on paved shoulders as part of its consultation on other legislative and/or regulatory changes.
Appendix A – Types of Bikes in Ontario

Bicycles

Can be operated on roads in Ontario, except those that are expressly prohibited and "no bicycling" signs have been erected (such as 400 series highways).

Under the Highway Traffic Act (HTA), the definition of bicycle includes tricycles, unicycles and power-assisted bicycles, but not motor-assisted bicycles. You do not need a driver’s licence to operate a bicycle in Ontario.

Traditionally, a bicycle is a vehicle that:

- Has steering handlebars and is equipped with pedals;
- Is designed to be propelled by muscular power;
- Has no age restriction for operators;
- Can be operated on most roadways (e.g., not allowed to travel on 400 series highways);
- Cannot be operated across a roadway within a pedestrian cross-over.

An operator must wear a bicycle helmet if under 18 and operating the bicycle on the road. If the operator is under 16 it is the duty of the operator's parent or guardian to ensure that he/she wears a helmet. If the person is 16 or 17 it is his/her personal responsibility to wear a helmet. No passengers are allowed if the bicycle is only meant for one person. When going slower than the rest of traffic, cyclists should stay as close to the right edge of the road as is practicable. Cyclists are allowed to safely use the full lane if staying close to the right edge of the road is unsafe.

Electric Bicycles ("e-bikes")

Can be operated on roads in Ontario except those that are expressly prohibited and "no bicycling" signs have been erected (e.g. 400 series highways).

Are considered a "bicycle" for the purposes of the HTA, but are defined as "power-assisted bicycles" under the HTA.

The HTA defines a power-assisted bicycle as:

- Having affixed to it pedals that are operable;
- Capable of being propelled solely by muscular power; and
- Meeting the federal definition of a power-assisted bicycle (for the full definition, please see subsection 2(1) of the Motor Vehicle Safety Regulations under the Motor Vehicle Safety Act), which includes:
  - Has steering handlebars and is equipped with pedals;
  - Is designed to travel on not more than three wheels;
  - Has an electric motor that has a power output rating of 500W or less. (Note: the motor is electric, and is incapable of propelling the cycle at speed of 32 km/h or greater on level ground, without pedaling); and
  - Bears a permanently affixed label by the manufacturer stating in both official languages that the vehicle conforms to the federal definition of a power-assisted bicycle.

Since October 3, 2009, e-bikes (both those resembling conventional bicycles and those resembling motor scooters) have been allowed on roads and highways where conventional bicycles are
currently permitted. They must follow the same rules of the road as set out in the HTA that currently apply to cyclists, with some exceptions.

In order to operate an e-bike:

- Operators must be 16 years of age or older; and
- All operators must wear an approved bicycle or motorcycle helmet at all times.

In addition:

- No person who is the owner or is in possession or control of an e-bike shall permit a person who is under the age of 16 years to ride on, drive or operate the e-bike on a highway.
- An e-bike must not be ridden on, driven or operated unless it is in good working order.
- Similar to bicycles and mopeds, power-assisted bicycles are prohibited from use on certain provincial controlled-access highways.
- Any municipal by-law prohibiting bicycles from highways under their jurisdiction also apply to e-bikes. Municipalities may also pass by-laws specific to e-bikes that prohibit them from municipal roads, sidewalks, bike paths, bike trails and bike lanes under their jurisdiction.

To operate an e-bike on Ontario roads, an e-bike must meet the following equipment requirements:

- Have a maximum unladen weight of 120 kg (includes the weight of vehicle and battery).
- Must be equipped with at least two independent braking systems that applies force to each wheel and is capable of bringing the e-bike, while being operated at a speed of 30 km/h, to a full stop within 9 metres from the point at which the brakes were applied.
- Must have wheels with a minimum diameter and width of 350 mm and 35 mm, respectively.
- Must have all electrical terminals completely insulated or covered and, along with the battery and motor, must be securely fastened to the bicycle to prevent them from moving while the bicycle is in motion.
- No modifications to the motor of an e-bike to permit it to exceed the federal requirements for motor output or speed for an e-bike (500W and a speed greater than 32 km/h) are allowed.

**Motor-Assisted Bicycles (Mopeds)**

Like limited-speed motorcycles, mopeds can be operated on roads in Ontario.

A restricted Class M licence for limited-speed motorcycle (LSM) and moped drivers was introduced on November 28, 2005. This restricted Class M licence has a condition that allows licence holders to drive limited-speed motorcycles and mopeds only. New moped drivers will be required to take road tests.

A motor-assisted bicycle is a bicycle that:

- Is fitted with pedals that are operable at all times to propel the bicycle;
- Weighs not more than 55 kg;
- Has no hand or foot operated clutch or gearbox driven by the motor and transferring power to the driven wheel;
- Has a piston displacement of not more than 50 cubic centimetres; and
- Does not attain a speed greater than 50 km/h on level ground within a distance of two km from a standing start.
To operate these vehicles on the roadway:

- The driver must hold the new restricted class M licence for limited-speed motorcycles/mopeds (Class M2 with L restriction or M with L restriction or a valid motorcycle licence (Class M1, M2 or M);
- Approved motorcycle helmet is required;
- The vehicle must be insured and registered and have a valid licence plate;
- No passengers are allowed;
- They must meet federal safety standards for a limited speed motorcycle; and
- Motor-assisted bicycles are not allowed to travel on 400 series highways.
Appendix B – Recommendations from the Chief Coroner of Ontario’s “Cycling Death Review” Directed at the Ministry of Transportation\textsuperscript{10}

Recommendations on Infrastructure

1. To the Ministry of Transportation and the Ministry of Municipal Affairs and Housing

A “complete streets” approach should be adopted to guide the redevelopment of existing communities and the creation of new communities throughout Ontario. Such an approach would require that any (re-)development give consideration to enhancing safety for all road users, and should include:

- Creation of cycling networks (incorporating strategies such as connected cycling lanes, separated bike lanes, bike paths and other models appropriate to the community.)
- Designation of community safety zones in residential areas, with reduced posted maximum speeds and increased fines for speeding.

2. To the Ministry of Transportation and the Ministry of Municipal Affairs and Housing

An Ontario Cycling Plan should be developed, building upon the 1992 Provincial Bicycle Policy. This Plan would establish a vision for cycling in Ontario, and would guide the development of policy, legislation and regulations and commitment of necessary infrastructure funding pertaining to cycling in Ontario. This plan should be publicly available.

3. To the Ministry of Transportation

The Ministry of Transportation should identify the development of paved shoulders on provincial highways as a high priority initiative.

Recommendations on Education

4. To the Ministry of Transportation

A comprehensive public education program should be developed to promote safer sharing of the road by all users. This initiative should be facilitated by the Ministry of Transportation, in collaboration with key stakeholder groups, including but not limited to, the Canadian Automobile Association, Share the Road Cycling Coalition, local cycling organizations and the Ontario Association of Chiefs of Police. Such a program should include:

- A targeted public awareness campaign, in the spring/summer months, with key messages around cycling safety. This could include changes arising from other recommendations from this Review (such as changes to the Highway Traffic Act).
- Education targeted at professional truck drivers regarding awareness and avoidance of cycling dangers.
- Education / regulation directed towards Beginning Driver Education (BDE) courses and driving instructors to include sharing the road and bicycle safety. This should be introduced in both classroom curricula and on-road training.
- Public safety campaigns around the dangers of distracted and impaired cycling (headphone use; carrying unsafe loads; cycling while under the influence of drugs or alcohol).

\textsuperscript{10} Note: the numbers of the recommendations correspond to the Coroner’s Report. Not all of the Coroner’s recommendations are listed here since a number of them were not directed at the Ministry of Transportation (MTO).
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: L07-40

SUBJECT: SURPLUS DECLARATION AND TRANSFER – LAND ON THE SOUTH SIDE OF LOUISA STREET, WEST OF WEBER STREET, KITCHENER

RECOMMENDATION:

THAT the Regional Municipality of Waterloo:

(a) Declare surplus the lands shown and described as Part Lot 320, Plan 376, Parts 1 and 4, Reference Plan 58R-17636, City of Kitchener, Regional Municipality of Waterloo, and provide the standard public notification as required by the Region’s property disposition by-law; and

(b) Approve a transfer of the property to the abutting property owners at 183 Louisa Street, Kitchener, Ontario

SUMMARY: Nil.

REPORT:

The subject lands are part of a larger land acquisition by the Region for the Weber Street widening and grade separation. Parts 1 and 4 (Total Area: 52.16 square meters) are surplus to the requirements of the Weber Street project and are of such a shape and location that they are only of value to the abutting property owner. The Region proposes to transfer ownership of these lands to the abutting property owners at 183 Louisa Street in exchange for temporary access by the Region to the property owners’ lands designated as Part 6 for construction, a change to the land elevation on the frontage of their property made necessary as a result of the final road elevation being lower than their driveway entrance and for the disruption to their business and property during construction.

A surplus circulation has been undertaken for this subject property to Regional departments, utilities and the City of Kitchener. There were no expressions of interest or concern with the disposal as a result of the circulation.

CORPORATE STRATEGIC PLAN:

The recommendation does not directly fall under one or more of the objectives of the five focus areas, however it does support the Region’s Vision, Mission and Values that it provides good citizen service.
FINANCIAL IMPLICATIONS:

There are no financial costs, savings, or sale proceeds from the disposal of this property.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Transportation and Environmental Services, Finance and Design and Construction have been contacted and they concur with the disposition of this property.

ATTACHMENTS

Appendix “A”: Reference Plan 58R-17636
Appendix “B”: Sketch of Proposed Works.

PREPARED BY: Brian Timm, Property Agent

APPROVED BY: Gary Sosnoski, Commissioner, Corporate Resources
Appendix “B”
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: T04-20, 5384

SUBJECT: CONSULTANT SELECTION 2013-07 – PRELIMINARY DESIGN, DETAILED DESIGN AND CONTRACT ADMINISTRATION SERVICES, KING STREET FROM BISHOP STREET TO EAGLE STREET, CITY OF CAMBRIDGE

RECOMMENDATION:

THAT the Regional Municipality of Waterloo enter into a Consultant Services Agreement with IBI Group of Waterloo, Ontario to provide consulting engineering services for preliminary design, detailed design, contract administration and construction inspection for King Street from Bishop Street to Eagle Street in the City of Cambridge at an upset fee limit of $324,187.42 plus applicable taxes for the preliminary and detailed design phases with contract administration and construction inspection services to be paid on a time basis as described in Report E-13-058 dated May 28, 2013.

SUMMARY:

The Region of Waterloo wishes to proceed with the reconstruction of King Street from Bishop Street to Eagle Street in the City of Cambridge in 2017. In order to meet this timeline, an engineering consultant must be hired now to undertake the preliminary and detailed design and construction administration. Staff has determined that it is necessary to commence the engineering for this project now in order to provide sufficient time to complete the preliminary and detailed design and obtain all necessary approvals in advance of construction.

An invitation for Letters-of-Interest to provide engineering services was advertised in the Waterloo Region Record. Ten (10) firms submitted proposals and four (4) firms were short-listed and invited to submit detailed work plans and fee estimates.

Based on the evaluation criteria, review of the detailed work plans, schedules and upset fees provided, the Evaluation Team recommends that IBI Group be retained to undertake this consultant assignment at an upset fee limit of $324,187.42 plus applicable taxes for the preliminary and detailed design phases with contract administration and construction inspection to be paid on a time basis.

IBI Group's fees of $324,187.42 plus applicable taxes for the preliminary and detailed design phases are within the consulting fee allowance provided for in the total project budget of $5,020,000.
REPORT:

1. Background

King Street from Bishop Street to Eagle Street is identified in the Region’s approved 2013 Ten-Year Transportation Capital Program for reconstruction in 2017 to address the deteriorated pavement condition and to replace the sanitary sewer and watermain on behalf of the City of Cambridge (please refer to Appendix ‘A’ for a key plan of the project area). This section of King Street is not identified in the Region’s 2004 Cycling Master Plan as a candidate for on-road cycling lanes; however, it is identified in the Region’s Draft Active Transportation Master Plan as being planned for long-term on-road cycling facilities. Accordingly, the planning of these road improvements will include consideration of on-road cycling lanes on this section of King Street as part of the roadway reconstruction. Other elements that will be considered during the planning phase of this project include minor traffic operational improvements within the King Street corridor, modernization of traffic control signals, enhanced pedestrian facilities, transit facility improvements, and streetscape improvements. This project is considered pre-approved in accordance with the Schedule “A+” requirements of the Municipal Class Environmental Assessment.

The Region’s approved 2013 Ten Year Transportation Capital Program includes funding in the amount of $5,020,000 in 2013-2018 inclusive for the preliminary design, detailed design and construction of this project. Regional staff is fully committed to other capital projects and therefore staff recommends that an external consultant be hired to complete this project. Staff has determined that it is necessary to commence the engineering for this project now in order to provide sufficient time to complete the preliminary and detailed design, obtain any property necessary, undertake utility relocations and obtain required approvals in advance of construction in 2017.

2. Consultant Selection

An invitation for Letters-of-Interest to provide engineering services for this project was advertised in the Waterloo Region Record. Ten (10) consultants submitted a Letter-of-Interest. From a review of the submissions, four (4) firms were short-listed based on their qualifications and these consultants were asked to submit a detailed work plan and upset fee for the preliminary and detailed design phases. The short-listed consultants were also requested to submit an estimate of fees for contract administration and construction inspection services.

The four short-listed consultants were:

- CIMA Canada Inc.;
- IBI Group;
- MTE Consultants Inc.; and,
- Stantec Consulting Ltd.

The Evaluation Team involved with the consultant selection consisted of:

Dave Brown, Project Manager, Design and Construction Division
Dave Weiler, Head, Transportation Capital Projects, Design and Construction Division
Egerton Heath, Supervisor, Traffic Systems Management, Transportation Engineering Division
Geoff Keyworth, Senior Transportation Planning Engineer, Transportation Planning Division of the Planning, Housing and Community Services Department
The evaluation criteria used for selecting the successful consultant were consistent with the Region’s Purchasing Bylaw which includes price as a factor in the selection process. These evaluation criteria and their respective weightings were as follows:

**Quality Factors**
- Project Approach and Understanding: 35%
- Experience of the Project Manager: 20%
- Experience of the Project Support Staff: 10%
- Experience on Similar Projects: 15%

**Equity Factors**
- Current Workload for Region: 3%
- Local Office: 2%

**Price Factor**
- Upset Limit Fee: 15%

The Letters-of-Interest submitted by all four short-listed consultants demonstrated a good understanding of the project with capable project teams and experience on numerous similar projects. When considering the combination of quality, equity and price factors described above, IBI Group scored the highest of the four short-listed consultants. IBI Group’s upset fee of $324,187.42 plus applicable taxes for the preliminary and detailed design phases was 3.7% below the mean of the four submitted prices.

Based on the above evaluation criteria, including review of the detailed work plans, schedules and upset fees provided, the Evaluation Team recommends that IBI Group be retained to undertake the preliminary and detailed design, contract administration and construction inspection of this project.

3. **Scope of Work**

For this engineering assignment, the consultant will complete the following tasks: review all background information, complete a full topographic survey, conduct additional technical studies as required; conduct a public consultation program; develop and present design alternatives at Public Consultation Centres; complete final design of the road improvements; prepare contract drawings, specifications and tender documents; develop traffic staging plans; obtain all necessary agency approvals; assist during the tendering period; provide contract administration and site inspection services during construction; prepare record drawings; and provide post-construction services during the warranty period. A breakdown of the successful consultant’s upset fee is included in Appendix ‘B’ attached to this report.

4. **Schedule**

Subject to Council’s approval of this consultant assignment, the proposed project schedule is outlined below. This preliminary schedule is dependent upon the extent and timing of any property acquisitions necessary to implement the proposed improvements.

- Data Collection and Background Studies: June 2013 – August 2013
- Preliminary Design and Public Consultation Centre(s): August 2013 – May 2014
- Detailed Design and Approvals: June 2014 – December 2014
- Property Acquisition (if required): October 2014 – April 2016
5. **Consultant’s Upset Fee**

The short-listed consultants were each requested to submit an upset fee for consulting engineering services to complete the preliminary and detailed design, and were also requested to submit an estimate for contract administration and construction inspection fees. For road and bridge projects, the time required for contract administration and construction inspection can vary significantly depending on weather conditions, the actual contractor hired for construction and other unknown variables. Because an upset fee does not lend itself well to these types of services, it has been the Region’s practice for road and bridge projects to pay for contract administration and construction inspection fees on a time basis. It is recommended that this same practice be followed for this project. For budgetary purposes, staff has estimated the cost of contract administration and construction inspection services to be $205,662.00 plus applicable taxes, which is based on the preliminary estimate of fees submitted by IBI Group and a review of costs on similar projects. The upset limit for IBI Group to undertake the preliminary and detailed design phases for this assignment is $324,187.42 plus applicable taxes for consultant fees and disbursements.

The Region’s total budget for the King Street Improvements from Bishop Street to Eagle Street is $5,020,000. Based on this total value of $5,020,000, the consultant’s upset fee limit for the preliminary and detailed design services of $324,187.42 plus applicable taxes represents approximately 6.5% of the estimated total cost for this project which is in the normal fee range for a project of this type and complexity.

**CORPORATE STRATEGIC PLAN:**

The King Street Improvements from Bishop Street to Eagle Street, when complete, will support Focus Area 2 – Growth Management and Prosperity and meets strategic objective number 2.2 to develop, optimize and maintain infrastructure to meet current and projected needs.

**FINANCIAL IMPLICATIONS:**

Based on the upset fee schedule received from IBI Group, the total costs for the preliminary and detailed design phases are as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upset Consulting Fee</td>
<td>$324,187.42</td>
</tr>
<tr>
<td>HST (13%)</td>
<td>$42,144.36</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>$366,331.78</td>
</tr>
<tr>
<td>Less Municipal HST Rebate</td>
<td>($36,438.01)</td>
</tr>
<tr>
<td>Net Cost of Consulting Assignment</td>
<td>$329,893.77</td>
</tr>
</tbody>
</table>

The Region’s approved 2013 Ten-Year Transportation Capital Program includes $5,020,000 in 2013-2018 inclusive for this project to be funded from the Roads Rehabilitation Reserve Fund.

IBI Group’s fees for the preliminary and detailed design of this consulting assignment in the amount of $324,187.42 plus applicable taxes are within the consulting fee allowance provided for in the total budget of $5,020,000 for this project.

**OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:**

NIL
ATTACHMENTS:

Appendix A: Project Key Plan
Appendix B: Breakdown of Consultant’s Upset Fee Estimate

PREPARED BY: Dave Brown, Project Manager, Design and Construction

APPROVED BY: Thomas Schmidt, Commissioner, Transportation and Environmental Services
APPENDIX A

KING STREET
(REGIONAL ROAD 8)
EAGLE STREET TO BISHOP STREET
CITY OF CAMBRIDGE
APPENDIX B

BREAKDOWN OF IBI GROUP’S UPSET FEE LIMIT FOR PRELIMINARY AND DETAILED DESIGN, KING STREET FROM BISHOP STREET TO EAGLE STREET, CITY OF CAMBRIDGE

<table>
<thead>
<tr>
<th>UPSET FEE FOR PRELIMINARY AND DETAILED DESIGN BASED ON DETAILED TERMS OF REFERENCE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Preliminary Design</td>
<td>$159,882.90</td>
</tr>
<tr>
<td>2 Detailed Design</td>
<td>$98,794.62</td>
</tr>
<tr>
<td>3 Preparation of Drawings, Contract Documents &amp; Specifications</td>
<td>$31,323.00</td>
</tr>
<tr>
<td>4 Project Management</td>
<td>$20,386.90</td>
</tr>
<tr>
<td>5 Disbursements</td>
<td>$13,800.00</td>
</tr>
<tr>
<td><strong>TOTAL UPSET FEE LIMIT (excluding HST)</strong></td>
<td><strong>$324,187.42</strong></td>
</tr>
</tbody>
</table>
RECOMMENDATION:

THAT the Regional Municipality of Waterloo pass a by-law to amend Road Consolidation By-law 01-059 (Regional Road System) to assume Part of Lane, established by Registered Plan 376 abutting Lots 71 to 81, Registered Plan 376, in the City of Kitchener (described as Parts 11, 12 & 13 on Reference Plan to be deposited as attached to report CR-RS-13-049/E-13-075, with registration particulars to be included in the by-law) (Part of PIN 22319-0189) from the City of Kitchener and add to the Regional Road System to form part of Weber Street West (Regional Road No. 8), effective upon passing of the by-law.

REPORT:

As part of the construction of the improvements to Weber Street West the roadway is to be widened to the west of the existing Weber Street in the vicinity of the subject Lane. Further, the Region will be constructing a temporary detour road to the west of the existing Weber Street to divert traffic during construction of the railway grade separation that will cross the Lane.

In order to complete the temporary detour road and the permanent road widening it is necessary for part of the City of Kitchener Lane to be assumed as part of Weber Street West and the Regional Road System. Following completion of Phase 1 of the road improvements and decommissioning of the temporary detour road part of the assumed Lane that is no longer required for the permanent Weber Street West road allowance will be recommended for removal from the Regional Road System to then revert to the Corporation of the City of Kitchener.

With the completion of the grade separation the City of Kitchener Lane will no longer connect to Weber Street. As part of the approved project a “hammerhead” turnaround will be constructed on lands acquired by the Region abutting the new terminus of the Lane that will permit vehicles, such as City of Kitchener Operations vehicles, to turn around to exit the lane. This hammerhead is to be dedicated to the City of Kitchener as part of the Lane at the end of the project following satisfactory completion of the Region’s surplus real property procedures.

That part of the Lane to be assumed as part of Weber Street West is shown on the sketch attached as Appendix “A”.

1
Council for the City of Kitchener has given their support in principle to the assumption of part of the Lane by the Region for the purposes of the Weber Street railway grade separation and road widening.

CORPORATE STRATEGIC PLAN:

The Weber Street railway grade separation and road widening project supports the focus area of Sustainable Transportation in the development of great, more sustainable and safe transportation choices.

FINANCIAL IMPLICATIONS:

Transportation and Environmental Services staff advises that the Approved 2013 Ten Year Transportation Capital Program contains funding in the amount of $39,655,000 during the years 2013 to 2015 for the Weber Street railway grade separation and road widening project to be funded from the Development Charge and Roads Capital Levy reserve funds. There is sufficient allowance in the Program for the construction of the proposed works outlined in this report.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Corporate Resources staff will be involved in the preparation of the by-law amendments and planning staff will undertake any amendments required to the Regional Official Policies Plan.

The Design and Construction Division was consulted in the preparation of this report.

ATTACHMENTS

Sketch of Subject Lane to be Assumed – Appendix “A”
Draft Reference Plan to be Deposited- Appendix “B”

PREPARED BY: Fiona M. McCrea, Solicitor, Property
               Andrea Buckley, Senior Project Manager, Transportation Infrastructure

APPROVED BY: Gary Sosnoski, Commissioner of Corporate Resources
              Thomas Schmidt, Commissioner, Transportation & Environmental Services
Appendix “A”

Part of Lane to be Assumed
TO: Chair Jim Wideman and Members of the Planning and Works Committee  
DATE: May 28, 2013  
FILE CODE: C13-30/T&P, T01-20/6  
SUBJECT: PROPOSED 15 MINUTE LOADING ZONE ON FREDERICK STREET (REGIONAL ROAD 6) BETWEEN DUKE STREET AND WEBER STREET (REGIONAL ROAD 8), CITY OF KITCHENER

RECOMMENDATION:

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

a) Remove from Schedule 1, No Parking Anytime, South Side of Frederick Street (Regional Road 6) from King Street to 17 metres East of Duke Street;

b) Remove from Schedule 1, No Parking Anytime except 7:00 a.m. to 1:00 p.m. on Sundays on the South Side of Frederick Street (Regional Road 6) from 17 metres East of Duke Street to 17.5 metres West of Weber Street (Regional Road 8);

c) Remove from Schedule 1, No Parking Anytime, South Side of Frederick Street (Regional Road 6) from 17.5 metres West of Weber Street (Regional Road 8) to Bruce Street (Regional Road 61);

d) Add to Schedule 1, No Parking Anytime, South Side of Frederick Street (Regional Road 6) from King Street to Bruce Street Street;

e) Add to Schedule 5, Loading Zones, 15 Minute Limit on the South Side of Frederick Street (Regional Road 6) from 13 metres East of Duke Street to 49 metres east of Duke Street.


SUMMARY:

NIL

REPORT:

The lands abutting Frederick Street, Weber Street, Scott Street and Duke Street were approved for the development of the Waterloo Region Consolidated Courthouse (WRCC). As part of the development, approval was granted to allow for the installation of a loading zone on Frederick Street between Duke Street and Weber Street. The loading zone was incorporated into the design for the purpose of providing a limited drop-off area, handicap drop-off and emergency access to the building. Through consultation with the proponent and City of Kitchener staff it was agreed that time restrictions on parking would be imposed within the loading zone.
Based on the final design of the frontage, existing conditions and to accommodate a time limited restriction to parking within the loading zone, the limited on-street Sunday parking on the south side of Frederick Street must be removed. The remaining curb section on the south side of Frederick Street between Weber Street and Duke Street has little available space to accommodate on-street parking. The distance between Weber Street and Duke Street is approximately 104 metres. The south side of Frederick Street consists of a private driveway, the new loading zone a bus stop and a fire hydrant.

In 2010, on-street parking on the south side of Frederick Street between Duke Street and Weber Street on Sundays from 7:00 a.m. to 1:00 p.m. in front of Trinity church was implemented at the request of the Trinity church (see report E-10-044 attached as Appendix “A”). It should be noted that this report indicated that the proposed on-street parking is subject to change because a loading zone is planned to be constructed as part of the court house site plan approval. Figure 1 shows the current parking restrictions and Figure 2 shows the proposed No Parking Anytime restriction and the proposed 15-minute Loading Zone on the south side of Frederick Street.

**Figure 1- Current Parking on Frederick Street between Duke Street and Weber Street**
Figure 2- Proposed 15 Minute Loading Zone and Parking on Frederick Street Between Duke Street and Weber Street

Adjacent business/property owners have been notified of the proposed changes to on-street parking and advised of when this issue will be dealt with by the Region’s Planning and Works Committee. Staff further followed-up with and received a response from the Trinity Board Co-chair of the Trinity United Church indicating the Church understood the proposed parking changes and did not oppose the Region’s proposal to remove the Sunday only on-street parking on the south side of Frederick Street between Weber Street and Duke Street. A copy of the letter is attached as Appendix B.

City of Kitchener staff supports the proposed changes.

CORPORATE STRATEGIC PLAN:

This report addresses the Region’s goal to optimize existing road capacity to safely manage traffic throughout Waterloo Region (Strategic Objective 3.3).

FINANCIAL IMPLICATIONS:

The cost to implement the on-street parking is approximately $1000 and will be provided for by the developer of the Waterloo Region Consolidated Courthouse.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

The Council and Administrative Services Division will be required to prepare the amending by-law.
ATTACHMENTS:

Appendix A – Report: E-10-044, On Street Parking On Frederick Street (Regional Road 6) Opposite Trinity church, City of Kitchener

Appendix B – Trinity United Church Letter

PREPARED BY: Mike Jones, C.E.T. Supervisor, Traffic Engineering

APPROVED BY: Thomas Schmidt, Commissioner, Transportation and Environmental Services
REGION OF WATERLOO
TRANSPORTATION AND ENVIRONMENTAL SERVICES
Transportation

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

DATE: April 27, 2010

FILE CODE: T01-20/6

SUBJECT: ON-STREET PARKING ON FREDERICK STREET (REGIONAL ROAD 6) OPPOSITE TRINITY CHURCH, CITY OF KITCHENER

RECOMMENDATION:

THAT the Regional Municipality of Waterloo amend Traffic and Parking By-law 06-072, as amended, to:

a) Remove from Schedule 1 No Parking Anytime on the South side of Frederick Street (Regional Road 6) from King Street to Bruce Street (Regional Road 61);

b) Add to Schedule 1 No Parking Anytime on the South side of Frederick Street (Regional Road 6) from King Street to 17 metres East of Duke Street;

c) Add to Schedule 1 No Parking Anytime on the South side of Frederick Street from 17.5 metres West of Weber Street (Regional Road 8) to Bruce Street (Regional Road 61); and

d) Add to Schedule 1 No Parking Anytime except 7:00 a.m. to 1:00 p.m. on Sunday on the South Side of Frederick Street (Regional Road 6) from 17 metres East of Duke Street to 17.5 metres West of Weber Street (Regional Road 8);

in the City of Kitchener, as outlined in Report E-10-044, dated April 27, 2010.

SUMMARY:

NIL

REPORT:

Trinity United Church, located at 74 Frederick Street is seeking on-street parking on the south side of Frederick Street between Duke Street and Weber Street on Sundays from 7:00 a.m. to 1:00 p.m. in front of the church. The church lost overflow parking availability due to the proposed relocation of the Provincial Courthouse. On-street parking is already permitted on the north side of Frederick Street at that location.

As a result, Transportation Division staff completed a review of traffic and roadway conditions at that location.

Existing Conditions

Frederick Street is an east / west four-lane cross-section with sidewalks on both sides of the road. Traffic counts conducted on a Sunday in December at the intersections of Frederick Street / Weber Street and Frederick Street / Duke Street shows that the peak hour (12:00 p.m. to 1:00 p.m.) eastbound link volume on Frederick Street between Weber Street and Duke Street is 241 vehicles
per hour. This indicates that restricting the eastbound direction to one lane from 7:00 a.m. to 1:00 p.m. on Sunday will not have adverse effects on the road operations.

The available space on this section of Frederick Street is approximately 67 metres, which will allow space for 9 vehicles to park. Figure 1 illustrates the section of Frederick Street from Duke Street to Weber Street.

Figure 1 – Frederick Street

The proposed on-street parking is subject to change when construction of proposed Court House begins because the court house construction activities will encroach on the roadway, and a parking bay is planned to be constructed as part of the court house site plan approval.

At this time, Region staff is unable to identify a construction start date.

City of Kitchener staff support on-street parking on the south side of Frederick Street on Sundays from 7:00 a.m. to 1:00 p.m.

CORPORATE STRATEGIC PLAN:

This report addresses the Region’s goal to optimize the use of existing infrastructure (Strategic Objective 5.1).
April 27, 2010

FINANCIAL IMPLICATIONS:
The cost to implement the on-street parking is approximately $500 and is provided for in the sign maintenance budget.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:
The Council and Administrative Services Division will be required to prepare the amending by-law.

ATTACHMENTS:
NIL

PREPARED BY: Ashfaq Rauf, Engineering Technologist (Traffic)

APPROVED BY: Thomas Schmidt, Commissioner of Transportation and Environmental Services
April 10, 2013

Mike Jones
Region of Waterloo
Re: file # To1-20/06 Frederick Street

Dear Mr. Jones;

Thank-you for taking the time to discuss this with me on April 2, 2013.

We now understand that there will be no street parking on the court house side of Frederick Street at any time due to the need for emergency vehicle access. This side will however be available for 15 minute loading, 7 days a week.

On the Trinity side of Frederick Street there will be no parking Monday through Saturday, but the Transportation Division has approved parking on this south side on Sundays during the hours of 7AM and 1PM. I expect the region will advise us on when signs will be posted and the parking allowance will become effective.

Regards,

[Signature]

Dave Rutherford,
Trinity Board Co-chair

Trinity United Church
74 Frederick Street, Kitchener, ON N2H 2L7
519-745-3578 office@tuckitchener.org
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: T14-01

SUBJECT: INFORMATION CONCERNING TRAFFIC SIGNAL TIMING AND PEDESTRIAN LAWS

RECOMMENDATION:

For information

SUMMARY:

NIL

REPORT:

At its meeting on March 19, 2013, Planning and Works Committee members requested that staff provide information to committee members regarding the Region’s pedestrian traffic signal timing practices as well as pedestrian laws at traffic signals and midblock locations in the Province of Ontario.

Region of Waterloo Pedestrian Signal Timing Practice

Regional staff recognize that it is important to provide adequate pedestrian crossing time at traffic control signals to ensure that the pedestrians have sufficient time to safely cross the road while at the same time balancing the needs of other users at the intersection including cyclists and various vehicles. It is important to note that the pedestrian crossing time at traffic signals is a sum of the total “solid walk, flashing don’t walk and solid don’t walk” times at a pedestrian crossing. The details of how these times are calculated are provided below in this report.

In general a “Walk” time of 7.0 seconds is provided to pedestrians when crossing the “major road” at a traffic signal. The “Walk” time is equal to the time a “Walking Person” symbol is displayed to pedestrians. The actual time provided to cross the “minor” road is generally longer than 7.0 seconds and is explained in more detail further on. When crossing a “major” road, the pedestrian is typically required to push a pedestrian crossing button to be serviced. This is preferred in many locations that have low pedestrian crossing activity because the time required to adequately service a pedestrian crossing a “major” road often exceeds the green time demand to service motorists. Continuously serving pedestrians to cross a “major” road when they may not be present would result in many complaints regarding inefficient signal timing. A “Walk” time of 5.0 seconds is considered an acceptable minimum time based on the Ontario Traffic Manual (OTM) Book 12, Traffic Signals. Additional pedestrian “Walk” time may be required dependent upon operational objectives and observations. Additional considerations that may indicate the need for additional timing would include:
• The presence of school-aged children, elderly pedestrians, and pedestrians with disabilities or special needs;
• A volume of pedestrians that impacts the time to clear the curb at the start of the crossing; or
• A volume of pedestrians that justifies additional pedestrian capacity.

Minimum pedestrian walk speeds are commonly found to be between 1.0 m/s and 1.25 m/s based on the OTM Book 12. However, these speeds may be assessed through site-specific observations because these values may differ significantly from place-to-place. In particular, slower walk speeds (1.0 m/s) are generally found at intersections where there are high pedestrian volumes, significant numbers of seniors, and/or significant numbers of school children. In general, a walk speed of 1.25 m/s is used and is an acceptable practice in Ontario based on the OTM Book 12.

The pedestrian crossing distance is defined as a straight-line, curb-to-curb distance as measured down the centre of the crosswalk. It is important to have an accurate measurement of the pedestrian crossing distance and for this reason it is measured and confirmed in the field by staff. The pedestrian “Flashing Don’t Walk” time is a function of the longest pedestrian crossing distance and pedestrian walk speed. The “Flashing Don’t Walk” time is defined as the time required for a pedestrian leaving the curb to reach the intended safe refuge prior to coming into contact with the opposing traffic. To accomplish this, the sum of the “Flashing Don’t Walk” time and the vehicle clearance interval (Amber & All Red, during which a “Solid Don’t Walk” is displayed) must equal the total time required to comfortably walk this distance. For example if a crosswalk is measured to be 20m, the “Flashing Don’t Walk” time would be calculated as follows:

Flash Don’t Walk = (20 m / 1.25 m/s) – (4s amber + 2s All-red) = 10 seconds.

Pedestrian “Walk” and “Flashing Don’t Walk” times however are calculated slightly different depending on whether it is being calculated to cross the “major” or “minor” road at an intersection. The following example is provided to illustrate the differences in timing provided to pedestrians. Assuming an intersection operates on a fixed 70 second cycle length and all crosswalks are 20m in length, the following procedure would generally be used to calculate pedestrian times.

The pedestrian timing to cross the “major” road would be calculated as described above and typically requires the pedestrian to push a pedestrian crossing button to be serviced.

• Solid Walk = 7 seconds
• Flashing Don’t Walk = 10 seconds
• Solid Don’t Walk = 6 seconds
• Total Crossing Time = 23 seconds

The “minimum” pedestrian timing to cross the “minor” road is calculated in the following manner and typically does not require a pedestrian to push a pedestrian crossing button, thus being serviced every time main street green is serviced.

• Solid Walk = 7 seconds
• Flashing Don’t Walk = 10 seconds
• Solid Don’t Walk = 6 seconds
• Total Crossing Time = 23 seconds
Given that the intersection is operating on a fixed 70 second cycle length, the green time remaining after calculating the pedestrian times to cross both roads is equal to 24 seconds (70 seconds – (23 seconds + 23 seconds)). Since the remaining time is typically required to accommodate major road traffic demand, the remaining 24 seconds of time is normally added to the main road “Walk” time resulting in a pedestrian “Walk” time of 31 seconds (7 seconds + 24 seconds). This would be followed by 10 seconds of “Flashing Don’t Walk” and 6 seconds of “Solid Don’t Walk” time for a total time of 47 seconds to cross the “minor” road. The resulting pedestrian timing displayed to pedestrians to cross the “minor” road is summarized below.

- Solid Walk = 31 seconds
- Flashing Don’t Walk = 10 seconds
- Solid Don’t Walk = 6 seconds
- Total Crossing Time = 47 seconds

The overall traffic signal timing, including pedestrian timing is summarized in Figure 1 below.

Traffic signals supplemented with Pedestrian Countdown Signals (PCS) provide pedestrians information regarding the amount of time left prior to the onset of the “Solid Don’t Walk” indication.

Figure 1 – Traffic Signal Timing

<table>
<thead>
<tr>
<th>Main Street</th>
<th>Minor Street</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Green</strong> 41 s</td>
<td><strong>Green</strong> 17 s</td>
</tr>
<tr>
<td>Solid Walk 31 s</td>
<td>Solid Walk 7 s</td>
</tr>
<tr>
<td>FDW PCS 10 s</td>
<td>FDW PCS 10 s</td>
</tr>
<tr>
<td>SDW 6 s</td>
<td>SDW 6 s</td>
</tr>
</tbody>
</table>

FDW = Flashing Don’t Walk
SDW = Solid Don’t Walk
PCS = Pedestrian Countdown Signal Time

In some circumstances where two “major” roads intersect, pedestrian timing may be calculated as described above or if the intersection crossing distances are exceptionally long to cross both major roadways, pedestrians may be required to use pedestrian crossing buttons to cross either road to ensure the intersection can adequately maintain efficient service for all users.

In the rare circumstance when pedestrian signals are not provided at a traffic signal, green time will sufficiently accommodate the pedestrian crossing and may require pedestrians to push a pedestrian crossing button.

It is important to operate signalized intersections in a manner that balances the needs of all users. Simply adding “Walk” time arbitrarily can have negative impacts on other users including pedestrians, cyclists and motorists approaching the intersection from other legs as the added time will delay other users by an equivalent amount of time.
Pedestrian Laws at Traffic Control Signals

The Ontario Highway Traffic Act (HTA) outlines specific laws concerning pedestrian responsibilities at traffic signals. These applicable laws all fall under Section 144 of the HTA and are summarized as follows:

144 (22) Pedestrian crossing - Where portions of a roadway are marked for pedestrian use, no pedestrian shall cross the roadway except within a portion so marked;

144 (23) Pedestrian (green light) - Subject to subsections (24) and (27), a pedestrian approaching a traffic control signal showing a circular green indication or a straight-ahead green arrow indication and facing the indication may cross the roadway;

144 (24) Pedestrian (stopping at flashing green light) - No pedestrian approaching a traffic control signal and facing a flashing circular green indication or a solid or a flashing left turn arrow indication in conjunction with a circular green indication shall enter the roadway;

144 (25) Pedestrian (stopping at red or amber light) - No pedestrian approaching a traffic control signal and facing a red or amber indication shall enter the roadway;

144 (26) Pedestrian control signals (walk) - Where pedestrian control signals are installed and show a “walk” indication, every pedestrian facing the indication may cross the roadway in the direction of the indication despite subsections (24) and (25);

144 (27) Pedestrian control signals (don’t walk) - No pedestrian approaching pedestrian control signals and facing a solid or flashing “don’t walk” indication shall enter the roadway; and

144 (28) Pedestrian right of way - Every pedestrian who lawfully enters a roadway in order to cross may continue the crossing as quickly as reasonably possible despite a change in the indication he or she is facing and, for purposes of the crossing, has the right of way over vehicles.

Pedestrians are typically provided pedestrian traffic control signal indications at all traffic signals in the Region of Waterloo. Staff interprets the above legislation such that if a pedestrian begins to cross at a traffic signal following the onset of the “Flashing Don’t Walk” indication, they may be subject to a fine under Section 144(27) subject to the discretion of a Waterloo Regional Police Services officer. All other sections are generally self-explanatory.

Pedestrian Laws at Midblock Locations

Despite Section 144(22) described above, it is Regional staff’s interpretation that the HTA is silent on rules concerning pedestrian midblock crossings. For this reason some municipalities (e.g. City of Toronto) have enacted local municipal by-laws to prohibit pedestrian crossing at midblock locations also referred to as J-walking. Despite many misconceptions J-walking is not specifically defined or prohibited in the HTA. Alternatively several municipalities including the Region of Waterloo are proactively enhancing pedestrian accessibility and mobility on their roadways. Rather than restrict mobility, the Region of Waterloo is providing midblock pedestrian facilities such as pedestrian refuge islands where appropriate to enhance pedestrian mobility. We continue to advocate proposed enhancements to the HTA to provide municipalities the ability to install the proposed Type 2 PXO traffic control device on its roadways to enhance pedestrian mobility.
CORPORATE STRATEGIC PLAN:

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

DATE: May 28, 2013

FILE CODE: T10-01

SUBJECT: REGION OF WATERLOO TRAFFIC CONGESTION TRACKER PROJECT

RECOMMENDATION:

For information

SUMMARY:

NIL

REPORT:

The Region of Waterloo Transportation division has hired CIMA+ engineering consultants to undertake an innovative and exciting new project that aims to identify congested locations on the Regional road network using mobile phone technology. The project will recruit volunteers including but not limited to Regional staff and members of the public. Approved participants will be provided an easy-to-read instruction set for installing and operating the mobile phone application (app). The volunteers and the app will be instrumental in providing much needed traffic information to identify congested locations and to prioritize potential future improvements on Region of Waterloo roads. It should be noted that this app was developed prior to the development of the Blackberry 10 platform and recently it was determined that the BB10 is not compatible. The Region is currently sourcing a partner who can develop the app for the BB10 device and it is expected that this should be coming soon. Traffic information required to identify congested locations collected by the mobile phone app includes:

- Location coordinates;
- Travel speed;
- Time of day; and
- Mode of travel.

The key elements to successfully identify and prioritize congested Regional road locations are dependant upon the following variables:

- The number of volunteers;
- The timing and duration of study; and
- The amount of data.

Once sufficient data has been collected, travel times obtained through the data collected will be compared to ideal travel times for sections of Regional road. Sections of road will be ranked accordingly based on observed travel times versus ideal travel times (e.g. Average observed travel time of 70 seconds versus 35 seconds ideal travel time = 2:1 ratio or 2 times longer than ideal).
The recruitment process began Friday May 10, 2013 which includes newspaper advertisements, website update, news release, roadside signs and word-of-mouth. A copy of the newspaper ad being provided in all local newspapers is illustrated below.

The project is anticipated to collect data for approximately 3 months or as long as required to obtain sufficient data to formulate reliable results. It is anticipated that results can be provided to Council by the end of the year.

Figure 1 – Newspaper Advertisement

CORPORATE STRATEGIC PLAN:

This project is being completed in accordance with the Region’s 2011 – 2014 Strategic Plan Action 3.3.1 “Identify and address priority transportation bottlenecks to reduce road congestion and improve safety, e.g. roundabouts, queue jump lanes for transit, turn lanes at signalized intersections, etc.”.
FINANCIAL IMPLICATIONS:

Funding to complete the project is approximately $31,800.00 and is provided for in the Region's 2013 Traffic Counting Program budget.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Legal Services and Information Technology Services of the Corporate Resources Department have been consulted on this report and support this project.

ATTACHMENTS:

NIL

PREPARED BY: Bob Henderson, Manager, Transportation Engineering

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

Thank you for attending our Public Information event for the

Waste Management Master Plan

Open Houses at
Cambridge, Kitchener, Waterloo, Wilmot
June 10-14, 2013
Waste Management Master Plan

Why are we here?

Our landfill has approximately 20 years left until it is full. It can take up to ten years to locate, approve and build something new. With your help, this Master Plan will set the strategy and future direction for waste programs and services in the Region of Waterloo.

In Fall 2012, we asked you, the residents, what was important for the future of waste management in Waterloo Region. We took your feedback into consideration and have identified opportunities to improve diversion. We have also evaluated technology options to help us decide what is the best option for future garbage disposal. Now we want to know what you think about the options we have identified.

We invite you to:

• Walk through and read our presentation materials.

• Tell us what you think about:
  ◦ How we evaluated future disposal technologies
  ◦ What you believe is the best option to manage our garbage when the landfill is full
  ◦ What new regional policies should be considered to complement the implementation of the preferred disposal technology

• Ask questions and talk with staff

• Share your thoughts by posting your ideas on the boards or filling out a survey

What’s next? We’ll gather all the comments we receive, refine our evaluation, and put together a list of recommendations. In the Fall of 2013, we’ll present these recommendations to Regional Council.

What is your vision of waste management in the future?
What will we achieve through this study?

- Identify how much waste is going into the garbage, green bin, blue box and other programs.
- Predict future demand for collection services, recycling, compost processing and garbage disposal, and how this affects the time we have left until the landfill is full.
- Identify ways to maximize participation in our existing programs, and find new ways to keep garbage out of our landfill.
- Identify options for future garbage disposal once the landfill is full.
- Evaluate sustainable options for waste collection and diversion programs, and final disposal.

What will we recommend to Regional Council?

- Changes to current waste collection and diversion programs, and new initiatives to reduce the amount of garbage requiring disposal
- A solution for final garbage disposal once the landfill is full
- An implementation plan for both recommendations

DID YOU KNOW?

In Fall 2012 we asked residents what they wanted for the future of Waste Management in Waterloo Region. Here are some of the ideas we heard:

- Support for biweekly garbage collection and reduced bag limits
- Consider energy from waste as a method of future waste management
- Subsidize the cost of paper green bin liners or allow certified compostable plastic liners
- Need for improved diversion programs or service in apartment buildings including green cart program, designated sorting areas for recycling, and adequately sized bins
Waste Management Master Plan

Process

Understand where we are
- Current diversion programs/services and disposal practices
- Future needs of Region

Explore where we could go
- Opportunities to improve diversion
- Technology options for disposal

Evaluate how we can get there
- Options to improve diversion and for future disposal
- Environmental, social and economic considerations

Establish Stakeholder’s Group
Spring 2012

Discuss where we want to go

Public Feedback
Fall 2012

Discuss how we want to get there

Public Feedback
Spring 2013

Recommend to Council
where we will go, and how we will get there
- Future diversion programs/services
- Future disposal option

Fall 2013

Ongoing Opportunities for Community Input
WMMP Mission Statement

To develop a sustainable waste management master plan, in consultation with the community, that is environmentally, socially and fiscally responsible while meeting the current and future needs of Waterloo Region.

WMMP Guiding Principles

In the development of the Waste Management Master Plan, the Region will:

- Consider options that support waste reduction, reuse, recycling, and recovery ahead of disposal.

- Use an open and transparent decision making process to explore, evaluate and recommend responsible waste management services.

- Foster innovation and incorporate flexibility to adapt to emerging technologies, policies, growth and opportunities for collaboration.
EVALUATION PROCESS - GARBAGE DISPOSAL TECHNOLOGY OPTIONS

Technology Options Identification
Develop long list of technology options for future garbage disposal

Fatal Flaw Analysis
Screen options to make sure they meet the Region's must have requirements

Sustainability Evaluation
Evaluate options based on the Region's environmental, technical, social and economic goals

Life Cycle Assessment
Determine the environmental footprint of each option

Regional Policy Considerations

Diversion Opportunities

Preferred Waste Management Strategy
**FATAL FLAW ANALYSIS**

**What is it?**

The Fatal Flaw Analysis was used to screen garbage disposal technology options and eliminate those that didn’t meet the Region’s must have criteria:

**Integration**
- Compatible with existing Regional and local Municipal Official Plan policies
- Compatible with existing and planned Regional waste management infrastructure
- Capable of meeting provincial regulatory requirements and standards

**Recovery**
- Allows for recovery of resources, including recyclables, fuel, compost, and/or energy

**Reliability**
- Could be expanded to meet changing capacity needs
- Proven operating history
- Ability to address disposal requirements for a minimum of 20 years following implementation

<table>
<thead>
<tr>
<th>Technology Options</th>
<th>Integration</th>
<th>Recovery</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landfill</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td><strong>Landfill Mining</strong></td>
<td>√</td>
<td>√</td>
<td>✗</td>
</tr>
<tr>
<td>Mechanical Separation</td>
<td>√</td>
<td>√</td>
<td>✗</td>
</tr>
<tr>
<td>Thermal Treatment</td>
<td>✗</td>
<td>✗</td>
<td>√</td>
</tr>
<tr>
<td>Mechanical Biological Treatment</td>
<td>✗</td>
<td>✗</td>
<td>√</td>
</tr>
<tr>
<td>Steam Classification</td>
<td>√</td>
<td>√</td>
<td>✗</td>
</tr>
</tbody>
</table>
A framework was developed to evaluate technology options based on environmental, social, technical and economic dimensions. The goals and criteria reflect values that are important to residents of Waterloo Region and align with the Region's Environmental Sustainability Strategy. This evaluation looked at local impacts of each technology option.

The main steps involved in the development of this framework were:

- Identify goals for each of the four sustainability dimensions
- Define evaluation criteria to measure each of the goals
Each dimension was evaluated to provide a score out of 100 for each option. The diamond shape that is largest represents the technology option that has the highest score and most efficiently balances the four dimensions.
**ENVIRONMENTAL FOOTPRINT**

Life Cycle Assessment (LCA) was used to compare the environmental footprint of each option. Environmental footprint was determined by estimating the benefits and impacts of each option as part of a complete waste management system from collection to final disposal. Impacts were estimated for each step in the waste management process, including:

- Resources used and recovered and
- Type and level of emissions

This evaluation looked at the **global** impacts of Waterloo Region’s Waste Management System as a whole.

![Waste Management System Diagram]

**DID YOU KNOW...**

The Life Cycle Assessment is similar to measuring your own environmental footprint. The Region is using LCA to measure the “footprint” of each technology to identify relative environmental benefits and impacts.

In 2011, Waterloo Region residents diverted 52% of garbage from the landfill through recycling and diversion programs. If residents increase diversion to 60% through additional participation in the green bin program, 4.5 million kg CO$_2$ equivalents would be avoided per year. That’s equal to the annual greenhouse gas emissions from 946 passenger vehicles or the CO$_2$ emissions from the consumption of 10,560 barrels of oil.
ENVIRONMENTAL FOOTPRINT

Environmental Impact Categories

The environmental footprint of each option was calculated to show the benefits and impacts in the following categories:

- **Resource depletion**: amount of non-renewable resources consumed (e.g. metals and fossil fuels)
- **Human health effects**: emission of compounds that may cause negative health effects
- **Aquatic health effects**: emissions to freshwater that may cause harm to fish, plants, and insects
- **Eutrophication**: emission of nutrients to water bodies (e.g. phosphorous and nitrogen) that can stimulate plant growth (e.g. algal blooms) resulting in low oxygen levels in the water
- **Acid rain**: emissions that could contribute to acid rain (e.g. sulphur dioxide and nitrogen oxides)
- **Greenhouse gas emissions**: amount of greenhouse gas (GHG) emissions

DID YOU KNOW...

There are many different compounds that are considered greenhouse gases (e.g. carbon dioxide, methane, nitrous oxide). These gases have different properties and may therefore contribute to climate change in different ways. In order to compare the potential of different GHGs to affect climate change, emissions are converted into carbon dioxide equivalents. For the Life Cycle Assessment, greenhouse gas emissions are measured by kilograms of carbon dioxide equivalent (kg CO₂ equivalent).
ENVIRONMENTAL FOOTPRINT

How are emission reductions calculated?

The Life Cycle Assessment quantifies the inputs (resources used) and outputs (emissions) for each step in the waste management system. Reductions are calculated by comparing the inputs and outputs to an inventory of data:

- Electricity Generation: compared to Ontario’s current energy mix
- Heat Generation: compared to gas combustion with a 85% thermal efficiency
- Avoided and Substituted Materials: compared to virgin materials production
- Compost: compared to nutrient and physical characteristics of inorganic fertilizers, peat, topsoil, soil conditioner

Example: How does the Green Bin Program Reduce Emissions?

1: Reducing Methane Emissions from Landfill
   - When food scraps are landfilled they decompose releasing methane gas.
   - Methane gas contributes to greenhouse gas emissions.

2: Creating Soil
   - Diverting food waste and turning it into compost reduces greenhouse gas emissions from resource consumption and depletion.
   - Compost produced reduces the use of water and fertilizers from other sources.

3: Recovering Energy
   - Food waste can be turned into renewable energy and soil through treatment (i.e. anaerobic digestion).
   - This energy recovery can reduce the use of fossil fuel and associated greenhouse gas emissions.
The environmental footprint of each garbage disposal technology was evaluated based on the six environmental impact categories.

Reduced emissions are represented by the green bars. Increased emissions are represented by the red bars.
**LANDFILL**

**How does it work?**

When waste arrives at a landfill it is compacted and buried in an open cell. A cell is a section of the landfill that is lined to prevent contaminated water (leachate) from entering into groundwater. After a cell is full, it is covered and a new cell is opened. Materials in the landfill decompose and produce landfill gas (carbon dioxide, methane, water vapour and other compounds). Landfill gas is collected and can be used to generate a moderate amount of energy.

**What is the Environmental Footprint?**

Landfill has a large environmental footprint. The greenhouse gas emissions of the current waste management system are estimated to be over 7.8 million kg CO₂ equivalents per year. That's equal to the annual GHG emissions from 1,650 passenger vehicles.

93,000 tonnes of waste is sent to landfill each year.

**How Sustainable is it?**

The Landfill option has the worst environmental and social scores. However, it has the best technical score out of the three options because the design and operation of modern landfills is well understood in North America.
**THERMAL TREATMENT**

**How does it work?**

A Thermal Treatment Facility uses heat to convert waste to produce carbon dioxide, water and heat. Before treatment, recyclables and large items are removed. While thermal treatment significantly reduces the volume of waste, the ash that is left over must be disposed or used in another process. Thermal treatment can generate a significant amount of energy.

**What is the Environmental Footprint?**

Thermal Treatment has a small environmental footprint. Generating energy from waste reduces generation from fossil fuelled power stations. Recycling metals also avoids the use of fossil fuels for the extraction and processing of ore to produce new metal. Resource consumption is reduced by recovering metals from the ash that is left over.

Compared to the current system, over 30 million kg CO₂ equivalents are avoided. That’s equal to avoiding the annual GHG emissions from 6,400 passenger vehicles. If ash is used as an aggregate (e.g. in concrete production), only 6,600 tonnes of waste is sent to landfill each year.

**How Sustainable is it?**

The Thermal Treatment option has the best environmental and social performance because modern thermal treatment facilities have very advanced emission controls. However, it performs less well in the economic and technical dimensions because this technology is relatively expensive to build and requires a complex and lengthy approvals process.
MEchanical Biological Treatment

How does it work?

Mechanical Biological Treatment (MBT) uses a combination of mechanical separation and digestion to process waste. Recyclables and large items are first removed. Following separation, the remaining waste is treated biologically to produce compost, fertilizer and biogas. MBT can generate a moderate to significant amount of energy.

What is the Environmental Footprint?

MBT has the smallest environmental footprint. Generating energy from biogas reduces energy generation from fossil fuels. Resource consumption is reduced by recovering metals, plastics, and wood.

Compared to the current waste system, over 36 million kg CO₂ equivalents are avoided. That’s equal to avoiding the GHG emissions from 7,650 passenger vehicles for one year. If the end product of the MBT process is used as compost, 36,700 tonnes of waste is sent to landfill each year.

How Sustainable is it?

The Mechanical Biological Treatment option is well balanced throughout the four dimensions.
**MECHANICAL SEPARATION**

**How does it work?**

Mechanical Separation is a sorting technology that uses manual and/or automated processes to separate and recycle glass, paper and plastic from waste. The process reduces the amount of waste that requires disposal. A final disposal site is required following treatment. Mechanical Separation does not directly generate energy.

![Image of mechanical separation process](image)

**Fatal Flaw**

Mechanical separation did not pass the fatal flaw analysis as the technology could not address the capacity requirements of Waterloo Region for a minimum of 20 years.
LANDFILL MINING

How does it work?

Landfill mining is the process where a landfill cell is dug up and recyclables like tires, metal and soil from the waste are recovered. The remaining waste is then compacted and ‘re-landfilled’. Landfill mining results in additional capacity being created in an existing landfill.

Fatal Flaw

Landfill mining did not pass the fatal flaw analysis as the technology could not address the capacity requirements of Waterloo Region for a minimum of 20 years.
STEAM CLASSIFICATION

How does it work?

Steam classification is a form of waste treatment that uses both heat and mechanical separation. Waste is processed using steam, pressure and agitation, which helps to break down the waste into biodegradable parts. Typical mechanical separation equipment is then used to separate the inorganic materials. The process occurs in a pressurized vessel or as a continuous process in an open, non-pressurized vessel.

Fatal Flaw

Steam Classification did not pass the fatal flaw analysis because this technology is not in operation processing municipal solid waste at a large scale at the present time. It is therefore not considered a reliable option.
GARBAGE DISPOSAL TECHNOLOGY EVALUATION

PROCESS
The evaluation process included three parts:

• Fatal Flaw Analysis
• Sustainability Evaluation - Local Impacts
• Environmental Footprint (Life Cycle Assessment) - Global Impacts

Please use a sticker to tell us if you are satisfied with the evaluation process.

Very Satisfied Neutral Not Satisfied

1 2 3 4 5

Why? Please post your comments here.
The results of the evaluation have identified the environmental, social, technical and economic impacts of each garbage disposal technology option. Based on these results, which technology do you think is the best option for Waterloo Region?

Please take a minute and rate the options below.

<table>
<thead>
<tr>
<th>Most Preferred</th>
<th>Least Preferred</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal Treatment</td>
<td></td>
</tr>
<tr>
<td>Mechanical Biological Treatment</td>
<td></td>
</tr>
<tr>
<td>Landfill</td>
<td></td>
</tr>
</tbody>
</table>

Why? Please post your comments here.
NEW REGIONAL POLICY CONSIDERATIONS

In addition to the disposal options evaluated by the Region, new policy measures will also be considered as part of the WMMP. The WMMP will identify policy considerations that will complement the implementation of the preferred garbage disposal technology option.

Waste Export Policy

- Historically, the Region has managed residential waste disposal within its borders.
- A residential waste export policy could provide an alternative waste management option for the Region within a relatively short timeframe.
- This policy would allow residential waste to be taken outside of the Region for disposal at a landfill or alternative treatment facility.
- This policy would likely involve payment of a tipping fee by the Region.

Waste Import Policy

- A number of technologies operate more efficiently with higher waste quantities than those generated in the Region.
- Importing waste from outside the Region could help achieve better economics of scale for the operation of an alternative waste management facility (e.g. Thermal Treatment or Mechanical Biological Treatment).
- This policy would likely result in an increase in the tipping fee revenue.

Industrial Commercial and Institutional (IC&I) Restrictions Policy

- Historically 60% of waste disposed at the Waterloo Landfill Site has come from IC&I.
- Tipping fees from IC&I disposal are used as a funding source for the Region’s waste management operations.
- A policy restricting IC&I waste disposal could help retain the Region’s valuable landfill capacity.
- This policy would likely result in a decrease in the tipping fee revenue.
**Regional Policy Considerations**

Please take a minute and let us know which policies you think should be considered.

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you think the Region should consider a residential waste export policy?</td>
<td>Yes</td>
</tr>
<tr>
<td>Do you think the Region should consider a residential waste import policy?</td>
<td>No</td>
</tr>
<tr>
<td>Do you think the Region should consider an Industrial, Commercial &amp; Institutional restriction policy?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Why? Please post your comments here.
DIVERSION OPPORTUNITIES

The Region has identified a long list of nearly 40 opportunities to enhance existing waste reduction and diversion programs and introduce new initiatives.

These opportunities include feedback gathered during WMMP Consultation Series #1, including:

- Encourage the Province to provide incentives for business recycling and diversion.
- Encourage full participation in the blue box and green bin programs by collecting those materials weekly, and garbage every two weeks.
- Investigate incentive programs (e.g., household rewards, community recognition) to encourage participation in diversion programs.
- Restrict number of garbage bags allowed for collection each week.
- Investigate options (e.g., warnings, fines) to enforce participation in diversion programs.

Some other opportunities identified:

- Find ways to help apartment buildings and townhouse complexes to improve recycling and organics collection (e.g. allow certified compostable plastic bags, increased promotion)
- Partner with more local organizations to offer additional diversion programs;
- Add more drop-off diversion programs to divert additional materials (e.g., mattresses, carpets, polystyrene)
- Ban more materials from the landfill (e.g., recyclables, organics, or any other item with an existing drop-off or collection program for reuse/recycling)
- Enhance green bin program to maximize diversion (e.g., allow certified compostable plastic bags, include diapers for collection)
The long list of diversion opportunities will be evaluated based on social, environmental and economic implications.

<table>
<thead>
<tr>
<th>Evaluation Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Criteria</td>
</tr>
<tr>
<td>Cost effectiveness, including capital, operating and maintenance costs</td>
</tr>
<tr>
<td>Environmental Criteria</td>
</tr>
<tr>
<td>Impact on waste diversion and reduction</td>
</tr>
<tr>
<td>Technical Criteria</td>
</tr>
<tr>
<td>Compatibility with the Region’s current programs, services and infrastructure, including the opportunities and challenges associated with implementation</td>
</tr>
<tr>
<td>Social Criteria</td>
</tr>
<tr>
<td>Community acceptability, including accessibility and convenience</td>
</tr>
<tr>
<td>Risks &amp; Implications Criteria</td>
</tr>
<tr>
<td>Liability, public health concerns, environmental risks, nuisances, market stability, etc.</td>
</tr>
</tbody>
</table>

More information on the evaluation of diversion options will be provided in the Fall.
Thank You

Our sincere thanks for attending today’s Public Information event. We encourage you to let us know what you think by:

- Filling out a comment form
- Completing the survey:
  - See one of our staff to complete the survey tonight
  - Take a hard copy home, or visit our website to complete the survey until June 28, 2013
- Tell your friends and family!

Join the conversation:

- Follow us on Twitter @WasteWR
- “Like” us on Facebook at Region of Waterloo Waste Management

For more information:

- Visit the Waste Management website (www.regionofwaterloo.ca/waste)
- Contact us at 519-883-5100 or waste@regionofwaterloo.ca

How will your feedback be incorporated in the final WMMP?

- All comments, questions and survey results will be compiled into a report;
- The report will be available on the Region’s web page for public review; and
- The Study Team will then consider the feedback and refine the options before making recommendations to Regional Council in Fall 2013.
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: C06-60/P&W/WS.13

SUBJECT: CONSULTANT SELECTION FOR CONSTRUCTION OF MUNICIPAL SUPPLY WELLS PHASE II, CONTRACT C2011-19

RECOMMENDATION:

THAT the Regional Municipality of Waterloo enter into an Engineering Services Agreement with Stantec Consulting Limited, to provide engineering services for the Construction of Municipal Wells Phase II Project as outlined in Report E-13-066 dated May 28, 2013, at an upset fee limit of $291,859, plus applicable taxes.

SUMMARY:

Replacement and/or upgrading of the Region’s municipal water supply wells is critical to maintaining infrastructure quality and meeting water demands. Results of the Water Services well rehabilitation program and recommendations from environmental assessments for developing new water supply wells has identified that several municipal wells require replacement and others require upgrades.

Contract C2011-19 was originally awarded to Stantec Consulting Limited (Stantec) on September 14, 2011, through a competitive proposal process in accordance with the Region’s Purchasing Bylaw. Due to the contract value at the time ($293,154) the award was approved by the Chief Administrative Officer. The contract award was to provide engineering services related to 2012 well construction projects.

The Terms of Reference for the project indicated that this is a multi-year program and that the Region may, at its option, choose to extend the Engineering Services Agreement to include additional well construction in Phase II of the project. Based on the good performance of Stantec on Phase I of the well construction work and competitive pricing, staff recommend amending Stantec's contract to complete the Phase II well construction program at an upset fee limit of $291,859, plus applicable taxes.

REPORT:

Background

The Region’s 2007 Water Resources Protection Master Plan includes tasks to assess the quality and quantity of municipal drinking water sources and to undertake projects to improve these sources. An assessment of the historical construction and rehabilitation details of the Region’s water supply wells has been undertaken to develop a more comprehensive and
proactive well maintenance program. In addition, the status of several water supply wells has been evaluated as part of the environmental assessment process for developing new water supply wells.

Contract C2011-19 was originally awarded to Stantec Consulting Limited (Stantec) on September 14, 2011, through a competitive proposal process in accordance with the Region’s Purchasing Bylaw. The original scope of the consulting contract was to undertake assessments and administer the well construction contract to construct new municipal wells at the Pinebush Road, St. Clements and Branchton Meadows well fields. Due to the contract value at the time ($293,154) the award was approved by the CAO in accordance with the Region’s Purchasing By-Law. The Terms of Reference for the project indicated that this is a multi-year program and that the Region may, at its option, choose to extend the Engineering Services Agreement to include additional well construction and assessments in Phase II of the project.

**Rationale for 2013 Well Upgrades**

Phase II of the project includes work at municipal wells K50/K51, K13, G15, P9 and G6. The rationale for the proposed work on each of these wells is as follows:

- Wells K50 and K51 are shallow, 39 m deep, overburden wells located on Bleams Road, in Wilmot Township. They provide water to both Baden-New Hamburg and to the Integrated Urban water supply systems and are operated continuously to meet demands. For this reason, a new well will be constructed to serve as a backup supply, so that the production wells can be taken offline for regular maintenance and rehabilitation.
- Well K13 is a shallow, 34 m deep, overburdened well within the Strange Street Well Field, Kitchener. This well field is a key component of the IUS supply system. Well K13 is old, in excess of 66 years. So a new well will be constructed to replace K13, which will restore the water supply available from this site.
- Well G15 is a bedrock well located in the south end of Cambridge. Water from G15 is pumped via pipeline to the Middleton Street Pumping Station where it is combined with water from the Middleton wells. Well G15 is constructed to a depth of about 52 m with well casing to 10 m. The plan for this well is to install deeper well casing to increase the security of supply and to drill G15 deeper to provide additional water from the deeper aquifer zones.
- Well P9 is located at the same site as well P15 on Pinebush Road in Cambridge. A new well to replace P15 is currently being constructed, which will have significantly deeper casing than both P9 and P15. To avoid losing the current capacity of P9, a deeper well casing will be installed in P9, so it can be pumped in tandem with the new well. The deeper casings allow the well pumps to be set deeper which results in increased well capacity.
- Well G6 is part of the Clemens Mill well field in Cambridge. It is located relatively close to the Turnbull Pumping Station and Well G17. A deeper well casing will be installed in G6 to maintain and ideally increase well capacity.

**Consultant Selection**

As noted previously, Contract C2011-19 was originally awarded to Stantec on September 14, 2011, through a competitive proposal process and was approved by the CAO. The Terms of Reference for the project indicated that this is a multi-year program and that the Region may, at its option, choose to extend the Engineering Services Agreement to include additional well construction in a second phase of the project. In preparation for this work, staff identified wells where additional work was required and requested Stantec to prepare a detailed work plan and cost estimate by consultation and negotiation with Region staff. The additional consulting cost
for the proposed Phase II well construction work is $291,859, plus applicable taxes. The price negotiated for Phase II is comparable to Phase I and is appropriate when compared to industry benchmarks. Based on the good performance of Stantec on Phase I well construction work and a competitive price for Phase II, staff recommend amending Stantec’s contract to complete Phase II of the well construction program.

Scope of Work

The Region’s overall objectives for the project are to increase the security of its water supplies, to optimize the water supply capability, and where feasible, to improve water quality at the selected well sites through the construction of new wells, or the reconstruction of existing wells. This includes: assessing each well and recommending requirements for supply well replacement, rehabilitation, reconstruction, or abandonment; reassessment of the well classification to confirm whether the well obtains water from groundwater or groundwater under direct influence (GUDI) of surface water; and identifying opportunities to optimize the water supply capacity available from each site.

To achieve these objectives, the following tasks will be undertaken by the geoscience/engineering consultant:

- Review existing well rehabilitation and hydrogeologic information for each well site and assess the integrity of each well including well construction, capacity, current condition, and compliance with regulations.
- Develop a detailed work plan for test well drilling and replacement, or reconstruction, of the wells at each well site, including construction of multi-level monitoring well nests to assist in the assessment;
- Prepare preliminary design, final design and tendering documents for proposed supply well and monitoring well drilling, testing and construction;
- Supervise well contractor during construction and well capacity testing and undertake water quality sampling; and
- Prepare reports documenting well construction, testing and subsequent analysis.

Appendix A presents the major tasks for the project and upset costs for each task. Subject to Council approval, completion of the assignment is expected to be primarily in 2013.

Contract tenders will also be issued by the Region to retain the services of well construction contractors, subject to the Region's Purchasing By-Law.

CORPORATE STRATEGIC PLAN:

This project will contribute to the Strategic Objective - Growth Management and Prosperity: Develop, optimize and maintain infrastructure to meet current and projected needs.

FINANCIAL IMPLICATIONS:

The approved 2013 Water Capital Budget and Ten Year Capital Forecast include a total budget of $2,100,000 in 2013 for the Well Optimization and Upgrades project. The cost for this consulting assignment is within the allocated budget for this work, and is funded through water reserves and regional development charges. Project funds will be primarily expended in 2013.
OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

NIL

ATTACHMENTS

Appendix A: Project Tasks and Upset Costs

PREPARED BY: Richard Wootton, Senior Hydrogeologist, Hydrogeology and Source Water

APPROVED BY: Thomas Schmidt, Commissioner, Transportation and Environmental Services
Appendix A

Project Tasks and Upset Costs

<table>
<thead>
<tr>
<th>Task Event</th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tasks 1 and 2</td>
<td>Existing Information Review and Develop Detailed Work Plan</td>
<td>$9,240</td>
</tr>
<tr>
<td>Task 3</td>
<td>Well Design and Contract Tendering</td>
<td>$28,217</td>
</tr>
<tr>
<td>Task 4</td>
<td>Well Construction, Testing and Reporting</td>
<td>$220,829</td>
</tr>
<tr>
<td>Task 5</td>
<td>Project Management</td>
<td>$33,573</td>
</tr>
<tr>
<td></td>
<td><strong>Total Phase II Consultant Fee:</strong></td>
<td><strong>$291,859</strong></td>
</tr>
</tbody>
</table>
MEMORANDUM

To: Chair Jim Wideman and Members of the Planning and Works Committee
From: John Hill, Principal Planner, Strategic Policy Development
Subject: Planning Approvals Received for the Multi-Modal Transit Hub Property
File No: D10-20

In 2012, the Region of Waterloo made applications to the City of Kitchener to amend the City’s official plan and zoning by-law. The purpose of these proposed amendments was to permit the development of the Regionally-owned Multi-Modal Transit Hub at the corner of King and Victoria Streets in Kitchener.

The Region of Waterloo’s Official Plan and Zoning By-law Amendment applications for the King/Victoria Transit Hub have been approved and are now in effect. The new zoning allows for higher densities and a broader range of residential, commercial, retail and office uses. The City of Kitchener agreed to a reduced parking rate in recognition of the high level of transit service planned for the site.

The Transit Hub is proposed both as a central feature in the development of an integrated inter- and intra-city transportation system in Waterloo Region, as well as a catalyst for the development of Kitchener’s planned Innovation District. The approved zoning permits a mixed use development of up to approximately 92,900 square metres, or 1-million square feet. The prominence of the site makes it imperative that any Transit Hub proposal demonstrate a high standard of design that sets the standard for other developments in the area.

The next steps in site preparation include the completion of the associated environmental assessment, environmental risk assessment and a market scoping study, all of which are expected to be substantially complete by the end of 2013.

Regional staff will keep Council apprised of progress on other aspects of this initiative. For further information, please contact John Hill at jhill@regionofwaterloo.ca or 519-575-4500 x3417.
MEMORANDUM

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

From: Patrick Fisher, Principal Planner

Subject: Region of Waterloo Bike Month

For several years, the Region of Waterloo has participated in an annual National Commuter Challenge. Through its participation, the Region has encouraged hundreds of people from across the community to commit to walk, cycle or take transit during a week in June. The Commuter Challenge has been an excellent opportunity to encourage commuters to travel sustainably during this week, and the Region has constantly led in participation across Ontario.

This year, Regional staff are joining many municipalities across Canada and focusing on furthering commuter’s commitments to sustainable travel by replacing the one week Commuter Challenge with a month-long event in June called “Bike Month”. We will be directing organizations, individuals and companies who wish to continue with the Commuter Challenge to supports available from the National Commuter Challenge office.

During Bike Month, the Region will be working with the TravelWise Transportation Management Association to celebrate sustainable travel throughout the community with events such as Bike-to-Work Breakfasts, bicycle training sessions, and a Leadership Bike to Work Challenge. The TravelWise Transportation Management Association focuses on promoting and supporting sustainable transportation choices with nineteen employers representing over 23,000 employees throughout Waterloo Region all year long. The Region’s Planning Commissioner will also be participating in his own “seven by two journey” and will be challenging all other Regional Departments.

From June 3 to 7, 2013, Grand River Transit will use its social media channels to promote the use of Bus ’n Bike racks to travel across Waterloo Region. Bike Month will also connect with existing community cycling event including the Tour de Grand, Tour de Waterloo, and City of Kitchener Bike Fest at the end of May.

For more information, contact Pat Fisher at pafisher@regionofwaterloo.ca or 519-575-4019.
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: C04-30, 5431

SUBJECT: APPROVAL OF PLANS FOR ROADWAY IMPROVEMENTS ON KING STREET IN ST. JACOBS (PRINTERY ROAD TO SAWMILL ROAD), TOWNSHIP OF WOOLWICH

RECOMMENDATION:

THAT the Regional Municipality of Waterloo take the following actions with respect to the proposed improvements on King Street from Printery Road to Sawmill Road in the village of St Jacobs:

i) approve the proposed roadway improvements on King Street (Regional Road 8) from Printery Road to Sawmill Road subject to funding approval as part of the Region’s 2014 Transportation Capital Program budget deliberations in 2014, as outlined in Report E-13-057;

ii) Upon completion of construction, amend Traffic and Parking By-law 06-072, as amended to accommodate the proposed improvements as follows:

a) Remove from Schedule 1, No Parking on Both Sides of King Street (Regional Road #8) from High Crest Lane to Cedar Street;

b) Remove from Schedule 1, No Parking on the West Side of King Street (Regional Road #8) from 160 metres South of Henry Street to 307 metres South of Henry Street;

c) Add to Schedule 1, No Parking on Both Sides of King Street (Regional Road #8) from Printery Road to Hachborn Street;

d) Add to Schedule 1, No Parking on Both Sides of King Street (Regional Road #8) from Front Street to Sawmill Road;

e) Remove from Schedule 2, Limited Parking, 8:00 a.m. to 6:00 p.m. Monday to Saturday, 30 Minutes on the East Side of King Street (Regional Road #8) from 105 metres North of Cedar Street to Cedar Street;

f) Remove from Schedule 2, Limited Parking, 8:00 a.m. to 6:00 p.m. Monday to Saturday, 30 Minutes on the East Side of King Street (Regional Road #8) from Albert Street to 115 metres North of Cedar Street;

g) Remove from Schedule 2, Limited Parking, 8:00 a.m. to 6:00 p.m. Monday to Saturday, 3 Hours on the West Side of King Street (Regional Road #8) from 25 metres South of Albert Street to Cedar Street;

h) Remove from Schedule 2, Limited Parking, 8:00 a.m. to 6:00 p.m. Monday to Saturday, 15 Minutes on the East Side of King Street (Regional Road #8) from Albert Street to 25 metres South of Albert Street;
i) Remove from Schedule 2, Limited Parking, 8:00 a.m. to 6:00 p.m. Monday to Saturday, 3 Hours on the West Side of King Street (Regional Road #8) from 20 metres South of Front Street to 73 metres South of Front Street;

j) Remove from Schedule 5, Loading Zone, 15 Minutes on the East Side of King Street (Regional Road #8) from 115 metres North of Cedar Street to 105 metres North of Cedar Street;

k) Add to Schedule 2, Limited Parking, 9:00 a.m. to 6:00 p.m. Monday to Saturday, 3 Hours on the East Side of King Street (Regional Road #8) from Hachborn Street to 39 metres North of Hachborn Street;

l) Add to Schedule 2, Limited Parking, 9:00 a.m. to 6:00 p.m. Monday to Saturday, 3 Hours on the West Side of King Street (Regional Road #8) from Hachborn Street to 75 metres North of Hachborn Street;

m) Add to Schedule 2, Limited Parking, 9:00 a.m. to 6:00 p.m. Monday to Saturday, 30 Minutes on the East Side of King Street (Regional Road #8) from Cedar Street to 45 metres North of Cedar Street;

n) Add to Schedule 2, Limited Parking, 30 Minutes on the East Side of King Street (Regional Road #8) from 63 metres North of Cedar Street to 100 metres North of Cedar Street;

o) Add to Schedule 5, Loading Zone, 30 Minutes on the East Side of King Street (Regional Road #8) from 100 metres North of Cedar Street to 112 metres North of Cedar Street;

p) Add to Schedule 2, Limited Parking, 30 Minutes on the East Side of King Street (Regional Road #8) from 112 metres North of Cedar Street to Albert Street;

q) Add to Schedule 2, Limited Parking, 9:00 a.m. to 6:00 p.m. Monday to Saturday, 3 Hours on the West Side of King Street (Regional Road #8) from Cedar Street to 31 metres South of Albert Street;

r) Add to Schedule 2, Limited Parking, 9:00 a.m. to 6:00 p.m. Monday to Saturday, 15 Minutes on the West Side of King Street (Regional Road #8) from 31 metres South of Albert Street to Albert Street;

s) Add to Schedule 2, Limited Parking, 9:00 a.m. to 6:00 p.m. Monday to Saturday, 3 Hours on the East Side of King Street (Regional Road #8) from 54 metres South of Front Street to 8 metres South of Front Street;

t) Add to Schedule 2, Limited Parking, 9:00 a.m. to 6:00 p.m. Monday to Saturday, 3 Hours on the West Side of King Street (Regional Road #8) from 54 metres South of Front Street to 18 metres South of Front Street;

u) Add to Schedule 24, Reserved Lanes on the East Side of King Street (Regional Road #8) from Printery Road to Princess Street for Bicycles, Horse-Drawn Vehicles;

v) Add to Schedule 24, Reserved Lanes on the West Side of King Street (Regional Road #8) from Printery Road to 47 metres north of Princess Street for Bicycles, Horse-Drawn Vehicles; and

w) Add to Schedule 24, Reserved Lanes on Both Sides of King Street (Regional Road #8) from Front Street to Sawmill Road for Bicycles, Horse-Drawn Vehicles.
SUMMARY:

The Region of Waterloo is planning roadway improvements on King Street from south of Printery Road to Sawmill Road, St. Jacobs in the Township of Woolwich, a total distance of approximately 1,900 metres. Please refer to Appendix ‘A’ for a plan view of the Project Area. The project is being undertaken as a Schedule ‘A+’ project under the provincial “Municipal Class Environmental Assessment” Act. A Project Team has directed this project and consists of staff from the Region of Waterloo and the Township of Woolwich, consulting engineers IBI Group as well as Township Councillor Mark Bauman.

Improvements are required on King Street in St Jacobs to replace the deteriorated pavement, to install curb and gutter and storm sewer where none exists today to improve roadway drainage, to provide additional pedestrian facilities (sidewalk and improved crossing points for pedestrians) and to provide cycling/buggy lanes since King Street is designated as a core on-road cycling route in the Region’s Cycling Master Plan.

Based on the identified technical needs for this project, the Project Team developed a preferred design for improvements on King Street. The original design preferred by the Project Team was presented to the public at a Public Consultation Centre (PCC) on Wednesday October 24th, 2012.

109 members of the public attended the PCC and 57 written comment sheets were submitted. The main concerns expressed by the public at the PCC included: concerns about parking loss with the addition of cycling/buggy lanes; concerns about loss of parking in the commercial core area needed to accommodate proposed pedestrian crossing improvements; concerns about the impact of proposed pedestrian refuge islands on traffic flow and commercial accesses; and concerns that the proposed cycling/buggy lane width is too narrow for buggies. In addition, there were a number of abutting property owners who expressed concern about the impacts on their properties that would result from the proposed improvements.

Based on the public feedback received and staff’s subsequent meetings and discussions with affected stakeholders, the Project Team has revised the original October, 2012 design to: eliminate the proposed pedestrian refuge islands at Cedar Street and Albert Street; add a pedestrian crossing traffic signal at Albert Street; eliminate sidewalks on the west side of King Street from Northside Drive / Eby Street to Sawmill Road; and reduce the road width to minimize the impact on adjacent properties between Princess Street and Hachborn Street.

At this time the Project Team is now recommending a final Preferred Design Alternative to Regional Council for approval. The final Preferred Design Alternative includes the following overall improvements:

- Full reconstruction of King Street from (a) south of Printery Road (railway tracks) to Hachborn Street, and (b) Eby Street/Northside Drive to Sawmill Road including storm sewer replacement, curb and gutter, sidewalks, on-road cycling/buggy lanes, reconstruction of the channelized right turn lane at Sawmill Road, illumination and drainage improvements at Sawmill Road, pedestrian refuge islands on the south side of Printery Road and at the walkway adjacent to the UPI gas station, and geometric improvements at the Henry Street intersection to improve truck turning movements;
- Partial reconstruction of King Street between Hachborn Street and the Conestoga River bridge including curb and gutter and sidewalk repairs (where required), curb bump-outs (extension of sidewalk out towards roadway) at the Hachborn, Cedar, Spring, Albert and Front Street intersections, installation of an Intersection Pedestrian Signal (IPS) and crosswalk on the south side of Albert Street, and installation of new decorative lighting and streetscaping in the downtown core (subject to final approval and provision of funding by the Township of Woolwich);
Rehabilitation of the Conestoga River bridge deck and miscellaneous erosion control measures;

- Watermain and sanitary sewer repairs and rehabilitation subject to final approval by the Township of Woolwich;
- Extension of water and sanitary services from approximately the UPI gas station southerly to Printery Road subject to final approval by the Township of Woolwich;
- The possible realignment of Municipal Drain # 10 between Princess Street and Hachborn Street subject to further discussions with the Township of Woolwich and other stakeholders; and
- Relocation of utilities where required to implement the proposed improvements.

The estimated total Region of Waterloo cost for the project is $6,100,000. Pending final approval of the project, construction is scheduled to commence in early 2016 with early completion of the works through the commercial core area in St Jacobs first to minimize impacts on businesses during the busier tourist season. Full completion of the project would be in late fall 2016.

Letters advising the public of the recommendations included in this report and the date the report is to be considered by the Public Works Committee were mailed and hand-delivered on May 7, 2013 to area businesses and residents and those who attended the PCC.

REPORT:

1.0 Introduction

King Street through the village of St. Jacobs is identified in the Region’s Ten-Year Transportation Capital Program as a road requiring reconstruction and major rehabilitation to correct the deteriorated asphalt surface, to replace missing, aging and deteriorated storm sewers systems and to provide pedestrian and cycling/buggy facilities. The total length of the project is approximately 1,900 metres. Please refer to Appendix ‘A’ for a plan view of the Project Area.

The project is being undertaken as a Schedule ‘A+’ project under the provincial “Municipal Class Environmental Assessment” Act. A Project Team has directed this project and consists of staff from the Region of Waterloo and the Township of Woolwich, consulting engineers IBI Group as well as Township Councillor Mark Bauman.

2.0 Existing Conditions

Within the project limits King Street currently has a number of varied road cross sections. Using the plan view in Appendix “A” as a reference, the following is a summary of the existing road cross sections:

- From the railway tracks south of Printery Road to Henry Street and from Eby Street / Northside Drive northerly to Sawmill Road, King Street is a two lane rural road cross section, with either paved or gravel shoulders, and grassed or paved ditches. With the exception of localized curb and gutter at Henry Street and Eby Street / Northside Drive, these road sections do not have any curb or gutters.
- From Henry Street to High Crest Lane, King Street is a two lane semi-urban road cross section with mountable concrete curb and partially paved shoulders and grassed boulevards and sidewalks on the west side and paved shoulders and grassed boulevard on the east side.
- From High Crest Lane to Hachborn Street, King Street is a two lane urban road cross section with barrier curb and gutter on both sides of the road and sidewalk on the west side only.
• From Hachborn Street to the Conestoga River Bridge, King Street is a two lane urban road cross section with on-street parking lanes and sidewalks on both sides of the road. This section of King Street forms the downtown core area.

The section of King Street from Cedar Street to the Conestoga River Bridge was reconstructed in 1995/96 in conjunction with rehabilitation of the Conestoga River bridge. At that time, new storm sewers were installed, underground water services were upgraded, underground conduit and light standard bases were installed for the future installation of decorative lighting, and curb and gutters and sidewalks were replaced. The existing infrastructure in the downtown core area is generally in fair to good condition and will be retained for the most part except where pedestrian modifications are proposed.

3.0 Existing Needs and Proposed Improvements

There are a number of needs driving this project. The following sections describe these needs and the proposed improvements to address these needs:

a) Road Condition

Pavement conditions on the road sections indicate pavement distress in various areas and general deterioration due to age and drainage problems. As described in Section 2.0, King Street has various road cross-sections within the project limits. Where full reconstruction is proposed (from the railway tracks south of Printery Road to Hachborn Street and from Eby Street / Northside Drive to Sawmill Road), the road platform is to be completely replaced, including the replacement of the water services for the Township and construction of new sub-drains and storm sewers to replace the existing deteriorated, aging and undersized storm sewers. Where partial reconstruction is proposed in the downtown core from Hachborn Street to the Conestoga River Bridge, the road base and infrastructure is to be retained for the most part and only the asphalt will be removed and replaced.

b) Curb and Gutter

The proposed improvements will urbanize King Street from just south of Printery Road to High Crest Lane and from Eby Street / Northside Drive to Sawmill Road with the installation of new curb and gutter and storm sewers. The introduction of curbs and gutters is needed to contain and convey surface drainage from the road and adjacent lands to a proper drainage outlet, to provide a defined edge of the road and an element of traffic calming compared to the wide open nature of the existing asphalt road width and to provide separation and safety for pedestrians. Installation of the curb and gutters will eliminate the paved and gravel shoulders and on-road parking in these areas.

For the most part the curb and gutter will be retained in the downtown core area, from Cedar Street to the bridge. At the Hachborn, Cedar, Spring, Albert and Front Street intersections, the proposed improvements include curb bump-outs to improve the pedestrian crossings by shortening the crossing distance and improving visibility for pedestrians and motorists by moving the pedestrians out in front of the parked cars. The proposed bump-outs at Cedar and Albert Streets will also provide improvements to bus stop pads requested by Grand River Transit. The existing bus stops at Front Street will be relocated to the north side of the Albert Street intersection with consideration for the provision of bus shelters at Albert Street.

c) Drainage Issues

Surface drainage along King Street south of Henry Street and north of Eby Street / Northside Drive is currently provided by open ditches/asphalt swales, small diameter driveway culverts and deteriorated and aging storm sewers. Many of the storm sewers are in questionable condition and are inconsistent and/or of insufficient size.
New storm sewer is proposed to correct these drainage deficiencies and to provide a proper storm drainage outlet for the new curb and gutter.

d) Municipal Drain

The Township of Woolwich operates Municipal Drain # 10 which crosses King Street in a 1.2m x1.2m concrete box culvert approximately 30 m south of Hachborn Street. The Municipal Drain continues upstream and downstream from the concrete box culvert in a piped storm sewer system. Upstream of the culvert, the municipal drain crosses through the backyards of private properties between King Street and Queensway Drive. Downstream of the culvert, the Municipal Drain crosses through the backyards of private properties between King Street and Hachborn Street.

The Township of Woolwich is conducting a condition inspection of the drain this spring to determine if the drain’s condition warrants consideration of partial abandonment and realignment out of private properties and onto Hachborn Street and King Street as part of this project.

An inspection of the concrete box culvert completed in 2012 concluded that the concrete box culvert was in fair to good condition. Some minor culvert rehabilitation works would be included with this contract if it is decided to retain the existing municipal drain in place.

Discussions are on-going with the Township regarding this municipal drain. The procedure for realignment and abandonment of the drain would be undertaken in accordance with the requirements of the Drainage Act.

e) Sidewalks

Currently there are no sidewalks along some sections of King Street. Sidewalks are proposed as part of this project to provide pedestrian facilities along both sides of King Street to complete the sidewalk network between Printery Road and Sawmill Road. North of Eby Street / Northside Drive, the Project Team now proposes that sidewalk be placed only on the east side of King Street and that on the west side, only a graded platform for possible future sidewalk be constructed.

In addition it is proposed that a sidewalk be constructed on the south side of Sawmill Road as part of this project from King Street to Parkside Drive to provide an access from the proposed sidewalk on King Street to the medical clinic, commercial properties and the community centre/park area located along Parkside Drive. This additional sidewalk would also support the planned walking network identified in the Region’s Draft Active Transportation Master Plan scheduled for Council approval in September 2013.

f) Pedestrian Crossings

Based on pedestrian surveys undertaken for this project on a weekday and weekend in July 2012, there is an identified need for improved pedestrian crossings in the downtown core area. The following pedestrian crossing improvements are proposed in the downtown core area:

Curb Bump-outs

Curb bump-outs are extensions of the existing curb out into the roadway and help improve visibility for both pedestrians and motorists, by allowing the pedestrian to move out in front of adjacent parked cars to check for gaps in traffic before crossing. In addition, curb bump-outs serve to shorten the pedestrian crossing distances and provide improved landing areas at bus stops.
Curb bump-outs are proposed on 2 corners at Hachborn Street (NW and NE), on all corners at Cedar Street, on 2 corners at Spring Street (SW and NW), on all corners at Albert Street and on one corner at Front Street (SW).

**Intersection Pedestrian Signal**

A pedestrian-activated Intersection Pedestrian Signal (IPS) with a marked crosswalk is proposed on the south side of Albert Street. This proposed IPS will allow pedestrians to cross King Street while traffic is stopped at a red light. The Albert Street location is a particularly popular and busy crossing point for many pedestrians during the high tourist season in downtown St Jacobs.

**Pedestrian Refuge Islands**

Pedestrian refuge islands are proposed on King Street at the south side of the Printery Road intersection and at the existing walkway adjacent to the UPI gas station (south of Henry Street). The pedestrian refuge islands will provide assistance for pedestrians crossing King Street to the existing bus stop locations (south of Printery Road) and to the west side of King Street from the existing walkway. This existing walkway provides access to King Street from the residential area east side of King Street, and to destinations such as Tim Horton’s, the Home Hardware warehouse, St. Jacobs Public School and the downtown core.

g) **Cycling and Horse and Buggy Needs**

King Street is designated as a core on-road cycling route in the Regional Cycling Master Plan and the Draft Active Transportation Master Plan. To accommodate cyclists, the proposed reconstruction of King Street includes a reserved lane for bicycles (1.5 metres in width) on each side of the road from Printery Road to Princess Street, and from Front Street to Sawmill Road. Between Princess Street and Hachborn Street a cycling/buggy lane is proposed on the west side of King Street only to minimize the impact on the houses located on the east side of King Street between Princess Street and Hachborn Street.

The 1.5m space for cyclists is also available for use by horse and buggy traffic and would be designated as a reserved cycling/buggy facility.

Within the downtown core (Cedar Street to the Conestoga River Bridge), no change in lane width is proposed and the existing 4.0 metre paved area would be shared by motorists, cyclists and buggies. The lanes between Hachborn Street and Cedar Street will be widened to 4.0 metres to match the existing lane width through the downtown core.

A lane width transition is proposed between Princess Street and Hachborn Street to transition the overall paved lane width from 4.85m (including a 1.5 m shared cycling/buggy lane width) to 4.0 metres to match the lane width through the downtown core. To minimize the impact on the houses located on the east side of King Street between Princess Street and Hachborn Street, the proposed northbound (downhill) bike/buggy lane will be terminated approximately 15m north of the Princess Street intersection. The south bound (uphill) lane will taper from the 4.0 m width at Hachborn Street to the full width (4.85m including the cycling/buggy lane) approximately 40 m south of Hachborn Street.

h) **Other Improvements**

Other improvements to be completed with the implementation of this project include the following:

- Rehabilitation of the Conestoga River bridge;
- Miscellaneous watermain and sanitary sewer repairs and rehabilitation subject to final approval of the Township of Woolwich;
- Extension of water and sanitary services from approximately the UPI gas station (south of Henry Street) southerly to Printery Road subject to final approval of the Township of Woolwich;
- The realignment of Municipal Drain # 10 between Princess Street and Hachborn Street subject to further discussions with the Township of Woolwich and other stakeholders; and
- Relocation of utilities where required to implement the proposed improvements.

4.0 Public Consultation Centre Issues and Project Team Responses

4.1 Public Consultation Centre – October 24, 2012

The Project Team considered various road cross-section alternatives for King Street through the settlement area of St. Jacobs. These alternatives included different combinations of traffic lanes, on-street parking, cycling lanes, sidewalks, sodded boulevards and utility locations within the corridor. Based on the Project Team’s comprehensive technical evaluation, a Preferred Alternative was developed and presented to the public in October, 2012. The Typical Road Cross-sections presented to the public are shown in Appendix ‘B’.

The Public Consultation Centre (PCC) for this project was held at the St. Jacobs Public School on Wednesday, October 24, 2012. Plans showing the proposed improvements were on display and Project Team representatives were present to answer questions and receive feedback. One hundred nine (109) members of the public attended the PCC and fifty-seven (57) written Comment Sheets or emails were received from the public as a result of the PPC. Please refer to Appendix ‘C’ for a summary of the written comments received from the public and the Project Team responses.

4.2 Main Issues Raised by the Public at the PCC

The main issues and comments raised by the public are as follows:

a) Concern with the Proposed Pedestrian Refuge Island at Cedar Street
b) Concerns with Loss of Parking between Prinery Road and High Crest Lane
c) Concerns with Sidewalk between Eby Street / Northside Drive and Sawmill Road
d) Loss of Parking in the Downtown Core
e) Concerns Raised by Owners of 4 Princess Street, 1348 and 1356 King Street
f) Requested Illumination Improvements
g) Increase the Cycling/Buggy Lane Widths
h) Concern Regarding Economic Impacts During Construction

Detailed descriptions of these main concerns along with the Project Team’s responses are provided in Appendix ‘B’, and all public comments received for this project are provided in Appendix ‘C’.

5.0 Recommended Alternative

Based on the public comments received from the PCC for this project as well as the technical considerations of the Project Team, the Project Team is now recommending a final Design Alternative to Regional Council for approval. The final Recommended Design Alternative includes the following overall improvements:

- Full reconstruction of King Street from (a) south of Prinery Road (railway tracks) to Hachborn Street, and (b) Eby Street/Northside Drive to Sawmill Road including storm sewer
replacement, curb and gutter, sidewalks, on-road cycling/buggy lanes, reconstruction of the channelized right turn lane at Sawmill Road, illumination and drainage improvements at Sawmill Road, pedestrian refuge islands on the south side of Printery Road and at the walkway adjacent to the UPI gas station, and geometric improvements at the Henry Street intersection to improve truck turning movements;

- Partial reconstruction of King Street between Hachborn Street and the Conestoga River bridge including curb and gutter and sidewalk repairs (where required), curb bump-outs (extension of sidewalk out towards roadway) at the Hachborn, Cedar, Spring, Albert and Front Street intersections, installation of an Intersection Pedestrian Signal (IPS) and crosswalk on the south side of Albert Street, and installation of new decorative lighting and streetscaping in the downtown core (subject to final approval by the Township of Woolwich);

- Rehabilitation of the Conestoga River bridge deck and miscellaneous erosion control measures;

- Watermain and sanitary sewer repairs and rehabilitation subject to final approval of the Township of Woolwich;

- Extension of water and sanitary services from approximately the UPI gas station southerly to Printery Road subject to final approval by the Township of Woolwich;

- The possible realignment of Municipal Drain # 10 between Princess Street and Hachborn Street subject to further discussions with the Township of Woolwich and other stakeholders;

- Relocation of utilities where required to implement the proposed improvements.

These proposed improvements will correct the identified deficiencies on King Street and will provide enhancements for all road users. Please refer to Appendix 'D' for the proposed Typical Road Cross Sections.

It is further recommended that Regional Council approve a proposed amendment to the existing By-law to restrict parking and enact a new By-law to designate dedicated cycling/buggy lanes throughout the project limits. Please refer to Appendix 'E' for the proposed changes to parking in the downtown core.

6.0 Project Cost

The total estimated Region of Waterloo cost for the recommended King Street improvements as outlined in this report for 2013-2016 is $6,100,000.

The Township of Woolwich is owner/operator of the section of local watermain and sanitary sewers within the project limits. The Township’s estimated share of costs to upgrade the local distribution watermain and sanitary sewer collection system is $100,000. The Township would also be responsible for costs associated with decorative lighting and the realignment of Municipal Drain #10 should these improvements proceed, as well as the extension of municipal services to Printery Road if approved by the Township.

7.0 Project Schedule

Subject to Regional Council approval of the King Street Improvements project on June 5, 2013, the proposed project schedule is as follows:

- Detailed design/property acquisitions and utility relocations ............June 2013 to Feb 2016
- Tender Period ............................................................................................................January-March 2016
- Start of Construction .............................................................................................April 2016
- Construction Completion......................................................................................November 2016
CORPORATE STRATEGIC PLAN:

Construction of the proposed King Street improvements meets the Region's (2011 – 2014) Corporate Strategic Plan Objective 2.2 to develop, optimize and maintain infrastructure to meet current and projected needs under Focus Area 2, "Growth Management and Prosperity".

FINANCIAL IMPLICATIONS:

The 2013 Transportation Capital Program and Ten Year Forecast includes $4,660,000 of funding in 2013-2016 to complete the detailed design and construction of the proposed King Street Improvements. Due to an expansion in the scope of work as well as an updated estimate of the project budget, the project is now estimated to cost $6,100,000. A budget increase of $1,440,000 will be submitted for consideration as part of the Region’s 2014 budget deliberations to cover the revised estimated Region costs on this project.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

The Council and Administrative Services Division will be required to prepare the By-laws for the recommended parking restrictions and designated lane use.

ATTACHMENTS

Appendix A - Key Plan identifying King Street project limits
Appendix B - Main Issues Raised by the Public at the PCC and the Project Team's Responses
Appendix C - Summary of All Public Comments and Responses
Appendix D - Typical Road Cross-Sections
Appendix E - Proposed Downtown Core Parking Configuration

PREPARED BY: Bob Wheildon, Senior Project Manager

APPROVED BY: Thomas Schmidt, Commissioner of Transportation and Environmental Services
Appendix A
Key Plan

KING STREET NORTH
REGIONAL ROAD 8
PRINTERY ROAD TO SAWMILL ROAD
TOWNSHIP OF WOOLWICH
VILLAGE OF ST. JACOBS
Appendix B
Main Issues Raised by the Public at the PCC and the Project Team’s Responses

a) Concern with the Proposed Pedestrian Refuge Island at Cedar Street

Public Comments:

A number of representatives of Thoman Tire (#1370 King Street) and other local residents expressed concern about the impact that the proposed pedestrian refuge island and curb bump-outs at Cedar Street would have on traffic movement for its customers and delivery vehicles and on the day-to-day operation of Thoman Tire. It was also felt that the crossing location on the south side of the intersection would create a conflict between pedestrians and vehicles accessing the adjacent parking lot and the service bays at Thoman Tire.

Although these concerns were expressed related to this particular location, some residents also expressed general support for the need to improve pedestrian crossings in both the downtown core and at other areas along King Street.

Project Team Response:

Based on the pedestrian survey conducted in St. Jacobs in the summer of 2012, pedestrian crossings improvements in the downtown core are warranted. The preliminary design, presented at the PCC included curb bump-outs at Hachborn, Cedar, Spring, Albert and Front Streets with pedestrian refuge islands on the south sides of Cedar and Albert Streets. After consideration of the comments received and a further review of the technical considerations, the Project Team recommends that:

- the originally proposed pedestrian refuge islands at Albert Street and Cedar Street intersections be eliminated;
- the curb bump-outs at Hachborn Street, Cedar Street, Spring Street, Albert Street and Front Street be retained to improve visibility between pedestrians and motorists, shorten the pedestrian crossing distances and improve bus stop landing areas; and
- An Intersection Pedestrian Signal (IPS) and cross walk be installed on the south side of the Albert Street intersection.

b) Concerns with Loss of Parking between Printery Road and High Crest Lane

Public Comments:

Eight (8) responses expressed opposition to the removal of on-street parking on King Street between Printery Road and High Crest Lane (on existing paved/gravel shoulders) due to the proposed addition of designated cycling/buggy lanes. The two most prevalent concerns were that the convenience of on-street parking for residents and visitors would be eliminated and that backing in or out of driveways would be dangerous without a shoulder to use for maneuvering.

Project Team Response:

Parking demand surveys were conducted between Printery Road and High Crest Lane in March and July 2012. The parking surveys were completed on both weekdays and weekends and were conducted over a twelve hour period. The parking demand survey indicated the following.
Printery Road to Henry Street - the total parking on this section of King Street ranged between 5 and 22 vehicles over the 12 hour period. The parking duration for the majority of vehicles was less than 15 minutes.

Henry Street to High Crest Lane - the total parking on this section of King Street ranged between 2 and 8 vehicles over the 12 hour period. The parking duration for the majority of vehicles ranged between 15-30 minutes.

Based on a review of the survey results, the length and size of the existing driveways and other technical considerations the Project Team is proposing that parking be eliminated from Printery Road to Hachborn Street to allow for designated cycling/buggy lanes for the following reasons:

- The majority of residential driveways are large enough to accommodate off-street parking;
- Sidestreets are available for overflow parking needs;
- The narrow right-of-way width from Henry Street to High Crest Lane would require property acquisition from the fronting private properties to accommodate on-street parking; and
- The parking demand survey did not identify a significant demand for on-street parking.

Regarding the loss of manoeuvrability necessary to back in or out of the driveways, the Project Team feels that the provision of a 1.5m cycling/buggy lane will provide some space to help with maneuvering in and out of driveways. Alternatively residents could back into their driveways or consider the construction of “hammerhead” turnarounds on their private property (where property is available).

c) Concerns with Sidewalk between Eby Street / Northside Drive and Sawmill Road

Public Comments:

Nine (9) comments questioned the need to have sidewalks on both sides of King Street from Eby Street/Northside Drive to Sawmill Road. It was noted that a sidewalk currently exists on Northside Drive (which parallels King Street to the west) and provides a pedestrian link to the downtown core from the residential area along Northside Drive and beyond.

Project Team Response:

The Region’s Transportation Corridor Design Guidelines and the Draft Active Transportation Master Plan (ATMP) recommend that sidewalks be installed on both sides of all Regional roads; however, since the existing sidewalk on Northside Drive currently provides a parallel pedestrian link to the downtown core, the Project Team now recommends sidewalk construction only on the east side of King Street from Eby Street/Northside Drive to Sawmill Road. A graded platform for possible future sidewalk would still be constructed on the west side of King Street from Northside Drive to Sawmill Road.

The proposed east-side King Street sidewalk will also provide an alternate barrier-free pedestrian route to the community centre, park, commercial area and medical clinic in the Parkside Drive area. The Parkside Drive area is currently only accessible via stairs from King Street to Parkside Drive and along the paved shoulder on the east side of King Street. In addition, the Project Team recommends that a sidewalk be constructed easterly on the south side of Sawmill Road to provide a pedestrian link from the proposed sidewalk on King Street to Parkside Drive.
d) **Loss of Parking in the Downtown Core**

**Public Comments:**

A few comments expressed concern about the loss of short-term parking at the bank and Post Office due to the pedestrian crossing improvements (bump-outs) proposed at Albert Street.

**Project Team Response:**

One parking space currently designated as short-term would be lost in the downtown core with the proposed pedestrian crossing improvements at Albert Street. The Project Team proposes that another 15 minute short-term parking space be designated from the remaining parking spaces in proximity to the post office. Amendments to the parking by-law are included as part of this report to create this additional short-term parking space.

It should be noted that a total of five parking spaces would be lost in the downtown core area to implement the proposed pedestrian crossing and bus stop improvements at Cedar Street and at Albert Street. One space would be lost at Cedar Street and four spaces lost at Albert Street. This parking loss is offset by the addition of one parking space through reconfiguration of the existing parking spaces and the addition of one space where an old driveway was located between the former Goods Garage and Benjamin’s Restaurant. This driveway will be abandoned with the proposed development of the Goods Garage site. Therefore the total net loss of parking in the downtown core is only three spaces taking into account the parking space reconfiguration and the elimination of the old driveway.

Please refer to plans in Appendix ‘E’ which show the proposed road improvements and parking configuration in the downtown core area.

e) **Concerns Raised by Owners of 4 Princess Street, 1348 and 1356 King Street**

**Public Comments:**

The owners of 4 Princess Street, #1348 King Street and 1356 King Street expressed concern that the proposed retaining wall resulting from the widened roadway and new sidewalk on the east side of King Street between Princess Street and Hachborn Street would have a variety of detrimental impacts on their properties.

**Project Team Response:**

The project consultant, the Region’s Project Manager and Township Councillor Bauman met with the property owners at 1348 and 1356 King Street on November 15, 2012 and January 7, 2013 to discuss their concerns and to present alternative design options. The property owner for 4 Princess Street did not attend the meetings however; the proposed road improvements do not impact the property at 4 Princess Street and the minutes of these meetings were distributed to all three property owners. Based on those discussions, the following changes were made to the proposed original design and these changes were deemed acceptable by the property owners at 1348 and 1356 and the Project Team:

- The northbound (downhill-direction) cycling/buggy lane will be terminated approximately 15m north of the Princess Street intersection;
- A 1.8m curb face sidewalk will be constructed on the east side of King Street from Princess Street to Hachborn Street to increase the separation distance between the back of the proposed sidewalk and houses #1348 and #1356;
A poured concrete retaining wall with a metal picket style railing will be constructed across the frontage of house #1348. The exposed face of the retaining wall will be poured with a form liner for a textured concrete finish to improve the overall aesthetics of the wall. The homeowner will be consulted during the detailed design stage to confirm the details of the railing and retaining wall;

- The retaining wall will wrap around the south-west corner of house #1348 to improve local drainage and grading of the existing steep driveway;

- The existing stairs at house #1348 will be removed and replaced in approximately the current location to align with the existing private sidewalk on the north side of the house;

- The proposed retaining wall in the original design is now eliminated along the majority of the frontage of house #1356. The elevation difference between the proposed back of sidewalk and the existing grade will be accommodated by grading the slopes further onto the private property at the owner’s request. At the north end of the property the slopes will be steepened to avoid the existing board fence. The homeowner will be consulted during final detailed design to confirm the exact grading limits of the slope; and

- One tree and several shrubs will be removed to accommodate the grading of the slopes. The Region in consultation with the owner will replace the trees in accordance with the Region’s 2 for 1 tree re-planting policy.

f) Requested Illumination improvements

**Public Comments:**

Comments were received requesting the installation of decorative lighting in the downtown core area and requests were made to have illumination installed where illumination currently does not exist.

**Project Team Response:**

The installation of decorative lighting in the downtown core is still under consideration by the Township of Woolwich who would ultimately approve its installation. A Regional cost-sharing contribution for the decorative lighting could be made in accordance with the Region’s Illumination Policy.

Illumination improvements are proposed at the Sawmill Road intersection to meet current Regional standards. Infilling of other illumination will be considered in accordance with the Region’s Illumination Policy which recommends one-side lighting on all bus routes. Later in 2013, notice will be sent to residents regarding the placement of new lights in front of individual residences/businesses.

**g) Increase the Cycling/Buggy Lane Widths**

**Public Comments:**

Several respondents questioned whether the cycling/buggy lane widths should be increased to 2.0m from Henry Street to Printery Road and from the Conestoga River Bridge to Sawmill Road to accommodate buggy widths.

**Project Team Response:**

The Corridor Design Guidelines recommend a 1.5m cycling/buggy lane. The Project Team feels that the provision of a cycling/buggy lane wider than 1.5m would encourage car parking and travel in the cycling/buggy lane area which would reduce the effectiveness and safety for cyclists and buggies.
h) **Concern Regarding Economic Impacts During Construction**

**Public Comments:**

Four responses expressed concern about the economic impact during construction on the businesses mainly in the downtown core area.

**Project Team Response:**

In order to minimize disruption and inconvenience during the busier tourist/visitor season, it is proposed that the work in the downtown core and over the bridge occur first in the spring and be completed by mid-June, weather permitting.

Traffic management and construction staging details will be planned in close consultation with Township staff and downtown business representatives to ensure the impact on residents, businesses and their customers is minimized to the greatest extent possible.
### Appendix C
**Summary of Public Comments and Responses**

<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
</table>
| Jack Pope  |                | Our opinion on the proposal for a pedestrian island in front of our Tire Shop at 1370 King Street, St. Jacobs, is a poor decision for the safety of pedestrians. Any type of island or pedestrian crossing in front of our shop will create an unsafe situation. Our garage for the most part, is very busy with vehicles arriving or departing from our property. After being on this site for many years, to draw pedestrians to an extra busy area to cross the road, is not a good idea. The access to and from our parking lot from King St., would also be compromised by the proposed island, due to it’s position, in front of the entrance/exit. Having to deal with pedestrians at the crossing while trying to get a vehicle to our parking lot from the garage creates a very unsafe situation. We are already having to cope with the bus stop out front, which again blocks off our entrance and exit to our parking lot, along with the fact that we have a challenge to navigate a vehicle our of the tire shop, due to the bus blocking our vision. It is also being determined that the transport trucks that deliver our tire stock on a daily basis, would not be able to negotiate backing down to our receiving dock because of the island position on the street. A truck approaching from the opposite direction is not an option. These trucks arrive daily with 50-100-200-500 tires, during different times of the year. My last thought is that this negative challenge will affect our day to day business and jeopardize the safety of visitors to our village and just does not make sense. We are here each day, 6 days a week and know the volume of vehicles, and persons on the street each day. Would definitely want a wide sidewalk on both sides all the way to Printery Road. | • The preliminary design has been revised to eliminate the pedestrian refuge island proposed for the south side of the King Street/Cedar Street intersection.  
• Curb extensions (bump outs) are proposed at the intersection to improve the pedestrian crossing by reducing the crossing width and improving pedestrian visibility around the parked cars.  
• An Intersection Pedestrian Signal (IPS) is now proposed for the King Street/Albert Street intersection.  
• It is the Region’s policy to construct sidewalks on both sides of Regional Roads in urban areas. |

Would definitely want a wide sidewalk on both sides all the way to Printery Road
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarence Dowler</td>
<td>Drainage Issues Y&lt;br&gt;Water pools on sidewalk N&lt;br&gt;Sump discharge into storm sewer/ditch N&lt;br&gt;Support Urbanization Y&lt;br&gt;Pedestrian crossings in downtown Y&lt;br&gt;Pedestrian crossings at Printery Rd Y&lt;br&gt; Increase water service Y</td>
<td>When looking at the pictures, driveway at 1305 King St should be on the south side of house. The tree out front would impede view of oncoming traffic making getting out of driveway unsafe.</td>
<td>- Sidewalks are proposed to infill (complete) the existing sidewalk network system on both sides of King Street from Hachborn Street to Printery Road.&lt;br&gt;- Driveway location changed on the plans.&lt;br&gt;- A tree planting and landscaping plan will be completed as part of the detailed design phase. Sight lines will be taken into consideration in the detailed design.&lt;br&gt;- Staff and the consultant will consult with the property owner about identified drainage issues during the detailed design phase.</td>
</tr>
<tr>
<td>Paul Miller &amp; Pauline Deunch Miller</td>
<td>Drainage Issues Y&lt;br&gt;We have only open ditch between gas station and Printery Rd.&lt;br&gt;Sump discharge into storm sewer/ditch Y&lt;br&gt; Runs into open ditch at road N&lt;br&gt;Support Urbanization Y&lt;br&gt;Pedestrian crossings in downtown Y&lt;br&gt;Pedestrian crossings at Printery Rd Y&lt;br&gt; Increase water service N</td>
<td>I do not see the need for sidewalks on both sides from Northside Drive to Sawmill. One side would be fine, on East side.&lt;br&gt;It would be a crying shame if the water and sewers are not installed when the road is torn up from UPI to Printery Road. It will devalue our properties immensely if the water and sewer lines are not installed. Residents should be given a choice whether they hook up for water and sewers, at least for a period of time. We need a crosswalk on King Street.</td>
<td>- It is the Region’s policy to construct sidewalks on both sides of Regional Roads in urban areas in accordance with the approved Context Sensitive Corridor Design Guidelines, the Region’s Pedestrian Charter and the proposed Active Transportation Master Plan.&lt;br&gt;- Sidewalk is now proposed only on the east side of King Street from Eby Street to Sawmill Road to connect the downtown core area to the community centre, park and health clinic, providing an alternate to the existing stairs.&lt;br&gt;- A graded sidewalk platform will be constructed on the west side to provide for possible future sidewalk.&lt;br&gt;- The Township of Woolwich is considering the extension of sanitary sewer and water services to Printery Road at the south end of the project where services do not currently exist. The</td>
</tr>
<tr>
<td>NAME</td>
<td>SURVEY RESULTS</td>
<td>COMMENTS</td>
<td>RESPONSE</td>
</tr>
<tr>
<td>----------</td>
<td>----------------</td>
<td>----------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Darlene  | N              | Please do street lights on King Street, Henry St to Printery Rd and do lights from Eby St up to Sawmill Rd. We like the idea of a pedestrian island on King around Fairway Lumber. Also like the idea of sidewalks and bicycle lane and | • Township is to advise if these services are to be included as part of this project.  
• As part of this project the following pedestrian crossing improvements are proposed:  
• A pedestrian refuge island on the south side of Printery Road to provide a pedestrian crossing at the existing bus stop. It is now proposed that the length of the pedestrian refuge island at this location be increased to allow the Township the opportunity to provide a landscaped entrance feature marking the entrance to St. Jacobs.  
• A pedestrian refuge island at the south side of the UPI gas station to coincide with the existing pedestrian walkway from the residential subdivision area east of King Street.  
• Curb extensions (bump-outs) at the intersections of Hachborn Street, Cedar Street, Spring Street, Albert Street and Front Street to increase pedestrian visibility in the midst of on-street parking in the downtown core and reduce the pedestrian crossing width.  
• An intersection pedestrian signal (IPS) is now proposed at Albert Street and King Street.  
• Staff and the consultant will consult with the property owner about identified drainage issues during the detailed design phase.  
• Provision will be made for a storm sewer connection subject to the Region’s Sewer Use By-Law requirements.  
• Illumination will be installed in accordance with the Region’s Illumination Policy. |
<p>| Lyons    | Y              |                                                   |                                                                                                   |</p>
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>downtown</td>
<td>Y</td>
<td>buggy land. Also sidewalks from Henry St. To Printery Rd and sidewalks from Eby St. To Sawmill Rd.</td>
<td></td>
</tr>
<tr>
<td>P. Hayes</td>
<td></td>
<td>Pedestrian signals would block traffic in town core, across bridge and up hills on King. The traffic is stopped too much now, they would make it worse. People would still cross at any point on the road.</td>
<td>An intersection pedestrian signal is now proposed at the Albert/King intersection. Signal will be pedestrian-only activated to minimize the stoppage in traffic flow.</td>
</tr>
<tr>
<td>George &amp; Cheryl Wray</td>
<td></td>
<td>How can you ask us residents to make a concrete decision about any of this without a true cost in front of us? Last time water and sewer were 30 – 55 grand, what exactly are the numbers? I think that this is an inconvenience for residents who absolutely cannot afford this. Is there any funding that could be used to help absorb the cost of this project?</td>
<td>A portion of the Region taxes collected from all regional residents is directed to fund Transportation Capital projects and the long-term funding strategy. This funding is directed to capital projects identified as requiring infrastructure rehabilitation needs. This project has been identified with these needs. Funding from this tax source will not impact the tax already being collected to fund Transportation Capital projects and the long-term funding strategy.</td>
</tr>
<tr>
<td>James Smithors</td>
<td></td>
<td>Don’t like the idea of removing paid shoulder. One of the only ways to get on the road in the summer is to back out onto the shoulder and wait for a break in the</td>
<td>The provision of a 1.5m bike/buggy lane will provide some space to help with manoeuvring out of driveways. Alternatively residents could</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sump discharge into storm sewer/ditch</td>
<td></td>
</tr>
<tr>
<td>NAME</td>
<td>SURVEY RESULTS</td>
<td>COMMENTS</td>
<td>RESPONSE</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------</td>
<td>-----------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Support Urbanization</td>
<td>N</td>
<td>back into their driveways or consider the construction of “hammerhead”</td>
</tr>
<tr>
<td></td>
<td>is there a need south of UPI</td>
<td>N</td>
<td>turnaround on private property where property is available. Provision</td>
</tr>
<tr>
<td></td>
<td>station?</td>
<td></td>
<td>will be made for a storm sewer connection subject to the Region’s Sewer</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings in</td>
<td>Y</td>
<td>By-Law requirements.</td>
</tr>
<tr>
<td></td>
<td>downtown</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings at</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Printery Rd</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase water service</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greg Bezzo</td>
<td>Drainage Issues</td>
<td>N</td>
<td>• The King Street/ Sawmill intersection will be reconstructed to current</td>
</tr>
<tr>
<td></td>
<td>Sump discharge into storm sewer/ditch</td>
<td>N</td>
<td>Region standards including a new channelized northbound right turn to</td>
</tr>
<tr>
<td></td>
<td>Support Urbanization</td>
<td>Y</td>
<td>improve traffic flow and the visibility of the merging traffic streams.</td>
</tr>
<tr>
<td></td>
<td>except the sheet island</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>at King and Cedar</td>
<td></td>
<td>• Full illumination of the intersection is proposed.</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings in</td>
<td></td>
<td>• Traffic volumes at the King Street/Sawmill Road intersection do not</td>
</tr>
<tr>
<td></td>
<td>downtown</td>
<td>Y</td>
<td>warrant signal control or a roundabout.</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings at</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Printery Rd</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>it should include an island in the centre, not pedestrian signals</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase water service</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robert &amp; Gina Jamieson</td>
<td>Drainage Issues</td>
<td>N</td>
<td>• The preliminary design has been revised to eliminate the pedestrian</td>
</tr>
<tr>
<td></td>
<td>Sump discharge into storm sewer/ditch</td>
<td>N</td>
<td>refuge island proposed for the south side of the King Street/Cedar Street</td>
</tr>
<tr>
<td></td>
<td>Support Urbanization</td>
<td>Y</td>
<td>intersection.</td>
</tr>
<tr>
<td></td>
<td>except the sheet island</td>
<td></td>
<td>• Curb extensions (bump outs) are proposed at the intersection to</td>
</tr>
<tr>
<td></td>
<td>at King and Cedar</td>
<td></td>
<td>improve the pedestrian crossing by reducing the crossing width and</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings in</td>
<td></td>
<td>improving pedestrian visibility around the parked cars.</td>
</tr>
<tr>
<td></td>
<td>downtown</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings at</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Printery Rd</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase water service</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meryle &amp; Betty Martin</td>
<td>Drainage Issues</td>
<td>N</td>
<td>• The Township By-law requires adjacent property owners to clear snow</td>
</tr>
<tr>
<td></td>
<td>Sump discharge into storm sewer/ditch</td>
<td>N</td>
<td>less than 300mm in depth. If the depth exceeds 300mm, the snow will be</td>
</tr>
<tr>
<td></td>
<td>Support Urbanization</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### NAME

<table>
<thead>
<tr>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>N Pedestrian crossings in downtown</td>
<td>N Pedestrian crossings at Printery Rd</td>
<td>Increase water service</td>
</tr>
<tr>
<td>N</td>
<td>weekend. We have enough trouble getting out our driveway now. There wouldn’t be as many parking problems.</td>
<td></td>
</tr>
</tbody>
</table>

- Region snow clearing operations are based on Minimum Maintenance Standards. In St. Jacobs, the practice is that snow plowed and stored on the side of the road is removed when it is approximately 600mm (2 ft.) deep, as time permits.
- As part of this project the following pedestrian crossing improvements are proposed:
  - A pedestrian refuge island on the south side of Printery Road to provide a pedestrian crossing at the existing bus stop. It is now proposed that the length of the pedestrian refuge island at this location be increased to allow the Township the opportunity to provide a landscaped entrance feature marking the entrance to St. Jacobs.
  - A pedestrian refuge island at the south side of the UPI gas station to coincide with the existing pedestrian walkway from the residential subdivision area east of King Street.
  - Curb extensions (bump-outs) at the intersections of Hachborn Street, Cedar Street, Spring Street, Albert Street and Front Street to increase pedestrian visibility in the midst of on-street parking in the downtown core and reduce the pedestrian crossing width.
  - An intersection pedestrian signal (IPS) is now proposed at Albert Street and King Street. The signal will be pedestrian-only activated to minimize stoppage in traffic flow.

### Stew & Karen Sauder

<table>
<thead>
<tr>
<th>Drainage Issues</th>
<th>N Sump discharge into storm sewer/ditch</th>
<th>Y Support Urbanization</th>
<th>yes, sadly</th>
</tr>
</thead>
<tbody>
<tr>
<td>This all seems redundant as long as parking is allowed on King St. You can't 'pretty' up the problem and expect it to be resolved. My concern is that the pedestrian crossings will only grid-lock traffic flow making it more difficult for us to</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Parking within the village downtown core is important for area businesses, visitors, delivery vehicles, customers and other users.
- As part of this project the following pedestrian.

---

**DATE:** May 28, 2013

**Report:** E-13-057

**Page 22 of 65**
Pedestrian crossings in downtown Y
Pedestrian crossings at Printery Rd prefer not to have lights N
Increase water service

<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pedestrian crossings in downtown</td>
<td>Y</td>
<td>get in and out of our driveway. Has there been any consideration given to removing the parking on King St (except for bank and post office parking with cars identified by ‘resident’ or ‘customer’ sticker)? To me, this would enhance pedestrian safety. There appears to be enough parking in the municipal lots to handle the visitor street parking. The other aspect of all of this is the apparent lack of bylaw enforcement throughout the village, parking and pedestrian movement. The presented plans all look very nice but as a full time resident of the village (we live and work here) it doesn’t appear to resolve any of the major issues that we have come to associate with the ‘visitor’ population to this village. crossing improvements are proposed:</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings at Printery Rd</td>
<td>prefer not to have lights</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td>Increase water service</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DOCS 1371854  Page 23 of 65
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
</table>
| Mike DeVrieze | Drainage Issues  N  Sump discharge into storm sewer/ditch  N  Support Urbanization  Y  Pedestrian crossings in downtown  Y  Pedestrian crossings at Printery Rd  Y  Increase water service  N | While under construction, why not put a traffic light in the intersection of Printery Rd and King? With current traffic patterns at key times of the day and certain days (Market) it can be dangerous and time consuming trying to enter onto King. If possible, survey the neighbourhood affected and provide an estimated cost to adding this to the total project and net result to our taxes over a period of time. | • Future forecasted development does not warrant signal control or a roundabout at the King Street/Printery Road intersection.  
• Future development will be required to complete a Traffic Impact Study (TIS). |
| Nicole Hacock | I would oppose the pedestrian island in the downtown core in front of Thoman Tire. For the safety of pedestrians it does not make sense to have a crosswalk at this location. The crosswalk leads into the parking lot for this business. This area is very busy with vehicle traffic through the parking lot entrance/exit onto King St. And also in front of the business where vehicles go into the garage to have work done. To increase pedestrian traffic in this area would not be safe. Likewise, to have a bus pad in front of this business would also restrict traffic flow in and out of the garage and compromise pedestrian safety. The pedestrian island would also restrict delivery truck access to this business on the south side. I hope the Region has a way to deal with increased traffic down the side street during this process, specifically Young St. (where a daycare and many homes with young children are located) and Queensway (where our public school is located) permanent speed bumps/traffic calming features would be my recommendation. | • The preliminary design has been revised to eliminate the pedestrian refuge island proposed for the south side of the King Street/Cedar Street intersection.  
• Curb extensions (bump outs) are proposed at the intersection to improve the pedestrian crossing by reducing the crossing width and improving pedestrian visibility around the parked cars.  
• An Intersection Pedestrian Signal (IPS) is now proposed for the King Street/Albert Street intersection.  
• GRT stop location has been optimized to minimize parking impacts. The impact to the garage is of short duration while the passengers get on and off the bus.  
• Detours will be evaluated during detailed design. The potential impact of increased traffic on the side streets will be considered in the design of the traffic management and construction staging plans for construction in consultation with the |
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
</table>
| Jill Jacklin        | Drainage Issues N | Sump discharge into storm sewer/ditch N Support Urbanization Y Pedestrian crossings in downtown Y Pedestrian crossings at Printery Rd Y Increase water service | • It is the Region’s policy to construct sidewalks on both sides of Regional Roads in urban areas in accordance with the approved Context Sensitive Corridor Design Guidelines, the Region’s Pedestrian Charter and the proposed Active Transportation Master Plan.  
• As part of this project the following pedestrian crossing improvements are proposed:  
  • A pedestrian refuge island on the south side of Printery Road to provide a pedestrian crossing at the existing bus stop. It is now proposed that the length of the pedestrian refuge island at this location be increased to allow the Township the opportunity to provide a landscaped entrance feature marking the entrance to St. Jacobs.  
  • A pedestrian refuge island at the south side of the UPI gas station to coincide with the existing pedestrian walkway from the residential subdivision area east of King Street.  
  • Curb extensions (bump-outs) at the intersections of Hachborn Street, Cedar Street, Spring Street, Albert Street and Front Street to increase pedestrian visibility in the midst of on-street parking in the downtown core and reduce the pedestrian crossing width.  
  • An intersection pedestrian signal (IPS) is now proposed at Albert Street and King Street. The signal will be pedestrian-only activated to minimize stoppage in traffic flow.  
  • Future forecasted development does not warrant signal control or a roundabout at the King Street/Printery Road intersection. |
| Michelle Booth & Ray Skarratt | Drainage Issues N | Sump discharge into storm sewer/ditch N Support Urbanization Y Printery Rd onto King St.- no plans made to deal with upcoming development (Bamberg). We don’t want a signal light, could a round-about happen here – proposed development could mean 150-300 more |  

<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>sidewalks Eby to Sawmill are not necessary on both sides, East side only</td>
<td></td>
<td>• Future development will be required to complete a Traffic Impact Study (TIS).</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings in downtown Y</td>
<td></td>
<td>• The sight line restriction as a result of the bus stop at the King Street/Albert Street will be of short duration while passengers get on and off the bus.</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings at Printery Rd Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase water service N</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>cars. King/Albert – bus bad cannot be sitting bus otherwise vision impaired exiting from Albert. King/Albert – reduce left turn time signage to direct traffic up King to Sawmill and roundabout. We also don’t want traffic being encouraged to drive down Young or Water because they can’t easily get onto King St.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wm. Strauss</td>
<td>Drainage Issues N</td>
<td>Sidewalk up King from Eby is not necessary, trees are good.</td>
<td>• Sidewalk is now proposed only on the east side of King Street from Eby Street to Sawmill Road to connect the downtown core area to the community centre, park and health clinic.</td>
</tr>
<tr>
<td></td>
<td>Sump discharge into storm sewer/ditch N</td>
<td>Finish sidewalk on Northside from 3 Bridges to and around onto Sawmill</td>
<td>• A graded sidewalk platform will be constructed on the west side if sidewalk is required in the future.</td>
</tr>
<tr>
<td></td>
<td>Support Urbanization Y</td>
<td></td>
<td>• The need for sidewalks both sides of Sawmill Road between Northside Drive and King Street will be considered as part of the future reconstruction of Sawmill Road from King Street to the railway tracks.</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings in downtown N</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings at Printery Rd Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>downtown – no island with bump out will be good.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase water service N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rachel</td>
<td>More bus stops should be put in between Cedar St and Tim Hortons because many people live in between the stops and would likely benefit. A crosswalk instead of an island would be used for the ease of traffic flow, and the road isn’t wide enough to accommodate for a wide enough or useful enough island – this island /crosswalk should be at cedar instead. Are the Hydro lines going underground now?</td>
<td></td>
<td>• GRT stop spacings will be forwarded to GRT for further consideration</td>
</tr>
<tr>
<td>Martin</td>
<td></td>
<td></td>
<td>• Crosswalks are generally not provided within the Region without traffic control (i.e. stop sign, traffic signal, and crossing guard). There is a school crossing at Cedar Street and High Crest Lane; improved pedestrian crossings are being considered at Albert Street, in the vicinity of walkway adjacent to the UPI gas Station and at Printery Road.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• The replacement of overhead hydro lines with underground hydro lines is at the discretion (and cost) of the Township. A decision has not been made. The proposed scope of the Region’s work in the downtown core is not expected to</td>
</tr>
<tr>
<td>NAME</td>
<td>SURVEY RESULTS</td>
<td>COMMENTS</td>
<td>RESPONSE</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------</td>
<td>----------</td>
<td>----------</td>
</tr>
</tbody>
</table>
| Elaine Shoes (Elaine Clemmer) | Drainage Issues N  | My only concern is for horse and buggies coming from north east of town, through roundabout, down the hill, over the bridge to Front Street. Will there always be a path available for them to reach Front Street? Even during construction in that area? | • It is proposed to maintain single lane traffic on the bridge during construction with the use of temporary traffic signals to control traffic. During construction of King Street from Eby to Sawmill Road traffic is anticipated to use Northside Drive to access the downtown core.  
• Traffic management and construction staging details will be designed through consultation with the Township during the detailed design stage to minimize to the greatest extent possible the impact of construction on the residents and businesses. |
| Jamie & Kathy Neeb         | Drainage Issues Y new pavestone driveway and landscaping in front lawn Sump discharge into storm sewer/ditch Support Urbanization N  | On street parking is a big concern for us. We have a 5th wheel trailer that we have to park on the side of the road when returning from camping because the traffic is too busy to back into our driveway until later in the evening. We also use the street for parking when our children and friends come to visit. We spoke to Kelly Cobb and would appreciate anything you can do to accommodate some parking in front of our house. Lighting is poor on King Street, especially from Henry St up to Tim Hortons. This section of sidewalk is used frequently at night so a couple of street lights along this area would be appreciated. | • The provision of buggy/bike lanes, sidewalk and boulevard result in no opportunity to provide on-street parking in this general area given the existing ROW width and road alignment.  
• Illumination will be installed in accordance with the Region’s Illumination Policy. |
| Elizabeth Rogers            | Drainage Issues  | Surely all of you must realize the impact that closing the street for the whole summer will have. As a tenant for 17 years in the village, I can see this having a very serious impact on myself and my staff. Considering the draw we have from near and far this could mean | • In order to minimize disruption and inconvenience during the busier tourist/visitor season, it is proposed that the work in the downtown core and bridge resurfacing occur first in the spring and be completed by mid- |

 require relocation of the hydro poles.
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manfred &amp; Antie Zielinsky</td>
<td>Drainage Issues</td>
<td>N</td>
<td>Traffic management and construction staging details will be designed through consultation with the Township during the detailed design stage to minimize to the greatest extent possible the impact of construction on the residents and businesses.</td>
</tr>
<tr>
<td></td>
<td>Sump discharge into storm sewer/ditch</td>
<td>N</td>
<td>• Traffic management and construction staging details will be designed through consultation with the Township during the detailed design stage to minimize to the greatest extent possible the impact of construction on the residents and businesses.</td>
</tr>
<tr>
<td></td>
<td>Support Urbanization</td>
<td>Y</td>
<td>• Pedestrian access plans will be developed as part of the traffic management and detour plans.</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings in downtown</td>
<td>Y</td>
<td>• It is proposed to maintain single lane traffic on the bridge during construction with the use of temporary traffic signals to control traffic.</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings at Printery Rd</td>
<td>Y</td>
<td>• Grade transitions between existing and proposed elevations will be resolved as part of the detailed design.</td>
</tr>
<tr>
<td></td>
<td>Increase water service</td>
<td>N</td>
<td>• No retaining wall is required for 1323 King Street.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Efforts will be made during detailed design to minimize the impact on private landscaping. If relocation is required, it will be closely coordinated with the property owner.</td>
</tr>
<tr>
<td>Rick Thoman</td>
<td></td>
<td></td>
<td>• The preliminary design has been revised to eliminate the pedestrian refuge island proposed for the south side of the King Street/Cedar Street intersection.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Curb extensions (bump outs) are proposed at the intersection to improve the pedestrian crossing by reducing the crossing width and improving pedestrian visibility around the parked cars.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• An Intersection Pedestrian Signal (IPS) is now proposed for the King Street/Albert Street intersection.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Your proposed pedestrian island just before Cedar St would be a major inconvenience to Thoman Tire as you have the island in front of the access to our parking lot. Trucks will not be able to back into our loading dock and that is a daily occurrence (53 foot trailers). We already have to deal with a bust stop in between our front access and the entrance to our parking lot and this is where you propose to put the pedestrian island. Please reconsider this pedestrian island and pursue the pedestrian crossing light at King and Cedar.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Lowering King Street at Highcrest Lane will increase the angle of the sidewalk to street level transition. This would be of concern regarding the school crossing. Lowering the sidewalk from Highcrest down to North will impact our east side property line towards King St and might require a retaining wall, which we do not want. Do not touch my flowers and garden, trees, etc.</td>
</tr>
<tr>
<td>NAME</td>
<td>SURVEY RESULTS</td>
<td>COMMENTS</td>
<td>RESPONSE</td>
</tr>
<tr>
<td>------------</td>
<td>----------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Jeannette  | Drainage Issues N | The busiest crossing is by Spring St. All tour buses, school buses, etc., park in front of the Stone Crock to drop off and pick up. So being 90% are seniors, most are not able to walk all the way up to Albert St. Right now I have to help at least 2 to 10 people a day to cross the street over to the Stone Crock as the seniors have walkers and can't walk that fast and also that is where the public washroom is. Speed should be 40 through town as well, cars travelling way too fast down the hill. Trucks diverted around town too. Problems at Spring and King near manhole with road sinking. Has already had major fixes twice. Can we fix this problem while doing this? | • Pedestrian information is appreciated and will be considered. Curb extensions (bump-outs) are proposed at Spring Street to improve the pedestrian crossing by reducing the crossing width and improving pedestrian visibility around the parked cars.  
• All Regional roads should be truck routes unless there are valid reasons for imposing prohibitions or time restriction on a particular section.  
• Generally speed limits are set at or about the average travel speeds. This produces a uniform moving traffic stream. Traffic flowing at a uniform speed results in increased safety and fewer collisions. Currently the posted speed limit is 50 km/h. No reduction in the posted speed limit is planned  
• The roadway settlement will be addressed as part of the project. |
| Ende       | Sump discharge into storm sewer/ditch N Support Urbanization Y Pedestrian crossings in downtown Y Pedestrian crossings at Printery Rd N need to put at Spring St not Albert St. Increase water service N |                                                                                                                                                                                                          |                                                                                                                                                                                                          |
| Denise     | Drainage Issues N | I have felt for many years that the town needs pedestrian crossings. I like option B with flashing lights – 2 locations – one at Albert (or Front St) and one at Cedar or Hachborn. We are crossing the road with groups of 10 or 16 children with 2 adults. We have had cars speed past even when we are trying to stop the flow of traffic. Traffic ignores the school crossing signs even with a group of children trying to cross. We need a pedestrian crossing and I feel flashing lights would be better than islands for the amount of children we have crossing at one time. | • Flashing signal crosswalks (Pedestrian Cross Overs, PXO) are generally being replaced with Intersection Pedestrian Signals IPS within the Region.  
• The preliminary design has been revised to eliminate the pedestrian refuge island proposed for the south side of the King Street/Cedar Street intersection.  
• Curb extensions (bump outs) are proposed at the intersection to improve the pedestrian crossing by reducing the crossing width and improving pedestrian visibility around the parked cars.  
• An Intersection Pedestrian Signal (IPS) is now proposed for the King Street/Albert Street intersection. |
<p>| Weber      | Sump discharge into storm sewer/ditch N Support Urbanization Y anything that makes it easier for all to get around town Pedestrian crossings in downtown Y Pedestrian crossings at Printery Rd Y have trouble crossing street with daycare children Increase water service N |                                                                                                                                                                                                          |                                                                                                                                                                                                          |
| Caroline   | It is so important that customers have access to the |                                                                                                                                                                                                          | • In order to minimize disruption and                                                                                                                                                                       |</p>
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prange</td>
<td></td>
<td>retail stores. I am very concerned re – pedestrian traffic during construction period (I have retail store in St. Jacobs). I would like to see from Front St to Hachborn St decorative flower beds built on each corner. Also decorative lamp posts would be great to beautify our village as most places i.e. Elmira, Kitchener, Waterlo, Niagara on the Lake and most small towns in Ontario. It would be great to have trees planted also in the village that lights could be put in at for example Christmas.</td>
<td>inconvenience during the busier tourist/visitor season, it is proposed that the work in the downtown core and bridge resurfacing occur first in the spring and be completed by mid-June, weather permitting.</td>
</tr>
<tr>
<td>George &amp; Catherine Jacobs</td>
<td>Drainage Issues</td>
<td>N Sump discharge into storm sewer/ditch Y A stamped coloured concrete driveway Support Urbanization N we currently use the shoulder as a safety feature for backing into our garage rather than backing off King St. Pedestrian crossings in downtown Y Pedestrian crossings at Printery Rd Y it’s about time!! Increase water service N</td>
<td>Do not curb in front of our house, we use that shoulder for a safer entrance and exit from our driveway rather than backing off of or onto King St. We also require access to our backyard via the old driveway on the North side of the house, this is not daily, occasionally only. In 1999 Ontario Hydro would not permit the replacement of two very old maples that were removed due to disease, they said No due to the hydro lines, low growth or otherwise. Thank you for your consideration in this matter. P.S. Pedestrian crossing preferably lighted is a must, no excuse is acceptable when it comes to ones life!!</td>
</tr>
</tbody>
</table>
### SURVEY RESULTS

<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
</table>
| J. Courtney| Drainage Issues N  Sump discharge into storm sewer/ditch N  Support Urbanization Y  Pedestrian crossings in downtown Y  Pedestrian crossings at Printery Rd N  Increase water service N | Parking on Main St. – you can not see past the parked cars at any intersection as you try to cross King St. All Hydro wires should be buried on Main St. | - The preliminary design has been revised to eliminate the pedestrian refuge island proposed for the south side of the King Street/Cedar Street intersection.  
- Curb extensions (bump outs) are proposed at the intersection to improve the pedestrian crossing by reducing the crossing width and improving pedestrian visibility around the parked cars.  
- An Intersection Pedestrian Signal (IPS) is now proposed for the King Street/Albert Street intersection.  
- The replacement of overhead hydro lines with underground hydro lines is at the discretion (and cost) of the Township. A decision has not been made. The proposed scope of the Region’s work in the downtown core is not expected to require relocation of the hydro poles. |
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
</table>
| Ryan Clemmer    | Drainage Issues N                     | I am happy to see sidewalks added on both sides of King from Printery Rd (specifically at the walkway) to Henry St. My daughter will likely be walking to St. Jacobs Public School from the Printery Rd subdivision, having sidewalks will make walking to school much safer (and more direct). Consideration for a crosswalk (with a crossing guard) at some point along King would also be appreciated. | - It is the Region’s policy to construct sidewalks on both sides of Regional Roads in urban areas in accordance with the approved Context Sensitive Corridor Design Guidelines, the Region’s Pedestrian Charter and the proposed Active Transportation Master Plan.  
- As part of this project the following pedestrian crossing improvements are proposed:  
  - A pedestrian refuge island on the south side of Printery Road to provide a pedestrian crossing at the existing bus stop. It is now proposed that the length of the pedestrian refuge island at this location be increased to allow the Township the opportunity to provide a landscaped entrance feature marking the entrance to St. Jacobs.  
  - A pedestrian refuge island at the south side of the UPI gas station to coincide with the existing pedestrian walkway from the residential subdivision area east of King Street.  
  - Curb extensions (bump-outs) at the intersections of Hachborn Street, Cedar Street, Spring Street, Albert Street and Front Street to increase pedestrian visibility in the midst of on-street parking in the downtown core and reduce the pedestrian crossing width.  
  - An intersection pedestrian signal (IPS) is now proposed at Albert Street and King. The signal will be pedestrian-only activated to minimize stoppage in traffic flow.  
  - School crossing guards are under Township jurisdiction. Regional staff will forward your concern pertaining to additional crossing guards to the Township for consideration. |
<p>| Pat Cardillo    | Drainage Issues Sump discharge into storm | Do we know a construction schedule? I.e. – entire roadway closed? – which parts and when? – access to | - In order to minimize disruption and inconvenience during the busier tourist/visitor |</p>
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>sewer/ditch</td>
<td>businesses? – when does construction begin? – access to entire street always? I run 3 restaurants in town for the Shantz’s. It will directly impact the business. Just trying to mitigate effect and duration.</td>
<td>season, it is proposed that the work in the downtown core and bridge resurfacing occur first in the spring and be completed by mid-June, weather permitting.</td>
</tr>
<tr>
<td></td>
<td>Support Urbanization</td>
<td></td>
<td>- Traffic management and construction staging details will be designed through consultation with the Township during the detailed design stage to minimize to the greatest extent possible the impact of construction on the residents and businesses.</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings in downtown</td>
<td></td>
<td>- Pedestrian access plans will be developed as part of the traffic management and detour plans.</td>
</tr>
<tr>
<td></td>
<td>Y</td>
<td></td>
<td>- It is proposed to maintain single lane traffic on the bridge during construction with the use of temporary traffic signals to control traffic.</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings at Printery Rd</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase water service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Randy</td>
<td></td>
<td>No possible way an island can be put there – unsafe, obstruct view, not able to receive deliveries which we get everyday. Much rather see lights at crosswalk that already exists – much safer.</td>
<td>- The preliminary design has been revised to eliminate the pedestrian refuge island proposed for the south side of the King Street/Cedar Street intersection.</td>
</tr>
<tr>
<td>Henry Hildebrand</td>
<td>Prefer ‘island crossings’ for safety. Would like to see beautification options included at road cross sections as part of island crossings and along sidewalks. Provision for benches on sidewalks.</td>
<td></td>
<td>- Curb extensions (bump outs) are proposed at the intersection to improve the pedestrian crossing by reducing the crossing width and improving pedestrian visibility around the parked cars.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- An Intersection Pedestrian Signal (IPS) is now proposed for the King Street/Albert Street intersection.</td>
</tr>
<tr>
<td>NAME</td>
<td>SURVEY RESULTS</td>
<td>COMMENTS</td>
<td>RESPONSE</td>
</tr>
<tr>
<td>---------------</td>
<td>----------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>David Johnson</td>
<td>Drainage Issues N</td>
<td>Downtown core looks like shared roadway, why are there no dedicated bike lanes? Cyclists should not have to ride in car lane against parked cars. People pull out and do not observe cyclists particularly in downtown core. Pedestrians also cross randomly from between parked cars in core. One solution – remove parking on one side of King St. In core for buggy/bike lane.</td>
<td>• Parking within the village downtown core is important for area businesses, visitors, delivery vehicles customers and other users. No parking removal is proposed in the downtown core other than the parking removal required to implement the curb extensions (bump outs) at the intersections and the intersection pedestrian signal at Albert Street.</td>
</tr>
<tr>
<td></td>
<td>Sump discharge into storm sewer/ditch N Support Urbanization Y</td>
<td></td>
<td>• There is limited width within the downtown core. During preliminary design, staff felt that the recently constructed (1995) infrastructure (curb, storm sewers, etc.) should be preserved and not replaced or relocated.</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings in downtown Y</td>
<td></td>
<td>• Given the scenic character of the road within the downtown core, the existing traffic mix and the preservation of the existing infrastructure; the existing shared use of the roadway is felt to be appropriate.</td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings at Printery Rd Y</td>
<td></td>
<td>• Curb extensions (bump outs) are proposed at the intersection to improve the pedestrian crossing by reducing the crossing width and improving pedestrian visibility around the parked cars to encourage pedestrians to cross at the intersection locations.</td>
</tr>
<tr>
<td></td>
<td>Increase water service N</td>
<td></td>
<td>• The property is beyond the limits of the current project.</td>
</tr>
<tr>
<td>Dan Kenesky</td>
<td></td>
<td>We would appreciate if water and sewers would be available at our property on the southern side of the railroad tracks, on the west side of King St. (south of Printery Rd).</td>
<td>• The Township of Woolwich is considering the extension of sanitary sewer and water services to Printery Road at the south end of the project where services do not currently exist. The Township is to advise if these services are to be included as part of this project.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• The extension of water and sanitary services to Printery Road is anticipated to be funded as a</td>
</tr>
<tr>
<td>NAME</td>
<td>SURVEY RESULTS</td>
<td>COMMENTS</td>
<td>RESPONSE</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Craig Miller</td>
<td></td>
<td>Cross walk – alternative A is most preferable Please beautify our village when everything is ripped up – interlocking planters on corners of intersections – interlocking paved areas at intersections – nice light poles – we are a tourist town, let’s help stimulate economic growth.</td>
<td>• Staff will forward comments to the Township for their further consideration.</td>
</tr>
<tr>
<td>Oscar B. Weber</td>
<td></td>
<td>As a member of the Old Older Mennonite community, I don’t see any problems in the problems in the proposed changes to the renovations of King St. Thanks for your efforts to accommodate horse and buggy traffic.</td>
<td>• No decision at this time has been made by the Township regarding sidewalk, planting and lighting improvements within the village core. Discussions are on-going.</td>
</tr>
<tr>
<td>Laverne Brubacher</td>
<td>Drainage Issues <strong>N</strong> Sump discharge into storm sewer/ditch <strong>N</strong> Support Urbanization <strong>Y</strong> Pedestrian crossings in downtown Pedestrian crossings at Printery Rd <strong>N</strong> Increase water service <strong>N</strong></td>
<td>I do not support curbs from Fairway Lumber to Printery Rd. Paved should allowing trucks etc to pull over is more important. Sidewalks from the river to Sawmill Rd are not needed. No one walks up that hill. Paved shoulders are just fine. In general I do not like islands at pedestrian crossings, they are a very real traffic hazard, get hit by snow plows and I think make it more difficult for pedestrians to cross. For 4 lanes it makes more sense, for 2 lanes, not at all.</td>
<td>• The parking demand studies did not identify a need for parking. Trucks destined for the adjacent businesses, appear to have sufficient off-road parking area available at the business locations.  • Sidewalk is now proposed only on the east side of King Street from Eby St. to Sawmill Road to connect the downtown core area to the community centre, park and health clinic.  • A graded sidewalk platform will be constructed on the west side to provide for future sidewalk.  • Pedestrian refuge islands allow the pedestrian to cross the roadway in two stages, requiring only a single direction traffic gap at a time and reduced crossing width.  • Sufficient width is available at the pedestrian refuge islands for snow plows to pass.  • Improved illumination and signing will be implemented at the islands in accordance with the Region’s policies.</td>
</tr>
</tbody>
</table>

Drainage Issues **N**                                                                 | Provision will be made for a storm sewer
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sump discharge into storm sewer/ditch</td>
<td>Y</td>
<td>connection subject to the Region’s Sewer Use By-Law requirements.</td>
</tr>
<tr>
<td></td>
<td>Support Urbanization</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td>it seems this is only making the ‘mess’ we already have ‘pretty’. There doesn’t seem to be any improvement except in appearance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings in downtown</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings at Printery Rd</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase water service</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Drainage Issues</td>
<td>N</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sump discharge into storm sewer/ditch</td>
<td>Y</td>
<td>Provision will be made for a storm sewer connection subject to the Region’s Sewer Use By-Law requirements.</td>
</tr>
<tr>
<td></td>
<td>Support Urbanization</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings in downtown</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings at Printery Rd</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase water service</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>sewer and water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Larry &amp; Marcia</td>
<td>Drainage Issues</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Shantz</td>
<td>Sump discharge into storm sewer/ditch</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Save the money on the proposed additions of sidewalks in St. Jacobs and spend that money for proper/safe sidewalks in Bloomingdale. Visit our town</td>
<td></td>
<td>It is the Region’s policy to construct sidewalks on both sides of Regional Roads in urban areas in accordance with the approved Context.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>There should be a crosswalk at the bottom of Spring St at King. Tour buses unload at the Stone Crock and people cross there all the time, even weekdays</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The island should be closer to the Stone Crock area and where the Post Office is.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There should be a crosswalk at the bottom of Spring St at King. Tour buses unload at the Stone Crock and people cross there all the time, even weekdays.

The island should be closer to the Stone Crock area and where the Post Office is.

It is the Region’s policy to construct sidewalks on both sides of Regional Roads in urban areas in accordance with the approved Context.
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
</table>
| Ken & Bev Grieve |                | House was built in 1865 with elevations relative to original roadway (King); reconstruction of King destroyed entry to this lot and put house and lot dangerously below finished road grade. Landscape issues - boulevard maintenance difficult due to steep grade into yard, entry to yard from street via stairs in disrepair, railing on stairs in disrepair. Driveway Issues - restricted visibility for exiting driveway, grade too steep in inclement weather, not curbed, not wide enough at roadway entrance, insufficient space for sidewalk and boulevard due to steep drop off onto yard, only house on block, sidewalk not required. For consideration – dropping grade of roadbed by 1 to 2 feet, construction of stone retaining wall below road grade, curbing and resurface of municipal portion of driveway, reconstruct shallower, wider stairs into yard with new railings. Thank you for the opportunity to be part of the planning of this much needed urban up-grade and hope that our requests are taken under serious consideration. | - A variety of boulevard grading solutions were considered to minimize the impact on the houses located lower than the road on both the east and west side of King Street between Princess and Hachborn Streets.  
- Operations staff advises that the existing stairs will be repaired as an interim measure until the stairs are replaced as part of the proposed King Street reconstruction.  
- The stairs will be reconstructed approximately in their current location (6 risers) as an extension of the existing concrete walkway on the north side of the house. The toe of the stairway will be 1.5m +/- from the face of the Grieve residence.  
- It is the Region’s policy to construct sidewalks on both sides of Regional Roads in urban areas in accordance with the approved Context Sensitive Corridor Design Guidelines, the Region’s Pedestrian Charter and the proposed Active Transportation Master Plan.  
- Driveway grades will be maintained; the curbface sidewalk will provide a relatively level |
area from which to pull out onto the roadway.

- Preliminary design of roadway includes lowering of the profile; maintaining existing infrastructure (watermain, storm sewer, etc.) limits the available depth that the road can be lowered. The pavement width in front of 1348 and 1356 King St. N. will be narrowed. The proposed northbound (downhill) bike/buggy lane will be terminated approximately 15 m north of the Princess St. intersection. This allows the curbline to be relocated 0.85m +/- further away from the Grieve home. The back of the proposed 1.8m wide curbface sidewalk is located approximately 3.5m +/- from the face of the Grieve home.

- To minimize the grading impact a retaining wall is required behind the proposed curbface sidewalk. The grade behind the retaining wall will approximately match the existing grade. The exposed face of the retaining wall is generally 600-800mm high in front of 1348 King St. N.

- It is proposed that the use of stamped concrete be considered for the exposed wall face to improve the visual aesthetics facing the view from the house and be compatible with the scenic nature of the road.

- A pedestrian handrail is required; the pedestrian handrail should conform to the Ontario Building Code (OBC) (likely metal picket style railing). The property owner will be consulted as to exact style of the hand railing and finish of the exposed wall face during the detailed design phase.

- The retaining wall is to wrap around the south-east corner of the house at the driveway to

<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAME</td>
<td>SURVEY RESULTS</td>
<td>COMMENTS</td>
<td>RESPONSE</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Paul &amp; Sandy Kalbfleisch</td>
<td>We are quite concerned about the proposed changes proposed for St. Jacobs. We moved to the village 17 years ago to escape suburbia. Many of the suggested changes will simply make this like another suburb of KW. We understand from a safety perspective, some changes have to be made to the downtown core. We believe that 2 sets of traffic lights is the best solution. One at cedar &amp; king that would be only pedestrian activated. One at front &amp; king that would be a full traffic light service. The latter will allow vehicles to access King St... this will become increasingly more important as additional housing is developed on Front St. it might be more advantageous to have this light at Albert &amp; King, which would allow access to King from both sides the village&gt; this light will also help to reduce speeding that does occur on King St. after regular business hours. The second point concerns the redevelopment of King from Hachborn to old Prinery Rd. this seems to be a tremendous expense and restructuring of many properties for minimal gain. The bike/buggy lane planned is not sufficiently wide to address the problem. Many buggies now use the 2 parallel streets (Queensway &amp; Young) to travel through the village. This works quite well. I can count the number of times on one hand, that I have had to wait for oncoming traffic to pass a buggy on King St. Cyclists can easily be redirected to these side streets... The proposed plan will greatly alter the first impression that people have coming in to our quaint village. We look forward to having other opportunities to discuss this at future meetings</td>
<td>- King Street is classified as both a Rural Village Main Street and Neighborhood Connector Main Street in the Region's Corridor Design Guidelines. - Both road classifications anticipate the reconstruction of King Street to an urban standard which is compatible with the adjacent residential and commercial land uses. The preliminary design has been revised to eliminate the pedestrian refuge island proposed for the south side of the King Street/Cedar Street intersection. - Curb extensions (bump outs) are proposed at the intersections in the downtown core to improve the pedestrian crossing by reducing the crossing width and improving pedestrian visibility around the parked cars and to encourage pedestrians to cross at the intersection locations. - An Intersection Pedestrian Signal (IPS) is now proposed for the King Street/Albert Street intersection. - Traffic signals are not warranted - The Cycling Master Plan and the proposed Active Transportation Master Plan (ATMP) identifies King Street as a long-term on-road cycling route. In addition to cycling, buggy use of the road is significant. The Corridor Design Guidelines recommend a 1.5m buggy/bike lane. Staffs feel that the provision of a buggy bike lane wider than 1.5m might encourage car parking in the lane area which would reduce the effectiveness and safety for cyclists and buggies.</td>
<td></td>
</tr>
<tr>
<td>NAME</td>
<td>SURVEY RESULTS</td>
<td>COMMENTS</td>
<td>RESPONSE</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Constance</td>
<td>1. Heritage, cultural and tourist importance of 1356 King. Some years ago, my house, then 81 King and latterly 1356 was on an Historical Walking Tour sponsored by the town of St. Jacobs and the Township of Woolwich. Described as &quot;This 2 storey red brick with yellow brick quoins and lintels over paired, tall windows has Italianate style and features. Note the low pitched roof, ornamental brackets along the cornice and an extended 2 storey bay with a round window set in a gable with reverse eaves. Houses of this architectural style, with rubble foundations, were not uncommon in the 1850 to 1870's.&quot; It is indeed beautiful, prominent and historic house and as such probably receives the greatest amount of attention of any house in St. Jacobs from tourists as it is also the first house south of the downtown shopping district. In addition it has a large, green lot with beautiful trees etc. While the information package has a heading on p.5-7. &quot;What about about Cultural and Heritage importance.... it merely states that &quot;Conservation recommendations.... being considered are; pedestrian bump-outs and sidewalk enhancements&quot; <strong>What about the huge detriment that 1356 King and the Village of St. Jacobs will suffer with the addition of a meter high modern CONCRETE wall topped with a modern metal fence which will create a wall only a few feet in front of the house and along the entire +133 feet of property that is possibly the most scenic residence in the downtown area? Surely no historic review could give this their seal of approval to this ruinous idea. Further discussion of salt damage to an historic house covered under 2. Snow removal.</strong> 2.Snow removal Placing a side walk alongside the road makes could make the property owner responsible for the snow removal of half the roadway plus the side walk. This</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Fast) Madelina</td>
<td></td>
<td></td>
<td>A variety of boulevard grading solutions were considered to minimize the impact on the houses located lower than the road on both the east and west side of King Street between Princess and Hachborn Streets. The Township By-law requires adjacent property owners to clear snow less than 300mm in depth. If the depth exceeds 300mm, the snow will be cleared by Township forces. Region snow clearing operations are based on Minimum Maintenance Standards. In St. Jacobs, the practice is that snow plowed and stored on the side of the road is removed when it is approximately 600mm (2 ft.) deep, as time permits. The majority of the frontage to 1356 King Street will be graded in lieu of a retaining wall. The pavement width in front of 1348 and 1356 King St. N. will be narrowed. The proposed northbound (downhill) bike/buggy lane will be terminated approximately 15 m north of the Princess St. intersection. This allows the curbline to be relocated 0.85m+/− further away from the Grieve home. To minimize the grading impact a retaining wall is required behind the proposed curblface sidewalk. The grade behind the retaining wall will approximately match the existing grade. The exposed face of the retaining wall is generally 600-800mm high in front of 1348 King St. N. It is proposed that the use of stamped concrete be considered for the exposed wall face to improve the visual aesthetics facing the view from the house and be compatible with the</td>
</tr>
</tbody>
</table>
3. Property values.
Adding a +133’ meter high concrete retaining wall and 3 foot metal fence would greatly diminish the property value especially since 1356 is a double lot. Real estate agents have given a dismal prognosis for the difficulty in resale and diminishment of value while property taxes continue to rise. This is in addition to the damage from snow/salt removal at such close quarter to the house itself.

4. 1356 as dwelling and passage way for wildlife.
When I first moved here I was surprised and fascinated by the quantity of wildlife at 1356 King. At first I discovered animal burrows to the sewer area. The first snow fall bore this out, also indicating just how many animals also used the double lot as a refuge and passageway, much of which went underground to the safety of the sewer passageway. **What is to become of all the animals when they no longer have this access due to proposed sewer and retaining wall changes.**

5. Child safety
I have also been surprised at how many children play on the hillside to 1356 and pass through the yard. **What about their safety when there is a high retaining wall and fence?**

6. Unnecessary expenditure. **Are all of these costly changes really necessary? Are they really going to help the diminishing business economy of St.**

---

- A pedestrian handrail is required; the pedestrian handrail should conform to the Ontario building Code (OBC) (likely metal picket style railing). The property owner will be consulted as to exact style of the hand railing and finish of the exposed wall face during the detailed design phase.

- Removal of one tree at the south end of the property and the shrubs at the approximate location of the municipal drain will be required to accommodate the extension of the grading slopes. The Region will replace the trees and shrubs removed in accordance with the Region’s policy and in consultation with the property owner.

- The proposed road work is not expected to decrease the property value.

- There is not expected to be any increased snow/salt damage to the property due to the location of the proposed road and sidewalk. The distance from the back of the existing curb to the front of the house is currently approximately 8.94m. Changes to the road width result in a slight reduction of the distance to approximately 6.79m (6.80m from the back of the proposed sidewalk to the front of the house).

- No retaining wall is proposed for the majority of the vacant lot frontage. Discussions regarding the realignment of the municipal drain onto the road allowance are on-going. The Township is inspecting the drain to determine its condition.

- The decision to realign the drain is expected to consider not only the drain condition but also the scenic nature of the road.
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jacobs and environs</td>
<td>or are they going to keep the already upset and burdened taxpayers at home instead of spending money locally?</td>
<td>The above is written with concern and respect for a community that I have come to love. I came here to look care for my aging parent, Linda Fast, who enjoyed her final and peaceful years at 1324 King St. North. 7. Actually safety and practicality of bump outs is now being viewed as questionable.</td>
<td>opportunity to improve access to the drain for maintenance purposes by removing it from private property and from potential obstructions (i.e. buildings, trees, and landscaping features). • The final status of the existing municipal drain would be determined as part of the relocation process under the Drainage Act. • The proposed grading of the slopes adjacent to the vacant lot will not impact the existing safety of the embankment since the proposed slopes will mimic the current slopes. • A portion of the Region taxes collected from all regional residents are directed to fund Transportation Capital projects and the long-term funding strategy. This funding is directed to capital projects identified as requiring infrastructure rehabilitation needs. This project has been identified with these needs which will be funded from this tax source which will not impact the tax already being collected to fund Transportation Capital projects and the long-term funding strategy. • Curb extensions (bump outs) are proposed at the intersection to improve the pedestrian crossing by reducing the crossing width and improving pedestrian visibility around the parked cars.</td>
</tr>
<tr>
<td>Dave Gromeder</td>
<td>My name is Dave Gromeder. I am store manager of Home Hardware - St Jacobs 1421 King north. First off, sorry for the late comments to the King street reconstruction. I was at the open house on Oct 24 and I would like to say it was a very informative evening with a lot of great detail to the construction ahead of us. It is great to have an opportunity to express our concerns and have listening ears to hear our opinion. Thank you for that!</td>
<td>• In order to minimize disruption and inconvenience during the busier tourist/visitor season, it is proposed that the work in the downtown core and bridge resurfacing occur first in the spring and be completed by mid June, weather permitting. • Traffic management and construction staging details will be designed through consultation</td>
<td></td>
</tr>
<tr>
<td>NAME</td>
<td>SURVEY RESULTS</td>
<td>COMMENTS</td>
<td>RESPONSE</td>
</tr>
<tr>
<td>------</td>
<td>----------------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I think the reconstruction looks great and the pictures of how it may look (especially coming in to town from Waterloo) - trees, sidewalks, it looks beautiful. As a retailer from the downtown core area, it is a great concern (for all businesses) when traffic flow may be hindered/obstructed due to construction. I understand the need for the work being done, and the fact that there isn't much you can do when road work needs to be done. I have a few comments and concerns to pass on...</td>
<td>with the Township during the detailed design stage to minimize to the greatest extent possible the impact of construction on the residents and businesses.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. As much work that can be done in the off season would benefit all businesses in the downtown core area.</td>
<td>• Pedestrian access plans will be developed as part of the traffic management and detour plans.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. The loss of a couple parking spots on King street in regards to the bus system is understandable, however, I feel the loss of 2ea 15 min. parking spots in front of the Post office would be a real pain for town residents when they come to pick up their mail. This is not a good option.(not sure what example that was)</td>
<td>• Parking within the village downtown core is important for area businesses, visitors, delivery vehicles customers and other users. No parking removal is proposed in the downtown core other than the parking removal required to implement the curb extensions (bump outs) at the intersections and the intersection pedestrian signal at Albert Street.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Pedestrian crossing is definitely needing attention. Option &quot;A&quot; (corner of Albert and King) is not a good option. We have 45' trailers that deliver to our store and to Albert Street east (to Kalora Rugs). With the pedestrian pads out in the middle of the street, trucks of this size would not be able to make the corner. Option &quot;B&quot; with the crossing light would make more sense (no pad in middle of road).</td>
<td>• Adjustment to the location of the short-term parking spaces will be required with the implementation of and IPS at Albert Street.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Crossing light at corner of Albert/King I think are the best option for pedestrian traffic. (option &quot;B&quot;) If there is going to be 2 spots with crossing lights, I think they have to be synchronized together to keep traffic flowing.</td>
<td>• Improvements to the radii at Henry Street are proposed to improve the truck turning movements at this intersection.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Would also like to make a recommendation for the corner of Henry/King to have a wider turning radius for</td>
<td></td>
</tr>
</tbody>
</table>
### NAME

#### Carrie and Craig Curtis

**SURVEY RESULTS**
- Drainage Issues
- Sump discharge into storm sewer/ditch: Y
- Support Urbanization: I would rather see ‘bump outs’ than islands
- Pedestrian crossings in downtown: Y
- Pedestrian crossings at Printery Rd: N
- Increase water service: N

**COMMENTS**

The two things I’m most interested in are sidewalks as we currently have no safe connection from the Bromberg subdivision along King St. to the school/downtown. One of the key benefits of living in St. Jacobs is that we walk everywhere, as do many of our neighbours – particularly as many of them walk to work at the Home Hardware head office. Also, once staging plans are available we would be interested in seeing those to help us plan our routes, etc. in and out of town.

**RESPONSE**

- It is the Region’s policy to construct sidewalks on both sides of Regional Roads in urban areas in accordance with the approved Context Sensitive Corridor Design Guidelines, the Region’s Pedestrian Charter and the proposed Active Transportation Master Plan.
- Sidewalks are proposed to infill (complete) the existing sidewalk network system on both sides of King Street from Hachborn Street to Printery Road.

#### Joyce Jamieson

**SURVEY RESULTS**
- Drainage Issues
- Sump discharge into storm sewer/ditch: Y
- Support Urbanization: I would rather see ‘bump outs’ than islands
- Pedestrian crossings in downtown: Y
- Pedestrian crossings at Printery Rd: N
- Increase water service: N

**COMMENTS**

According to the proposed plan, there is tree planting in front of my property. I already have 3 trees along the side walk on my property. I do not want any more trees, especially deciduous trees that require more leaf raking in the fall. At the time of this work, I will be a young senior and do not need or want more yard work. The plan showed sidewalks up King St from North of the bridge to Sawmill Road. There was a Parking Demand study done (section 8) to determine parking needs. Was such a study done to see how many people walk this stretch? The answer would be not many. Why put the expense of sidewalks in this area. There is already stairs on the east side leading up to the health centre, park, etc. That would be the main destination for people. There’s nothing up King St, most is either to the left or right – directly. Yes there’s the pet store but most people drive there – as well as to the strip mall gym. Has underground hydro lines been looked at for

**RESPONSE**

- Landscaping plans will be developed as part of the detailed design; your concern is noted and will be considered.
- There has not been a pedestrian volume count north of Eby Street. Sidewalk is now proposed only on the east side of King Street from Eby Street to Sawmill Road to connect the downtown core area to the community centre, park and health clinic to provide an alternate means of access rather than the to the use of the existing stairs.
- A graded sidewalk platform will be constructed on the west side to provide for future sidewalk.
- The replacement of overhead hydro lines with underground hydro lines is at the discretion (and cost) of the Township. A decision has not been made.
- No decision at this time has been made by the
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maynard &amp; Ruth Bauman</td>
<td>Drainage Issues</td>
<td>Expense as well as looks to beautify the streets? So often trees as planted and then a few years later they are being severely trimmed because they interfere with power lines. It is too late now – what would have been the better development would have been to have the tourist area away from the main street and to have made it a vehicle free zone – like other places I’ve visited. As it is, locals have to deal with tourists – the good and the bad – on a daily basis. Township regarding sidewalk, planting and lighting improvements within the village core. Discussions are on-going. • Provision will be made for a storm sewer connection subject to the Region’s Sewer Use By-Law requirements.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sump discharge into storm sewer/ditch</td>
<td><strong>Y</strong> Connects to catch basin at 1278 King N – could a new connection be made at our address? Support Urbanization Pedestrian crossings in downtown Pedestrian crossings at Printery Rd Increase water service</td>
<td>We have lived at this address for over 50 years, our comments reflect this fact. A traffic light, not a refuge island, at Printery Road &amp; King St – high priority due to planned residential expansion at south east end of town. The paved shoulder on the east side from Printery Road to High Crest works well for the few buggies, bikes and occasional parking. Banning parking completely would be a real hardship as there is no nearby space available. A sidewalk with a narrow grassed area, a gutter, but NO CURB and retain the paved shoulder would still allow buggies, bikes, and occasional parking as needed, and it works well. – large boulevard not needed. Sidewalks are not needed on East side of King St from High Crest to Hachborn nor on West side from Eby St to Sawmill Rd. Pedestrian signals at Albert and Cedar seem to be the best choice. Eleven bump-outs in the core area would seem like a ‘snow plow operator’s nightmare’. • Future forecasted development does not warrant signal control or a roundabout at the King Street/Printery Road intersection. • Future development would be required to complete a Traffic Impact Study (TIS). • The Cycling Master Plan and the proposed Active Transportation Master Plan (ATMP) identifies King Street as a long-term on-road cycling route. In addition to cycling, buggy use of the road is significant. The Corridor Design Guidelines recommend a 1.5m buggy /bike lane. Staff feel that the provision of a buggy bike lane wider than 1.5m might encourage car parking in the lane area which would reduce the effectiveness and safety for cyclists and buggies. • The provision of buggy/bike lanes, sidewalk and boulevard result in no opportunity to provide on-street parking in this general area given the existing ROW width and road alignment. • The parking demand studies did not identify need for parking. Should trucks are destined for the adjacent businesses it appears there is sufficient parking area available at these locations. It is the Region’s policy to construct sidewalks on both sides of Regional Roads in urban areas in accordance with the approved Context Sensitive Corridor Design Guidelines,</td>
</tr>
</tbody>
</table>
### NAME: D.W. Fern

#### SURVEY RESULTS
- Drainage Issues: Y  
- Sloping driveway to garage: Y  
- Sump discharge into storm sewer/ditch: Y  
- Support Urbanization: N  
- Takes away country atmosphere: Y  
- Pedestrian crossings in downtown: Y  
- Pedestrian crossings at Printery Rd: N  
- Increase water service: N  
- Have 90 ft deep drilled well: N

#### COMMENTS
- I feel that road side curbs can be a hazard for buggies as the lane width does not give any room to maneuver out of harms way and will slow down traffic coming into town. Also takes away from the country atmosphere which tourists come to see.

#### RESPONSE
- King Street is classified as both a Rural Village Main Street and Neighborhood Connector Main Street in the Region’s Corridor Design Guidelines.
- Both road classifications anticipate the reconstruction of King Street to an urban standard which is compatible with the adjacent residential and commercial land uses.
- The Cycling Master Plan and the proposed Active Transportation Master Plan (ATMP) identifies King Street as a long-term on-road cycling route. In addition to cycling, buggy use of the road is significant. The Corridor Design Guidelines recommend a 1.5m buggy/bike lane. Staff feel that the provision of a buggy bike lane wider than 1.5m might encourage car parking in the lane area which would reduce the effectiveness and safety for cyclists and buggies.
- Staff and the consultant will consult with the

---

**NOTE:** The response includes information about the proposed Active Transportation Master Plan (ATMP) and the current Cycling Master Plan, highlighting the importance of King Street as a long-term on-road cycling route.
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>David Frey</td>
<td>Drainage Issues N</td>
<td>Sump discharge into storm sewer/ditch N</td>
<td>Provision will be made for a storm sewer connection subject to the Region’s Sewer Use By-Law requirements.</td>
</tr>
<tr>
<td></td>
<td>Support Urbanization</td>
<td>Pedestrian crossings in downtown Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pedestrian crossings at Printery Rd N</td>
<td>Increase water service N</td>
<td>It is the Region’s policy to construct sidewalks on both sides of Regional Roads in urban areas in accordance with the approved Context Sensitive Corridor Design Guideline, the Region’s Pedestrian Charter’s and the proposed Active Transportation Master Plan.</td>
</tr>
<tr>
<td></td>
<td>Curbs and sidewalks are not necessary from Fairway Lumber to Printery Road on the west side of King St. I live on Young Street in St. Jacobs and my business is on Northfield Dr. I travel this section from the river to Sawmill Rd at least once a day. I have never seen more than 2 or 3 persons walking on that section of King St at the same time and I doubt that will ever change in the foreseeable future. A sidewalk on the West side is definitely not needed. If pedestrian signals are installed, I see no need for refuge islands.</td>
<td></td>
<td>• Sidewalk is now proposed only on the east side of King Street from Eby Street to Sawmill Road to connect the downtown core area to the community centre, park and health clinic, providing an alternate to the existing stairs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• A graded sidewalk platform will be constructed on the west side to provide for future sidewalk.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• As part of this project the following pedestrian crossing improvements are proposed:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• A pedestrian refuge island on the south side of Printery Road to provide a pedestrian crossing at the existing bus stop. It is proposed that the length of the pedestrian refuge island at this location be increased to allow the Township the opportunity to provide a landscaped entrance feature marking the entrance to St. Jacobs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• A pedestrian refuge island at the south side of the UPI gas station to coincide with the existing pedestrian walkway from the residential subdivision area east of King Street.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Curb extensions (bump-outs) at the intersections of Hachborn Street, Cedar Street, Spring Street, Albert Street and Front Street to increase pedestrian visibility in the midst of on-</td>
</tr>
<tr>
<td>NAME</td>
<td>SURVEY RESULTS</td>
<td>COMMENTS</td>
<td>RESPONSE</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ken &amp; Beverly Grieve</td>
<td></td>
<td>As property owners and residents of the east side of King St N, St. Jacobs, between Hachborn and Princess Streets, we are concerned that the addition of a sidewalk, with retaining wall and guard rail will have detrimental effects to our properties in regards to aesthetics, maintenance and accessibility. We recognize the necessity of adding buggy/bicycle lane to the north bound lane of King St, however, we do not want the Municipality to add a sidewalk to the encroachment to our properties. The addition of the sidewalk is opposed for the following reasons: 1348 King Street: - sidewalk will require the construction of a retaining wall and guard rail which will put the front of the house (porch windows) at risk to debris/stones/snow from winter road clearing - addition of both buggy lane and sidewalk will reduce the area available for snow deposit to an unacceptable level - sidewalk would require relocation of access stairs to a location not in keeping with the design - sidewalk would reduce visibility from the front port of the house to an unacceptable level - road visibility from driveway is already restricted, the addition of a sidewalk nearer to the house will reduce visibility of pedestrian traffic to a dangerously low level. 1356 King Street - sidewalk with retaining wall and guard rail will negate any possible subdivision of the double lot by removing the possibility of a drive/access point from King St. - Cultural and Heritage importance – residence is of historic and cultural importance to the community, as</td>
<td>street parking in the downtown core and reduce the pedestrian crossing width.  • An intersection pedestrian signal (IPS) is now proposed at Albert Street and King Street. Please refer to previous responses to comments from Ken and Beverly Grieve and Constance Madelina.</td>
</tr>
<tr>
<td>Contance Madelina</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ted &amp; June Alderdice</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAME</td>
<td>SURVEY RESULTS</td>
<td>COMMENTS</td>
<td>RESPONSE</td>
</tr>
<tr>
<td>------------</td>
<td>----------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>one of the more architecturally significant structures in the Village of St. Jacobs. As the owners and residents of the properties referenced above, we ask that you reconsider the proposed reconstruction to include our best interests and concerns. We also ask that you include the residents of #4 Princess in your considerations, as their property would also be affected by the proposed reconstruction.</td>
<td></td>
</tr>
<tr>
<td>Scott Brueckman</td>
<td></td>
<td>Might I first take a moment to thank you for a fantastic presentation of proposed changes to King Street in St. Jacobs. I appreciated the opportunity to get a good feel for the proposals such that positive suggestions from stakeholders might be made to make your good work even better. Most of my suggestions will of course focus on my “neck of the woods” the north end of King Street. I really do like the streetscape you have created, the addition of the trees is great and will be a nice addition to what I call the “gulley.” I question the need for twin sidewalks down King Street from Sawmill Road to Northside Drive. I have identified two groups that would use these sidewalk improvements as pedestrians. The first are the residents clustered around the north end of town. I am in a good location to notice habits of walkers and I would note that the vast majority, including me, currently walk downtown via Northside Drive, because it is shorter and enjoys much less traffic, therefore more peaceful. Pedestrians, I find, chose the path of least resistance. In this case Northside. It is unlikely, even with your fantastic streetscape improvements that this would change. The second group walking this section of King Street is those living downtown, walking most often to the following destinations; the WCHC, the Harvest Moon, or the arena, all of which are on the east side of King street. I have noted and talked to many in this group</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sidewalk is now proposed only on the east side of King Street from Eby Street to Sawmill Road to connect the downtown core area to the community centre, park and health clinic, providing an alternate to the existing stairs. • A graded sidewalk platform will be constructed on the west side to provide for future sidewalk. • The Township is considering the clearing of the sidewalk on the east side of King Street from Eby Street to Sawmill Road since the majority of the sidewalk abuts the Township Park. • Curb extensions (bump outs are proposed at the intersections in the downtown core to improve the pedestrian crossing by reducing the crossing width and improving pedestrian visibility around the parked cars and to encourage pedestrians to cross at the intersection locations.</td>
<td></td>
</tr>
</tbody>
</table>
to gain their thoughts and find their preferred route is across the bridge and then up the wooden stairs on the east side of King street to the park and then on to their final destination.

Is a sidewalk on this section of King Street warranted? I believe yes, but only one, not two. A sidewalk on the east side of King Street from Northside Drive to Sawmill Road would benefit two groups: those with mobility issues where the stairs are not an option, and in the winter other walkers when the stairs might be unsafe due to fresh snowfall. Therefore the east side would be the preferred option as the group that is most likely to make use of this sidewalk is most likely to be heading to a destination on the east side of the road, again the past of least resistance.

As an aside, the other concern is snow removal on these proposed sidewalks. I note on page 3 of the Information Package that the abutting landowner is responsible for snow clearing on sidewalks. I currently clear the snow banks from Sawmill Road in front of my house and would not have a problem clearing snow from this area also, but would question the ability/willingness of the homes/businesses that front onto Northside Drive walking all the way around to clear snow off a sidewalk that really does not seem to be part of their area of responsibility, note the large hill in their backyards.

The proposed pedestrian crossing across King Street at Sawmill Road is greatly appreciated. I believe this might also help with vehicular collisions at this intersection and the many near misses that I notice at this intersection. Many cars seem to miss the stop sign when heading north on King Street, narrowing of King Street at this intersection might have the benefit of reducing this problem.

Regarding the pedestrian crossing options in the center of town I greatly prefer the pedestrian medians over a traffic light. Again, pedestrians tend to choose the path of least resistance and it is unlikely
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clayton</td>
<td></td>
<td>pedestrians would walk to the centre of town to use a stoplight to visit a location directly across the road from them if it is out of the way. The placement of three pedestrian medians in town increases the likelihood of pedestrian compliance by making options closer to them. I note that currently there is only one marked pedestrian crossing downtown, a school crosswalk. I have yet to notice anyone going out of their way to use it. The other benefit of course is traffic calming, these islands have the effect of slowing traffic, hopefully to more manageable speeds in town. The onus on the pedestrian to cross at designated locations by increasing options and the driver to feel the need to slow down due to physical barriers makes everyone safer. Again, I thank you for your time in preparing a great presentation and hope you find my input valuable.</td>
<td>I thank the Region, etc., for the accommodations for horse and buggies and for meeting with the safety group. You have incorporated some of these concerns in your proposed plans. As a horse and buggy driver living at the south end of St. Jacobs, I do have a very real concern for the 1.5 m buggy lanes – my buggy measures 1.8 m, plus I can’t drive 1 cm close to the curb, a horse needs at least 6” of clearance for wiggle room. As proposed, I would be forced to be in the traffic partially by approx. 45 m, this is a very dangerous place to be. To be all in the lane altogether would be safer than partially. We will have some very angry car drivers. I would like to suggest from Printery Road to Henry Street and Conestogo River bridge to Sawmill Road should have a minimum of 2 m wide buggy lanes with maybe a double wide white line to divide road and buggy/bicycle lanes if your concern is to keep cars off the shoulder. Currently we have wide paved shoulders at these places, it will be a long stretch or road for cars to be behind buggies, especially uphill at Conestogo Bridge to Sawmill Rd (horses walk uphill slowly), also a bottleneck at</td>
</tr>
<tr>
<td>Martin</td>
<td></td>
<td></td>
<td>• The Cycling Master Plan and the proposed Active Transportation Master Plan (ATMP) identifies King Street as a long-term on-road cycling route. In addition to cycling, buggy use of the road is significant. The Corridor Design Guidelines recommend a 1.5m buggy /bike lane. Staff feels that the provision of a buggy bike lane wider than 1.5m might encourage car parking in the lane area which would reduce the effectiveness and safety for cyclists and buggies.</td>
</tr>
<tr>
<td>NAME</td>
<td>SURVEY RESULTS</td>
<td>COMMENTS</td>
<td>RESPONSE</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Tatijana     | Drainage Issues | I have sump pump water going onto my front lawn Sump discharge into storm sewer/ditch N The water goes on my front lawn SupportUrbanization Y Pedestrian crossings in downtown Y Pedestrian crossings at Printery Rd Y Increase water service I have no water services, I have dug well and septic system | • The Township of Woolwich is considering the extension of sanitary sewer and water services to Printery Road at the south end of the project where services do not currently exist. The Township is to advise if these services are to be included as part of this project. 
• The extension of water and sanitary services to Printery Road is anticipated to be funded as a local improvement by the abutting properties. 
• Staff and the consultant will consult with the property owner about identified drainage issues during the detailed design phase. 
• Provision will be made for a storm sewer connection subject to the Region’s Sewer Use By-Law requirements. |
| Skafar       | I would like to have water brought to my house. At this point, I have a dug well that cannot support my household. Also my well and septic system are too close together, therefore my water is not safe to drink out of the tap. I require having an ultraviolet system and filters in my house. My well goes dry quite frequently. I use a cistern system and a dug well at times to be able to have water in my house. I fully support the project but would like to have water and possibly sewer in my house. I hope this would be possible to do. |                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                    |
| Marcus       | Support Urbanization | We are writing to give our response to the Information Package provided on October 24, 2012, on behalf of Mercedes Corp. and the Stone Crock Inc. Mercedes and the Stone Crock own the following properties in the core area of St. Jacobs: 7 Albert St. E., 1360 – 1368 King St. N., 1380 King St. N., 1382 King St. N., 1386 King St. N., 1384 – 88 King St. N., 1392 King St. N., 1396 King St. N., 1400 – 1408 King St. N., 1401 King St. N., 141 King St. N. | • In order to minimize disruption and inconvenience during the busier tourist/visitor season, it is proposed that the work in the downtown core and bridge resurfacing occur first in the spring and be completed by mid-June, weather permitting. 
• Traffic management and construction staging details will be designed through consultation with the Township during the detailed design stage to minimize to the greatest extent possible the impact of construction on the residents and businesses. 
• Pedestrian access plans will be developed as part of the traffic management and detour plans. |
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1429 King St. N</td>
<td></td>
<td>• It is proposed to maintain single lane traffic on the bridge during construction with the use of temporary traffic signals to control traffic.</td>
</tr>
<tr>
<td></td>
<td>1430 – 1440 King St. N</td>
<td></td>
<td>• The replacement of overhead hydro lines with underground hydro lines is at the discretion (and cost) of the Township. A decision has not been made. The proposed scope of the Region’s work in the downtown core is not expected to require relocation of the hydro poles.</td>
</tr>
<tr>
<td></td>
<td>1441 King St. N</td>
<td></td>
<td>• It is the Region’s policy to construct sidewalks on both sides of Regional Roads in urban areas in accordance with the approved Context Sensitive Corridor Design Guidelines, the Region’s Pedestrian Charter and the proposed Active Transportation Master Plan.</td>
</tr>
<tr>
<td></td>
<td>8 Spring St.</td>
<td></td>
<td>• Curb extensions (bump outs are proposed at the intersections in the downtown core to improve the pedestrian crossing by reducing the crossing width and improving pedestrian visibility around the parked cars and to encourage pedestrians to cross at the intersection locations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• An intersection pedestrian signal (IPS) is now proposed at Albert Street and King Street. The signal will be pedestrian-only activated to minimize stoppage in traffic flow.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Parking within the village downtown core is important for area businesses, visitors, delivery vehicles customers and other users. No parking removal is proposed in the downtown core other than the parking removal required to implement the curb extensions (bump outs) at the intersections and the intersection pedestrian signal at Albert Street.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Sidewalk is now proposed only on the east side of King Street from Eby Street to Sawmill Road to connect the downtown core area to the</td>
</tr>
</tbody>
</table>

We therefore support the proposal to complete work in the downtown core by mid-June of 2016.
<table>
<thead>
<tr>
<th>NAME</th>
<th>SURVEY RESULTS</th>
<th>COMMENTS</th>
<th>RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>It is not clear to us how the impact of construction at the two entry points to the village (Sawmill Road and Printery Road, respectively) will be managed, or how these improvements would be staged. We would appreciate a call or meeting to understand better what is being proposed at these entry points. In addition, we request that the Region consider staging the project over two years in order to minimize traffic diversion and disruption at entry points to the village during peak months. Eliminating construction from July to November would improve the prospects of many core-area businesses.</td>
<td>community centre, park and health clinic.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Core Area Improvements</td>
<td>• A graded sidewalk platform will be constructed on the west side if sidewalk is required in the future.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We generally support the improvements proposed for Hachborn Street to the Conestoga River Bridge, subject to the following comments: 1. We do not support traffic islands in the core area. A combination of pedestrian bump-outs and traffic signals would seem to be a sensible approach to increasing safety and slowing the traffic in the core. 2. We support bump-outs, but wonder whether they need to be as long as currently proposed. Long bump-outs cut into parking, which is at a premium in the downtown core. 3. We think that the current location and number of Grand River Transit bus stops are adequate and appropriate for a village of this size. Increasing the number of GRT bus stops will eat into both downtown parking and bus travel times. In particular, the proposed location of a bus stop at the corner of King and Albert would eliminate short-term parking currently used by residents to access the bank, post office and other services.</td>
<td></td>
</tr>
<tr>
<td>NAME</td>
<td>SURVEY RESULTS</td>
<td>COMMENTS</td>
<td>RESPONSE</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. We strongly support municipal investment on pedestrian lighting standards in the downtown core, and believe that this would improve the viability of core-area businesses.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C. Other Comments</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>We question the construction of sidewalks on both sides of King Street from the Conestoga River Bridge to Sawmill Road, and from Hachborn Street to Printery Road. We do not think that these sidewalks will be used to any great extent by either residents or visitors, since side streets and existing walkways already provide good pedestrian access to the downtown. We also expect that the space required for sidewalks will cut into the needs of other users, including horse-and-buggy users. Perhaps the money required to construct these sidewalks would be better spent elsewhere. On the other hand, if there is strong support for these sidewalks among village residents, we will defer to their views. Thank you for your attention to our comments and concerns.</td>
<td></td>
</tr>
<tr>
<td>Margaret Walker</td>
<td></td>
<td>I have some concerns about the construction between Princess St. and Hachborn St. Mostly the driveway and the changing of the sidewalks. How it will affect the slope of the driveway, as it is quite steep now. How it will effect snowplowing the ends up on sidewalk now. Also my husband uses a scooter so he will need to be able to get out and in while this is being done. Thank you for listening to my concerns.</td>
<td>• The requirement for motorized scooter access is noted. The appropriate grade transition to accommodate motorized scooter access will be designed as part of the detailed design phase.</td>
</tr>
</tbody>
</table>
Appendix D-1
Typical Road Cross-Sections

PROPOSED ROAD SECTION
PRINTERY ROAD to HENRY STREET
(WIDE RIGHT-OF-WAY)

Region of Waterloo

IBI GROUP
Appendix D-2
Typical Road Cross-Sections

PROPOSED ROAD SECTION
HENRY STREET to HIGHCREST LANE
(NARROW BOULEVARDs)
Appendix D-4
Typical Road Cross-Sections

PROPOSED ROAD SECTION
PRINCESS STREET to 49m SOUTH OF HACHBORN STREET
(SHARED LANES)
Appendix D-5
Typical Road Cross-Sections

PROPOSED ROAD SECTION
49m SOUTH OF HACHBORN STREET to HACHBORN STREET
(SHARED LANES)
Appendix D-6
Typical Road Cross-Sections

PROPOSED ROAD SECTION
HACHBORN STREET to CEDAR STREET
(COMMERCIAL CORE AREA)
Appendix D-7
Typical Road Cross-Sections

PROPOSED ROAD SECTION
CEDAR STREET to CONESTOGO RIVER BRIDGE
(COMMERCIAL CORE AREA)
Appendix E
Proposed Downtown Core Parking Configuration
Appendix E
Proposed Downtown Core Parking Configuration
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: CO4-20, 5392

SUBJECT: PROPOSED SIDEWALK CONSTRUCTION ON SAWMILL ROAD FROM HARRIET STREET TO GOLF COURSE ROAD IN THE VILLAGE OF CONESTOGO, TOWNSHIP OF WOOLWICH

RECOMMENDATION:

THAT the Regional Municipality of Waterloo approve the construction of new sidewalk on the north side of Sawmill Road from Harriet Street to Golf Course Road in 2014 subject to the Region acquiring the necessary property in advance of construction and funding approval as part of the Region’s 2014 Transportation Capital Program budget deliberations in 2014, as outlined in Report E-13-059, dated May 28, 2013.

SUMMARY:

At the March 27, 2013 Council meeting, Council approved the Recommended Design Alternative for improvements to Sawmill Road and Northfield Drive in the Village of Conestogo as described in Report No. E-13-038. (Please refer to Appendix “A” for a Key Plan.) These road improvements are currently scheduled for construction in 2017 in the Region’s approved 2013 Transportation Capital Program. The Recommended Design Alternative for the improvements to Sawmill Road and Northfield Drive includes construction of a new sidewalk on the north side of Sawmill Road from Harriet Street to Golf Course Road in order to provide a continuous pedestrian link for residents located within the Village of Conestogo east of the Grand River.

At the March 27 Council meeting, two (2) delegates addressed Council to request that construction of this proposed sidewalk be completed prior to 2017 to provide a key link for children walking to and from the Conestogo Public School. In response to the delegate’s requests, Council directed staff to report back on the feasibility of constructing this section of sidewalk in advance of the proposed road improvements to Sawmill Road and Northfield Drive scheduled for 2017.

Staff has assessed that construction of this sidewalk could occur in 2014 subject to the Region acquiring the necessary property prior to construction and Council approval of the required funding as part of the 2014 Transportation Capital Program budget deliberations. The preliminary cost estimate for construction of this new sidewalk in 2014 including construction, property, engineering and all associated costs is $300,000.

Staff recommends that the Regional Municipality of Waterloo approve the construction of new sidewalk on the north side of Sawmill Road from Harriet Street to Golf Course Road in 2014 subject to the Region acquiring the necessary property in advance of construction and funding approval as part of the Region’s 2014 Transportation Capital Program budget deliberations in 2014, as outlined in Report E-13-059.
REPORT:

1.0 Background

At the March 27, 2013 Council meeting, Council approved the Recommended Design Alternative for improvements to Sawmill Road and Northfield Drive in the Village of Conestogo as described in Report No. E-13-038. (Please refer to Appendix “A” for a Key Plan.) These road improvements are currently scheduled for construction in 2017 in the Region’s approved 2013 Transportation Capital Program. The Recommended Design Alternative for the improvements to Sawmill Road and Northfield Drive includes construction of a new sidewalk on the north side of Sawmill Road from Harriet Street to Golf Course Road in order to provide a continuous pedestrian link for residents located within the Village of Conestogo east of the Grand River. Construction of this new sidewalk requires the acquisition of small strips of property from two (2) properties abutting the north side of Sawmill Road east of Harriet Street. Please refer to Appendix “B” for drawings of the proposed sidewalk location and the areas of property required.

At the March 27 Council meeting, two (2) delegates addressed Council to request that construction of this proposed sidewalk be completed prior to 2017 in order to provide a key link for children walking to and from the Conestogo Public School. In response to the delegate’s requests, Council directed staff to report back on the feasibility of constructing this section of sidewalk in advance of the proposed road improvements to Sawmill Road and Northfield Drive scheduled for 2017.

2.0 Preliminary Design and Cost Estimate

In response to the direction from Regional Council, staff completed a preliminary design and cost estimate for the proposed sidewalk on the north side of Sawmill Road from Harriet Street to Golf Course Road. In completing this preliminary design, staff has endeavoured to minimize property acquisition required from two (2) abutting properties, minimize adverse impacts to the front yards of abutting properties, and avoid incurring costs for works that would need to be replaced in 2017 as part of the full roadway improvements to Sawmill Road. Based on these criteria, staff completed a preliminary design for the proposed sidewalk with the following elements:

- Acquisition of small strips of property from two (2) properties abutting the north side of Sawmill Road;
- Construction of a 1.50 metre wide sidewalk with a grassed boulevard varying in width from 0.3 metres to 2.1 metres on the north side of Sawmill Road from Harriet Street to the west side of the Conestogo Bridge;
- Construction of a 1.80 metre wide sidewalk with a 0.40 metre wide asphalt boulevard on the north side of Sawmill Road from the east side of the Conestogo Bridge to Golf Course Road;
- Construction of a 1.90 metre high retaining wall immediately behind the sidewalk on the north side of Sawmill Road at No. 1786 and No. 1778 Sawmill Road; and
- Transplanting or replacing existing trees and hedges at 1786 and No. 1778 Sawmill Road

The preliminary cost estimate for construction of this new sidewalk including construction, property, engineering and all associated costs is $300,000.

Staff has reviewed the preliminary design with the owners of the properties at No. 1786 and No. 1778 Sawmill Road to inform the owners of the impacts associated with the proposed sidewalk and retaining wall. The property owners are supportive of the proposed sidewalk design as it minimally impacts their properties and land use. Letters advising of the recommendations contained in this report were mailed on May 14, 2013 to the owners/residents of properties where the proposed sidewalk fronts.
The proposed retailing wall would be constructed of Wallstone Grande or a similar product comprised of large grey brick type stones. The Region has used this retaining wall system in many applications in the past with positive results. Please refer to Appendix “C” for a photograph of this retaining wall type.

3.0 Project Timing

Staff has assessed that construction of this sidewalk could occur in 2014 subject to the Region acquiring the necessary property prior to construction and Council approval of the required funding as part of the 2014 Transportation Capital Program budget deliberations.

4.0 Project Funding

The Region’s approved 2013 Transportation Capital Program includes funds of $6,070,000 in years 2013 to 2018 inclusive in order to complete construction of improvements to Sawmill Road and Northfield Drive in the Village of Conestogo, including funds of $200,000 in 2013. The approved funds of $200,000 in 2013 are sufficient to complete the detailed design of the sidewalk and acquire the necessary property in 2013.

The Region’s approved 2013 Transportation Capital Program identifies funds of $300,000 in 2014 for the improvements to Sawmill Road and Northfield Drive to complete detailed design for these road improvements. Should Council approve in principle construction of new sidewalk on Sawmill Road from Harriet Street to Golf Course Road in 2014 as described in this report, staff will review the funding requirements for 2014 for this project as part of the development of the 2014 Transportation Capital Program. Staff notes that because the funds for this sidewalk construction are currently included in the $6,070,000 project budget identified in years 2013 to 2018 in the Region’s 2013 Transportation Capital Program, staff anticipates that any funding increase required in 2014 for construction of the sidewalk will be offset by an equivalent reduction in the project budget in future years.

5.0 Staff Recommendation

Staff recommends that the Regional Municipality of Waterloo approve the construction of new sidewalk on the north side of Sawmill Road from Harriet Street to Golf Course Road in 2014 subject to the Region acquiring the necessary property in advance of construction and funding approval as part of the Region’s 2014 Transportation Capital Program budget deliberations in 2014, as outlined in Report E-13-059.

CORPORATE STRATEGIC PLAN:

This project is in harmony with the Region’s Corporate Strategic Plan in that implementation of the Sawmill Road and Northfield Drive Improvements achieves Focus Area 2.2 (“Develop, Optimize and Maintain Infrastructure to Meet Current and Projected Needs”) specifically Strategic Objective 2.2.1 which is to ensure all Regional programs and services continue to prioritize and implement capital program projects required to meet community needs and ensure sustainability.

FINANCIAL IMPLICATIONS:

The Region’s Approved 2013 Transportation Capital Program and 10-Year Capital Forecast includes funds of $6,070,000 in years 2013 to 2018 inclusive in order to complete construction of improvements to Sawmill Road and Northfield Drive in the Village of Conestogo to be funded from the Roads Rehabilitation Reserve Fund. The approved funds of $200,000 in 2013 are sufficient to complete the detailed design of the sidewalk and acquire the necessary property in 2013. Should
Council approve construction of new sidewalk on Sawmill Road from Harriet Street to Golf Course Road in 2014 as described in this report, staff will review the funding requirements for 2014 for this project as part of the development of the 2014 Transportation Capital Program.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:
NIL

ATTACHMENTS

Appendix A   Key Plan
Appendix B-1 Figure 1 – Proposed Sidewalk on Sawmill Road from Harriet Street to the Conestogo Bridge
Appendix B-2 Figure 2 – Proposed Sidewalk on Sawmill Road from the Conestogo Bridge to Golf Course Road
Appendix C Photograph of Wallstone Grande on University Avenue 50 metres east of Glenridge Drive

PREPARED BY:  Jim Ellerman, Project Manager
               Kelly M. Walsh, Supervisor, Transportation Capital Program

APPROVED BY:  Thomas Schmidt, Commissioner Transportation and Environmental Services
APPENDIX A
KEY PLAN

TOWNSHIP OF WOOLWICH

Village of Conestogo

REGIONAL ROAD No. 17 (SAWMILL ROAD)
AND
REGIONAL ROAD No. 22 (NORTHFIELD DRIVE)
IMPROVEMENTS
VILLAGE OF CONESTOGO, TOWNSHIP OF WOOLWICH
APPENDIX B-1
Figure 1 – Proposed Sidewalk on Sawmill Road from Harriet Street to the Conestogo Bridge
APPENDIX B-2
Figure 2 – Proposed Sidewalk on Sawmill Road from the Conestogo Bridge to Golf Course Road

PROPOSED 1.8m SIDEWALK, 
0.4m ASPHALT BOULEVARD

GRAND RIVER

CONESTOGO BRIDGE

SAWMILL ROAD (REGIONAL ROAD No. 17)

FIGURE 2
PROPOSED SIDEWALK CONNECTION
SAWMILL ROAD (REGIONAL ROAD No.17) 
FROM CONESTOGO BRIDGE TO GOLF COURSE RD.
Appendix C
Photograph of Wallstone Grande on University Avenue 50 metres east of Glenridge Drive
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: A02-30/PW

SUBJECT: REGION OF WATERLOO RAPID TRANSIT PROJECT: HYDRO ONE CORRIDOR STUDY AGREEMENT

RECOMMENDATION:

THAT the Regional Municipality of Waterloo approve an additional $320,000 and enter into a second study agreement with Hydro One Networks Inc. to remove the existing overhead transmission lines and relocate Hydro One infrastructure underground between Courtland Avenue and Fairview Park Mall, at an upset fee limit of $850,000 plus applicable taxes for study agreements 1 and 2.

SUMMARY:

In April 17, 2012 Council approved report E-12-051 which authorized $530,000 as an upset cost limit to enter into an agreement with Hydro One Networks Inc. (HONI). Based on this approval, the Region entered into a study agreement with HONI for $530,000 and has paid fees totaling $250,000. This agreement provided funding for HONI to review the Region’s LRT design drawings relating to the HONI corridor and progress HONI to the point of their final design. The Region now needs to enter into a second study agreement with HONI for $600,000 for the next phase of HONI work; prepare tender documents, manage the tendering process, award the tender and provide Class A cost estimates to the Region for the total cost of the HONI relocation work.

To complete the second study agreement with HONI, staff recommends extending the original agreement by adding an additional amount of $320,000, plus applicable taxes.

REPORT:

The Region continues to plan for population and employment growth over the next two decades. Recognizing this challenge, Council approved rapid transit as the preferred transportation mode to move people and to shape urban form.

With project approval in place, the construction is planned to commence in 2014 and system operations beginning in 2017. To execute the project within this schedule there are a number of key decision points and major milestones that will have to be met before 2014. Adherence to the project schedule is critical because delays to the project schedule have the potential to result in scope creep and increased costs.

One of these key decisions involve removing the existing Hydro One overhead transmission conductors and towers, and replacing them with buried infrastructure, between Courtland Avenue and Fairview Park Mall. The general study area is shown in Appendix A.
Recognizing the need for this early relocation Council approved report E-12-051 in April, 2012 authorizing $530,000 as an upset cost limit to enter into an agreement with HONI. Based on this approval, the Region entered into a study agreement with HONI and paid a fee of $250,000. This agreement provided funding for HONI to review the Region’s LRT design drawings relating to the HONI corridor and progress HONI to the point of their final design.

The Region now needs to enter into a second study agreement with HONI for $600,000 for the next phase of HONI work, which includes:

- Preparing contract tender for the underground cable work;
- Issuing the tender and managing the tender process; and
- Developing Class A construction cost estimates.

In light of the previous Council authorization and the need to undertake the above noted tasks in order to complete the second study agreement, staff recommends that the original agreement be extended by adding an additional amount of $320,000, plus applicable taxes. With this approval, both study agreements will be completed at an upset fee limit of $850,000, plus applicable taxes.

Following the completion of this assignment, staff will review the tender submissions with HONI and prepare recommendations for Council approval to execute the contract to undertake construction.

CORPORATE STRATEGIC PLAN:

The report supports Focus Area 3.1 of Council’s Strategic Focus: Develop an implementation plan for light rail transit including corridor and station area planning.

FINANCIAL IMPLICATIONS:

The approved 2013 Regional budget for rapid transit provides the necessary funding resources for the entire Rapid Transit project and would cover the funds being requested. The estimated total cost to relocate the Hydro One towers is $20M. This amount is included in the Rapid Transit project budget for this task.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

This report was prepared with input from Transportation and Environmental Services and Finance.

ATTACHMENTS:

Appendix A – Study Area

PREPARED BY: Derick Finn, Manager Rapid Transit Engineering

APPROVED BY: Thomas Schmidt, Commissioner Transportation and Environmental Services
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: A02-30

SUBJECT: STAGE 1 LIGHT RAIL PROJECT – REQUEST FOR PROPOSAL FINANCIAL MATTERS

RECOMMENDATION:

THAT the Regional Municipality of Waterloo approve issuing the Request for Proposal for the Stage 1 Light Rail Project to the three short-listed bid teams, generally as described previously in Report E-13-048 dated April 9, 2013 and in Report E-13-074/F-13-049 dated May 28, 2013.

SUMMARY:

In February 2012, Regional Council approved the delivery model for Stage 1 of the Light Rail Project as a Design-Build-Finance-Operate-Maintain (DBFOM).

In October 2012, the Region issued the Request for Qualification (RFQ) document and subsequently received submissions from seven teams interested in delivering the project on behalf of the Region.

In February 2013, Council approved GrandLinq, Kitchener Waterloo Cambridge Transit Partners and TriCity Transit System as the three pre-qualified teams selected to submit proposals for the project.

In April 2013, Council approved the Request for Proposal (RFP) Technical Matters report. This first report described the nature of the procurement documentation and the recommended roles and responsibilities between the Region and the successful bidder (Project Co).

As a follow-up, this second report focuses primarily on financial matters, RFP evaluation criteria and other RFP process related issues for the project.

REPORT:

1.0 Introduction

In June 2011, Council approved the technology, route, stations, staging and funding of Stage 1 of the Region’s rapid transit project. Stage 1 includes 19 km of light rail transit (LRT) from Conestoga Mall to Fairview Park Mall and 17 km of adapted bus rapid transit (aBRT) from Fairview Park Mall to the Ainslie Street Terminal. Council also directed staff to complete an evaluation of project procurement and delivery options with the goals of maximizing project innovation and quality, leveraging private sector expertise, and managing risks to the Region of Waterloo.
In February 2012, Council approved DBFOM as the procurement and delivery model with the intent to build on the strengths of the public and private sectors and provide the best value to the Region. Council also directed staff to review options that would allow the Region to take advantage of operations by a private contractor without losing significant flexibility for future system expansion.

In September 2012, Council approved the financial evaluation threshold to pre-quality respondents to the Request for Qualifications (RFQ) be an amount of long-term private financing equal to approximately 25% of total capital costs, and also indicate in the RFQ an initial term of ten years for the operations component with 2-4 renewal options to be exercised at the discretion of the Region so that the planned integration with future system expansion could be combined under a single operator. Council also directed staff to report back on the final amount of private financing required prior to the issuance of the Request for Proposal (RFP).

2.0 Financial Matters

2.1 Long-Term Private Sector Financing

As described more fully in Report E-12-098/F-12-079 dated September 25, 2012, the Design-Build-Finance-Operate-Maintain (DBFOM) model of procurement offers the following advantages:

- Cost: LRT design and construction can proceed at the same time, with significant time savings, better coordination and more efficient construction.
- Experience: The private sector has more experience than the Region with designing, construction, operating and maintaining an LRT system.
- Incentives: With DBFOM, payments and penalties based on performance would provide incentive for the private sector to complete the project on time and on budget, and also to operate and maintain a high-quality LRT system over the long term. If the private sector does not perform to the standards set in the contract, it does not get paid and risks losing the remaining capital financed in the project.
- Risks: With DBFOM, the Region limits its risk by placing responsibility on the private sector. The Region monitors the service and holds back payments if the private sector does not meet the contract performance standards.

A key principle of DBFOM is “Pay for Performance” which results in a portion of the construction costs to be withheld and paid to the private contractor over the length of the operations and maintenance term, necessitating that the private contractor obtain financing to bridge this payment gap.

The private financing must consider the costs of the transferred risk and its cost will be higher than a typical long-term debenture issued by the Region. This deferred payment or private financing acts as insurance, and as with any insurance, the cost will vary depending on the extent of the coverage. As such, it is important to strike the right balance to ensure that the Region has the right amount of coverage at the lowest possible cost.

Staff undertook a preliminary assessment to identify the long-term financing required. Various scenarios were evaluated against key criteria including affordability, risk transfer securing performance, the Region’s up-front share of capital cost and market acceptability. Staff recommended that for the purposes of the RFQ, potential bidders be informed that approximately 25% of the total capitalized costs of construction will be financed by the DBFOM Team following substantial completion, which will be paid over the contract term.

The Region and its advisors have continued to refine the financial analysis based on updated design, costs, and funding agreements to determine a more definite level of private financing that is
required for the LRT project. The DBFOM Team will be required to construct both the LRT system (for which it is responsible for the long-term maintenance and lifecycle renewal costs for a period of 30 years) and other public infrastructure works, such as water main and sewer replacements, road improvements, utility relocations and the King St. grade separation. These public infrastructure works are necessary for the completion of the LRT project; however, the DBFOM Team is not responsible for the long-term maintenance and lifecycle renewal costs, as these infrastructure works will be the responsibility of the Cities and the Region. These other infrastructure projects account for approximately 10% of the overall project costs, and there would be no benefit to the Region to require the DBFOM Team to provide long term financing for these projects, as there is no risk transfer for the maintenance of these capital works. Therefore, to reduce the Region’s overall financing costs and to set the final amount of financing at approximately 25% of the capital costs related to the LRT, staff have included in the RFP the provision that the DBFOM team provide an amount of long-term private financing equal to 22.5% of total capital costs. The final amount will be determined through the RFP process.

2.1 Value for Money (VFM) Assessment Update

In 2008, the Region held a risk workshop to assess the key risks inherent in the rapid transit project for various delivery options, the potential impact to the Region, and the role that the private sector could play in assuming and/or mitigating the project risks to the Region.

In Report E-12-011, dated February 7, 2012, a summary of the assessment of the procurement and delivery options was provided with the resulting VFM for the DBFOM (and other) models, resulting in the selection of DBFOM as the preferred model.

The VFM considers the risk-adjusted cost of the DBFOM option in comparison to the “baseline” traditional option of Design-Bid-Build (DBB), with the operations and maintenance performed by the public sector entity. The comparison includes capital, operating and maintenance costs, in net present value form. The analysis considers not only the cash flows under each option, but also the risks retained by the Region, taking into account the probability of the risk occurring and the impact that the risk would have on the Region, and assigning a monetary value to each risk.

The VFM analysis demonstrated that the DBFOM option results in considerable risk transfer from the Region to the private sector and results in significant VFM for the Region. In other words, the DBFOM model results in savings as compared to the traditional approach. With DBFOM, the cost of financing is higher because the cost of private sector financing is higher than public financing costs to account for this risk transfer. However, the Region benefits from transferring design, construction, operating and maintenance risks to the private sector. There are also efficiency benefits from integrating the design, construction, operating and maintenance processes and as a result of the incentives introduced by the private sector having money at risk based on their performance.

The VFM assessment has now been updated based on updated design, cost models and the risk transfer identified in the draft RFP and draft Project Agreement. Deloitte completed this analysis with the participation of Region staff and technical advisors and the VFM report is attached as Appendix A to this report.

The VFM Results (page 12 of Deloitte’s report) identify a VFM, that is, the difference between the costs and retained risks under DBB and the costs and retained risks under DBFOM, of approximately 12.3%, which is comparable to the preliminary VFM of 18% reported in February 2012. The difference in VFM is due to revised assumptions on private financing costs and updating and refining the risk matrix to more closely reflect the potential risks specific to the Region’s LRT project.
The VFM will be updated once more, at the time of bid submission, to reflect the proposed costs of the preferred DBFOM Team.

2.2 Financial Model

Report E-11-072 dated June 15, 2011 provided costing information including capital costs estimated at $818 million, in 2014 dollars, with funding to be provided by the federal government in the amount of up to $265 million and by the provincial government in the amount of $300 million, with the Region’s share of the capital cost being $253 million.

Council approved the LRT and aBRT projects, together with improvements to conventional transit (GRT) and transit-supportive strategies in Cambridge, with the Region’s share of capital costs and operating and maintenance costs to be funded, area rated to the urban transit service area, through an annual tax rate increase of 1.5% per year (allocated 1.2% to the LRT and aBRT projects and 0.3% to the improvements to conventional transit) for a period of 7 years and reduced by budget reductions resulting from the retirement of debt and uploading of social assistance costs in the average amount of 0.5% per year.

Finance staff created a financial model in 2011 which included all of the original DBB costs identified for all of the projects identified above and the associated tax revenue, government funding and reserve fund (RTMP) to meet those costs. With the approval of DBFOM as the preferred procurement alternative for the LRT, the financial model has been expanded and updated, with the assistance of the Region’s financial advisors, Deloitte, to include the costing required to deliver the project, as follows:

<table>
<thead>
<tr>
<th>Cost component</th>
<th>Traditional DBB model</th>
<th>DBFOM model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design &amp; construction of LRT and public infrastructure works</td>
<td>Region contracts for design and construction separately.</td>
<td>Design and construction included in DBFOM Team bid.</td>
</tr>
<tr>
<td>Vehicles</td>
<td>Region purchases vehicles.</td>
<td>Region purchases vehicles and provides vehicles to DBFOM Team.</td>
</tr>
<tr>
<td>Financing, net of federal and provincial government shares for LRT</td>
<td>Region issues debenture financing for its share of costs.</td>
<td>DBFOM Team has debt/equity for 22.5% of project costs. Region issues debenture financing for the balance of its share of costs.</td>
</tr>
<tr>
<td>Financing for public infrastructure works</td>
<td>Region recovers costs from utilities and Cities. Region issues debenture financing for its share of Roads projects.</td>
<td>Region recovers costs from utilities and Cities. Region issues debenture financing for its share of Roads projects.</td>
</tr>
<tr>
<td>Operations</td>
<td>Region hires staff to operate LRT.</td>
<td>DBFOM Team provides operations staff.</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Region hires staff to maintain LRT.</td>
<td>DBFOM Team provides maintenance staff.</td>
</tr>
<tr>
<td>Lifecycle and renewal</td>
<td>Region budgets in future years (over the 30 year term) for lifecycle (major maintenance) and issues debenture financing for its costs.</td>
<td>DBFOM Team bids estimated lifecycle and renewal costs. Region issues debenture financing in future years for bid lifecycle and renewal costs.</td>
</tr>
</tbody>
</table>

The DBFOM Team or “Project Co” will generally be responsible for and their bid for the 30 year term will include:
• Design and construction of the LRT system;
• Design and construction of related public infrastructure works (roads improvements, King St. grade separation, utilities relocation, replacement of watermains and sewers, etc.);
• Maintenance of the LRT system and the LRT vehicles for a period of 30 years;
• Operations of the LRT system for an initial period of 10 years (with potential renewals to a total of 30 years);
• Financing of 22.5% of the capital costs of the project, which is approximately 25% of the capital costs of the LRT system, with the capital costs to be paid over the 30 year maintenance period.

The RFP will include a budget amount for all of these elements, as determined by the Region's financial advisors and Finance staff and the proponents will submit bids which include all these project elements. The RFP award to the successful DBFOM Team will include the amounts for:

• Capital costs for LRT and public infrastructure works, including a breakdown of the capital costs to be paid during construction and the financing costs for the capital to be paid during the 30 year term;
• Operations, for a period of 10 years, with renewal provisions;
• Maintenance of the LRT system and vehicles, for a period of 30 years;
• Lifecycle costs, for a period of 30 years.

All of these amounts will be fixed at the time of RFP award, subject to changes in service levels which will require the approval of Council and allowable cost inflation as determined by contract terms.

The funding model has been updated on a continuous basis as costs (construction, financing, utilities, vehicles, etc.) have been updated by RT staff, technical and financial advisors and compared to the model from 2011. At this time, the capital costs continue to be accommodated within the amount established in 2011, and the operating and maintenance costs are expected to be able to be accommodated within the revenue model (including tax and ridership) which was established in 2011. The bids received during the RFP process will determine the final affordability and will be summarized and reported to Council at that time.

3.0 Request for Proposal (RFP) Process

The RFP is to be issued in June 2013 directly to the three successful pre-qualified Proponents short-listed through the recently completed Request for Qualifications process.

Procurement Document(s)

The RFP document sets out the terms and conditions of the procurement. In addition to the general governing procurement policies and procedures, the procurement documents set out key performance indicators that the project must achieve, along with the project specific features and requirements. As part of the RFP documentation, the proponents are provided with the draft Project Agreement (PA) including the draft Project Specific Output Specifications (PSOS).

The draft PA is a series of interconnected legal agreements and schedules that provide the commercial terms and form of Contract that will ultimately be executed between the Region and the successful proponent, Project Co. This Agreement articulates the responsibilities, obligations, and risk transfer between the parties. Within the PA, the PSOS identifies betterments requested by the Cities as well as Region capital projects that intersect with the LRT alignment that must be installed
by or coordinated with Project Co. The PSOS acts as the source document for design evaluation and contractual compliance.

The RFP process that the Region is following for the rapid transit project is typically the way Infrastructure Ontario (IO) delivers public infrastructure projects. It is different than the Region’s standard Design-Bid-Build (DBB) process in that the RFP process has the design and construction processes happening concurrently. The successful proponent holds the risk of design errors and subsequent delay and construction claims. The Region’s DBB process would have the Region prepare the design, issue and award a construction tender based on that design, and oversee the construction with its own forces. The Region holds the risk of any design errors and subsequent delays and claims by the contractor. In addition, because the design, bid and build processes happen consecutively the overall process from design to construction completion takes longer than the process outlined in the RFP. The other major difference is that the Region operates and maintains the asset in the DBB process, while the successful proponent will operate and maintain the LRT for the life of the project agreement.

The proposal preparation period will take approximately six months. During this period, the Region will engage the Proponents in a number of separate and individual Commercially Confidential Meetings (CCMs) relating to the RFP, PA and commercial matters, along with Design and Technical Presentation Meetings (DPMs). The CCMs will allow the Proponents the opportunity to provide comments on the PA and RFP, and raise issues that require clarity. The DPMs will allow the Proponents to present their design proposal in its development stage to the Region for feedback on ideas and concepts with respect to their specific design submission. These meetings will allow for a confidential dialogue where the Region will respond to the comments received. To ensure the integrity of the procurement process discussions at the CCMs and DPMs will remain confidential.

A tentative timeline for the next phases of the procurement process is presented below:

![Timeline Diagram]

4.0 RFP Evaluation

Similar to the Request for Qualifications process, a highly structured and rigorous Evaluation Framework, based on the IO procurement model, is being developed to describe and outline the process to evaluate the RFP submissions from the three short-listed teams and select the Preferred Proponent. The Region will form technical and financial teams to evaluate the proposals submitted. The evaluation methods will be similar to the RFQ evaluation process – individual team member assessment, team discussion and finalization into a consensus score. The evaluation process will involve IO and the Fairness Monitor at every evaluation meeting. The objectives of this Evaluation Framework are to:
- Safeguard the interests of the Region by ensuring that the evaluation process is fair, applied consistently, free of conflicts of interest, confidential, and transparent.
- Define the authority, decision making process, and reporting structure, while ensuring an appropriate separation of roles and responsibilities related to approvals, conflict of interest determination, fairness oversight, due diligence, overall co-ordination, completeness of RFP submissions, and scoring of rated criteria.
- Provide multiple levels of due diligence to confirm that all material facts have been considered in selecting the Preferred Proponent.
- Ensure that the evaluation process is conducted in a secure environment.
- Ensure that the evaluation process is consistent with best practices and industry expectations.
- Provide evaluation criteria and a process to select the most qualified team.

Evaluation Categories and Points

The contents of the Proposals will be evaluated against the technical evaluation categories and the financial evaluation categories summarized in the table below.

The evaluation and scoring process will award points in each evaluation category. As few as zero points will be awarded for each evaluation category in which the Proposal does not adequately satisfy the submission requirements.

<table>
<thead>
<tr>
<th>Evaluation Categories</th>
<th>Maximum Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Proposal Submission Forms and Declarations</td>
<td>Not Scored</td>
</tr>
<tr>
<td>B. Technical Submission</td>
<td>500</td>
</tr>
<tr>
<td>B1. Project Management</td>
<td>100</td>
</tr>
<tr>
<td>B2. Civil Design</td>
<td>75</td>
</tr>
<tr>
<td>B3. Systems Design</td>
<td>75</td>
</tr>
<tr>
<td>B4. Construction</td>
<td>100</td>
</tr>
<tr>
<td>B5. Maintenance and Rehabilitation</td>
<td>75</td>
</tr>
<tr>
<td>B6. Operations</td>
<td>75</td>
</tr>
<tr>
<td>C. Financial Submission</td>
<td>500</td>
</tr>
<tr>
<td>MAXIMUM POINTS AVAILABLE</td>
<td>1000</td>
</tr>
</tbody>
</table>

The Technical Submission will be evaluated based on how well it meets the mandatory requirements outlined in the Output Specifications of the Project Agreement and Technical Submission Requirements of the RFP document.

The Financial Submission will be evaluated based on the Net Present Value (NPV) of the proposal including capital, long-term operations, maintenance and lifecycle costs, as well as the quality of its proposed financing plan. In general, lower NPV proposals will receive higher financial scores.

Scoring

The Proposals will need to meet a minimum score of at least seventy percent (70%) of available points for the General Technical Submission, the Design Submission and the Construction Submission. For the financial component, a minimum score of at least sixty percent (60%) of available points must be achieved for the quality of proposed financing plan category of the Financial Submission. Failure to achieve the minimum scores noted above may prevent the pre-qualified Proponent from becoming the Preferred Proponent.

In addition, staff will review and perform their own analysis of the financial model and NPV calculation provided by the Proponents. The lowest NPV will be awarded the maximum points.
available for NPV (450 points) and the Region will deduct thirty (30) points from the maximum points available for NPV (450 points) for every percentage point by which the Proponent's NPV exceeds the lowest NPV.

**Evaluation Steps**

Based on the Evaluation Framework, the submissions will undergo a completeness review to determine their substantial compliance to the terms and conditions of the RFP prior to being evaluated by the Evaluation Teams. A non-compliant submission will not be evaluated.

The fairness monitor will oversee and attend all evaluation meetings and their attendance will continue throughout the entire RFP process.

Subsequently, evaluation teams established by the Region will evaluate the Technical Package and the Financial Information Package of those submissions that pass the completeness review. Based on this assessment and a thorough review of the submissions, an Evaluation Committee will evaluate and rank each submission to identify a Preferred Proponent, which the Region will enter into negotiations with to achieve Commercial and Financial Close.

The Evaluation Committee will present the recommended Preferred Proponent to the senior management team, the steering committee, the Planning and Works Committee, and ultimately to Regional Council for approval.

**5.0 Commercial/Financial Close**

Upon identification of the Preferred Proponent, the Region will enter into negotiations leading up to the execution of the PA. These negotiations will:

- Correct minor non-compliance issues, identified during the compliance review;
- Ensure that appropriate project company securities are in place;
- Address outstanding commercial requirements and items required in the PA.

Once all of these requirements have been met, the PA will be executed, achieving Commercial Close. Financial Close will occur immediately following Commercial Close when:

- Final interest rates spreads are set between the Region, Project Co. and the lenders;
- All the Lending Agreements are in place and funding is available to the Project Co. from its lenders.

**CORPORATE STRATEGIC PLAN:**

This report supports Focus Area 3.1 of Council’s Strategic Focus: Implement a light rail transit system in the central transit corridor, fully integrated with an expanded conventional transit system.

**FINANCIAL IMPLICATIONS:**

In June 2011, Council approved the implementation of the RT project, including LRT and aBRT, with estimated capital costs of $818 million, in 2014 dollars, with capital funding to be provided by the Province (up to $300 million), the federal government (one third of eligible project costs to a maximum of $265 million) and the Region ($253 million). The RT project and improvements to conventional transit are financed through an annual tax rate increase of 1.5% for a period of 7 years.
Council approved DBFOM as the preferred alternative to deliver the RT project and the updated VFM comparison of DBFOM to DBB identifies a VFM benefit from this form of procurement and delivery of the project.

**OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:** Nil

**ATTACHMENTS:**

Appendix A – VFM Report from Deloitte

**PREPARED BY:** Darshpreet S. Bhatti, Director, Rapid Transit  
Calvin Barrett, Director, Financial Services and Development Financing

**APPROVED BY:** Thomas Schmidt, Commissioner, Transportation and Environmental Services  
Craig Dyer, Chief Financial Officer
Region of Waterloo Light Rail Transit Project
Value for Money Report
# Table of contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>12</td>
</tr>
<tr>
<td>Overview of the LRT Project</td>
<td>12</td>
</tr>
<tr>
<td>Overview of the DBFOM</td>
<td>12</td>
</tr>
<tr>
<td>Overview of the Value for Money Assessment</td>
<td>14</td>
</tr>
<tr>
<td>Purpose of this Report</td>
<td>14</td>
</tr>
<tr>
<td>Purpose of VFM</td>
<td>14</td>
</tr>
<tr>
<td>VFM Process, Inputs and Assumptions</td>
<td>16</td>
</tr>
<tr>
<td>Process</td>
<td>16</td>
</tr>
<tr>
<td>VFM Methodology</td>
<td>16</td>
</tr>
<tr>
<td>VFM Components</td>
<td>17</td>
</tr>
<tr>
<td>Key Assumptions</td>
<td>20</td>
</tr>
<tr>
<td>VFM Results</td>
<td>22</td>
</tr>
<tr>
<td>Risk Analysis Results</td>
<td>22</td>
</tr>
<tr>
<td>Pre-RFP VFM Range</td>
<td>22</td>
</tr>
<tr>
<td>Interpretation of Results</td>
<td>23</td>
</tr>
<tr>
<td>Conclusions</td>
<td>25</td>
</tr>
</tbody>
</table>
Introduction

Overview of the LRT Project

In June of 2011, the Region of Waterloo (the “Region”) approved a 36km Rapid Transit System to improve the connection of Waterloo, Kitchener, and Cambridge. The system is expected to help mitigate urban sprawl, shape efficient transportation choices, re-urbanize/intensity the Region and improve overall environmental conditions.

Included in the project is a 19km Light Rail Transit (“LRT”) from Conestoga Mall to Fairview Park Mall, and a 17-kilometre Adapted Bus Rapid Transit (“aBRT”) south from Fairview Park Mall to the Ainslie Street Terminal. The aBRT technology will include a distinctive and frequent limited-stop service, with transit signal priority and queue jump lanes. In addition, major connections to an expanded bus service will be provided at the LRT Terminals and other station stops along the alignment. Major destination points include the downtown business areas in Waterloo and Kitchener, the planned intermodal facility at King Street and Victoria Street, as well as the University of Waterloo.

As outlined in Figure 1, the project includes two components (collectively “the Project”):

1. The LRT vehicles, aBRT vehicles, acquisitions of land, construction of the aBRT works and overall management of the project (collectively the “Other Components”); and

2. The LRT as delivered using a design-build-finance-operate-maintain (“DBFOM”) contract structure, which is a form of public-private-partnership or, as referred to in Ontario Alternative Finance and Procurement (“AFP”) with a private consortium (“Project Co.”). This contract structure for the LRT was approved by Regional Council in February 2012.

Figure 1: Project components

Overview of the DBFOM

The DBFOM approach is expected to result in overall benefits for the Region over the long term, as it will transfer responsibility for the design, construction, operation, and long-term maintenance of the LRT system to Project Co. for the construction period as well as the 30 year operation period. The primary advantage of the DBFOM approach is that the Region only “pays
for performance” and therefore Project Co.’s invested capital in the project is at risk. This incentivizes Project Co. to provide timely, on-budget performance over the long-term. Since design, construction, operations and maintenance are bundled, a single counterparty, Project Co., is held accountable to the Region. Ownership and control over the project assets remains with the Region at all times. This “risk anchoring” concept is illustrated in Figure 2 below.

**Figure 2: Risk Anchoring in DBFOM**

- **Traditional Public Sector Project**
  - Public sector/Region pays for assets/services as they are provided
  - Full costs of construction are paid in advance of operational commencement
  - Due to limited payment security, most cost overruns also become liabilities for the Region

- **DBFOM**
  - Payment during construction is linked to performance
  - Project Co has lifecycle performance risk and must consider maintenance as part of design/build phase
  - Operating risk is mostly assumed by Project Co and secured by Capital Payment
  - Ongoing payments reflect amortized capital costs and ongoing operating/maintenance costs
  - Performance and asset condition is considered in the development of output based specifications
  - Interests of 3rd parties (Lenders) are aligned with the Region

---

1 Project Co. invests a certain amount during construction before the Region makes any payments and this invested capital is repaid over the operating term only if the performance specifications set by the Region are met.
Overview of the Value for Money Assessment

Purpose of this Report
Deloitte has been engaged by the Region to provide financial advice on the Project, which includes the development of a Value for Money (“VFM”) analysis to assess the benefits of the DBFOM. Please note that this report provides a VFM assessment for the LRT only, as the Other Components defined earlier are not part of the DBFOM contract with Project Co.

Purpose of VFM
A VFM assessment is a comparison of the costs of delivering an infrastructure project using an AFP (in this case as a DBFOM) to a Public Sector Comparator based on a “traditional” procurement method using a Design-Bid-Build (“DBB”) approach, as follows:

1. Alternative Finance and Procurement: These are the total costs to the Region of delivering the LRT based on the DBFOM model. These costs are based on the Region’s future service payments to the private sector partner, including re-payment of the construction costs that are privately financed, and also includes an adjustment for risks retained by the Region under the DBFOM.

2. A Public Sector Comparator (“PSC”): The PSC is an estimation of the total costs to the Region of delivering the LRT based on the Region’s traditional DBB method of delivering public infrastructure projects and also includes an adjustment for risks retained by the Region under this model. Under this approach (i.e. the DBB), the Region is assumed to finance the LRT’s capital costs.

The VFM analysis is conducted by comparing the Net Present Value (“NPV”) of the risk-adjusted project costs of the DBFOM against that of the PSC. The premise is that by including the cost of all risks to the Region a fulsome risk-adjusted cost comparison of the DBFOM and the PSC can be completed. It should be noted that a VFM is a comparative assessment and, as such, any quantification of risk should only be viewed within this context and not interpreted on an absolute basis. The impact to the Region of an actual risk event occurring may or may not be similar to the results generated through the VFM risk quantification assessment. Figure 3 illustrates how the value is demonstrated through the VFM calculation. The cash cost in the DBFOM before adjusting for risk is higher than the cash cost under PSC. However, after adjusting for risks transferred, the DBFOM may present a lower risk adjusted cost. This is because the higher financing costs incurred by the private sector are potentially offset by the risk transfer and mitigation of public sector risks under a DBFOM model.
Retained Risks are the risks that are managed by the public sector and cannot be transferred to another counterparty. Risk Premium is a theoretical premium charged by Project Co. to bundle design, build, maintenance, and operational risks into one contract. Ancillary Costs are costs associated with planning and delivery of a project. These costs include project management costs, transaction costs, and procurement costs and are typically higher under a DBFOM but may vary depending upon each project. Financing Costs are typically greater under a DBFOM than the PSC since the Project Co. borrows at private financing rates to pay for its portion of the construction costs versus the Region borrowing directly. Base Costs comprise of the design and construction costs as well as O&M and lifecycle costs. The base cost under the PSC and DBFOM are assumed to be the same. This is a conservative assumption as it does not account for potential efficiencies from the DBFOM’s bundled structure.
VFM Process, Inputs and Assumptions

Process

Deloitte carried out the VFM assessment with input provided by the Region and members of the Region’s advisory team, including the technical consultants, Parsons Brinckerhoff (“PB”), and transaction advisors, Infrastructure Ontario (“IO”). Among other items, PB was responsible for preparing design, construction, operating, and maintenance costs included in the analysis.

The VFM assessment quantifies risk transfer in dollar terms based on IO’s VFM methodology which is considered a best practice in Canadian DBFOM transactions. Some key distinctions of IO’s methodology are as follows:

- The risk assessment process is based on an estimate of the probability and cost impact of a range of risks associated with transit projects, in consultation with technical experts and key stakeholders. Estimated risk probability and impact under both the PSC and the DBFOM delivery models are assessed based on historical data for risks associated with transit projects, adjusted for project-specific factors.
- All design, construction, maintenance, and operating cost inputs are equal in both PSC and DBFOM model; no cost efficiencies are assumed for the DBFOM.
- A Risk Premium (refer to Figure 3) is added to the Base Costs for the DBFOM.
- The discount rate for calculating the net present value in the VFM is assumed to be the long-term borrowing rate of the public sector (i.e. the Region).

Deloitte facilitated a series of risk workshops with the Region and its advisors, including PB and IO, all of whom contributed based on their respective technical expertise, professional experience and judgment. Prior to the workshops, a draft risk matrix was prepared based on IO methodology and augmented by the team’s experiences in the public transit/transportation sector. This risk matrix was refined for Project-specific risks and finalized over the risk workshops.

VFM Methodology

On completion of the risk matrix Deloitte ran a statistical simulation (a Monte Carlo simulation) in order to calculate the value of risk retained by each party under the PSC and DBFOM models. This simulation yields a distribution of impacts for each risk based on a range of inputs provided in the matrix. The resultant statistical mean is then used as the expected impact for each risk.

Most risk impacts have a “triangular” distribution (as illustrated in Figure 4 below), meaning that the range of potential impacts is skewed toward the right. The mode (typical value) often fails to reflect the wider range of worse-than-typical outcomes. Therefore, the mean value is used as the expected impact.
The statistical simulation provides an expected value for the impact of each risk, under both the DBFOM and the PSC and is calculated as follows:

\[
D = A \times B \times C
\]

where:
- Each risk was assigned a potential cost value in dollars
- A probability of occurrence (as a percentage) for each risk was agreed upon through the workshops
- A “low” and “high” impact of each risk (as a percentage) was agreed upon through the workshops, with the average generated through the Monte Carlo simulation
- The quantified value of the risk is the product of A, B, and C. This value is allocated between the Region and Project Co. based on an assumed risk allocation under the DBFOM and PSC

It should be noted that VFM is a comparative assessment and, as such, the quantification of risk as presented above should only be viewed within this context and not interpreted on an absolute basis. The impact to the Region of an actual risk event occurring may or may not be similar to results generated through the VFM risk quantification assessment.

**VFM Components**

During this stage of the VFM assessment, cost inputs have been based on the technical consultant’s cost estimates. Once the procurement process has been completed, VFM will be reassessed utilizing the winning proponent’s construction cost (not including financing) to capture more market reflective construction costs.

**The Public Sector Comparator Costs**

The PSC represents the estimated costs to the Region for procuring the design and construction of the LRT using a Traditional or DBB method, financing the project using Region financing, and operating and maintaining the LRT for a period of 30 years.

**DBFOM Costs**

The estimated project costs for the DBFOM model are the costs associated with Project Co.
designing, and building the LRT, as well as financing, operating and maintaining the LRT for the 30-year operation period. The costs under a DBFOM are typically higher than under a PSC, as they include additional costs related to private sector financing as well as a risk premium to account for the added risk borne by Project Co. in a DBFOM structure.

**The Risk Matrix**

The structure of a DBFOM transaction allows the Region to transfer and/or mitigate risks associated with designing, constructing, operating and maintaining large infrastructure projects such as the LRT. Some examples of risk transfer and/or mitigation include:

- **Contractual Risk Transfer**: The contractual terms of the DBFOM requires Project Co. to bear most of the risks associated with design deficiencies, construction cost overruns, and maintenance and major capital (lifecycle) repair cost overruns. Typically, a DBB approach requires the Region to assume many of these risks.

- **Co-ordination**: The DBFOM requires a single party, Project Co., to undertake the design, construction, and long-term operations and maintenance of the asset, thereby greatly reducing co-ordination risks.

- **Private Capital Due Diligence**: Financing risk in the DBFOM is borne by private debt and equity investors, who undertake thorough, up-front due diligence and long-term planning, thus reducing both the probability and impact of certain risks.

The risk analysis carried out by the Region’s team examined risks in the categories listed in the Table 1 below.

**Table 1: Risk Categories**

<table>
<thead>
<tr>
<th>Project Risk Categories</th>
<th>6. Permits and Approvals</th>
<th>7. Completion Commissioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Policy and Strategic Risks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Project Agreement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Design &amp; Tender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Site Conditions / Environmental</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Construction Risk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Maintenance Risks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Operational Risks</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Certain key risks are set out below for summary purposes in Table 2. These are the key risks that have been determined to have a significant impact on the value of risk retained by the Region under each of the delivery models assessed.

**Table 2: Key Project Risks**

<table>
<thead>
<tr>
<th>Risk</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning, Process And Allocation Practices</td>
<td>Risks that internal Region approvals are not received in a timely manner and ultimately results in delays in the procurement process.</td>
</tr>
<tr>
<td>Changes In Government Funding Policies</td>
<td>The risk that a change in government policy (which includes the Region, the Province and the Federal government) impacts or terminates the Project. There may also be an impact on the Region’s reputation and ability to carry out future procurements.</td>
</tr>
<tr>
<td>Asset Residual</td>
<td>The risk of the residual value of the asset at the end of the term, i.e. the condition of the facility at the end of the term and the magnitude of any investment required to restore the facility such that it can deliver the service as required.</td>
</tr>
<tr>
<td>Incomplete RFP / Tender Documentation</td>
<td>The risk that RFP / Tender documentation (including construction contract or Project Agreement) incompletely or poorly defines Project scope and/or risk allocation, or is poorly coordinated. This results in uncertainty for bidders and may compel them to increase contingencies in their pricing to reflect the fact that the services cannot be priced accurately.</td>
</tr>
<tr>
<td>Scope Changes By Owner - During Construction</td>
<td>The risks associated with the Region changing the scope of work during the construction period through issuing change orders. Change orders are not priced under competitive tension and therefore these risks include risks of non-market pricing. This category also includes the risk that the method for pricing change orders is not fully prescribed in the contract resulting in change order costs exceeding estimated amounts. An unclear, incomplete or internally inconsistent specification will increase the probability of scope changes.</td>
</tr>
<tr>
<td>Acceleration to Maintain Schedule</td>
<td>The risk associated with the construction contractor having to accelerate the schedule in order to achieve the completion date. Acceleration can result in increased costs to the contractor (such as increased equipment utilization, higher prices for urgent materials); additionally acceleration may also have a quality assurance impact due to sub-trades working longer hours.</td>
</tr>
<tr>
<td>Project Integration</td>
<td>Risk that all the design elements of the project, including structures, roadways, tracks, systems, ITS, electrical, facilities and communications have not properly been prescribed and integrated. Risk that individual discipline areas have failed to properly coordinate design and construction in time, space and connectivity to meet final performance requirements, incurring additional costs and delays.</td>
</tr>
<tr>
<td>Construction Delays</td>
<td>The risk that the Region’s skills, capacity or resources are insufficient which results in delays and quality issues that increase costs. The Region may be required to manage construction (such as under some variants of DBB) or may take a broad oversight role (such as under AFP). DBB option includes certification of progress payments, re-measurement of works to the extent necessary, and managing variations and change orders.</td>
</tr>
<tr>
<td>Cost of Labour and Materials</td>
<td>Risk that the cost of labour and materials is greater than predicted. Risk is associated with the extra cost for service contracts, staffing and material suppliers.</td>
</tr>
<tr>
<td>Technological Obsolescence And Upgrade</td>
<td>Risk of the contracted services and its method of delivery not keeping pace, from a technological perspective with public or industry expectations of service standards. Risk is the cost associated with the need to upgrade the assets or service delivery over the term of the contract.</td>
</tr>
<tr>
<td>Inflation</td>
<td>Risk that inflation is greater than estimated. Risk is that budgets will be insufficient to address needs and costs will increase.</td>
</tr>
</tbody>
</table>
Key Assumptions

VFM results will vary over time as financing and timing assumptions evolve between now and Financial Close. Results in this report are preliminary in nature and based on the key inputs and assumptions presented in Table 3 below. The VFM assessment will be updated at critical stages during the procurement process; i.e. prior to naming of the preferred proponent and at financial close, with costing and financing data from the preferred proponent inserted into the VFM model.

2 Financial Close is the date at which Project Co. locks-in its financing rates after which the price for the Project is set.
## Table 3: Key VFM Assumptions

<table>
<thead>
<tr>
<th>Assumption Item</th>
<th>Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Schedule</strong></td>
<td>Based on input from the Region’s technical advisor, the construction period has been estimated at approximately 40 months including commissioning. The operating period of the LRT considered in the VFM assessment is 30 years.</td>
</tr>
<tr>
<td><strong>Base Date</strong></td>
<td>As costs in a VFM analysis are considered on a NPV basis, they have to be discounted to a specified Base Date (i.e. the date to which all costs in NPV terms are discounted back to). For purposes of the LRT the Base Date has been set as the expected Financial Close date of April 2014.</td>
</tr>
<tr>
<td><strong>Region Borrowing Rate</strong></td>
<td>The VFM assessment has assumed an all-in cost of borrowing rate for the Region based on current trends.</td>
</tr>
<tr>
<td><strong>Discount Rate</strong></td>
<td>The VFM assessment assumes a discount rate which is equal to the Region’s notional borrowing rate.</td>
</tr>
<tr>
<td><strong>Ridership revenue</strong></td>
<td>The VFM calculation focuses purely on gross costs and thus does not take into consideration any sources of revenue (e.g. Ridership) that may be available to the Region to cover project costs.</td>
</tr>
<tr>
<td><strong>Federal and Provincial funding</strong></td>
<td>Similar to Ridership revenue, the VFM calculation does not reflect sources of funding available to the Region such as Federal or Provincial funding.</td>
</tr>
<tr>
<td><strong>Cost Inputs</strong></td>
<td>Cost assumptions for design, construction, operations, maintenance and major capital repairs (lifecycle) have been provided by PB through a detailed costing exercise. With the exception of the Risk Premium (explained below), these cost inputs have been assumed to be the same for both the PSC and DBFOM delivery models.</td>
</tr>
<tr>
<td><strong>Risk Premium</strong></td>
<td>An adjustment factor is applied to design and construction costs for VFM purposes to account for the additional risk premium associated with the bundling of design and construction. This premium is only applied to the DBFOM delivery model and not the PSC. The purpose of this standard VFM assumption is to capture the added risk profile that Project Co. takes on in a DBFOM project as compared to a traditional project delivery.</td>
</tr>
<tr>
<td><strong>Harmonized Sales Tax (HST)</strong></td>
<td>All cost inputs have been adjusted to include a non-recoverable portion of HST. This assumption has been applied for both the PSC and DBFOM models.</td>
</tr>
<tr>
<td><strong>Cost Inflation</strong></td>
<td>To account for inflation during the construction and operational periods of the Project an annual inflation factor has been applied to all costs.</td>
</tr>
<tr>
<td><strong>Project Co. Partnership Costs</strong></td>
<td>AFP projects are typically undertaken by special partnerships formed by various team members of the selected proponent. Management fees of such a partnership have been added to the DBFOM delivery model over both the construction and operations period.</td>
</tr>
<tr>
<td><strong>Payments to Project Co. during construction (DBFOM)</strong></td>
<td>Project Co. is expected to finance the initial capital costs without receiving any payments from the Region. Subsequently, the Region will be making monthly payments to Project Co. equivalent to 85% of the work completed during the month with the remaining 15% withheld as a holdback. At the end of the construction and commissioning period, the Region will be making a Substantial Completion Payment to Project Co. equal to the total amount of holdbacks withheld during construction leaving the initial capital costs to be repaid to Project Co. throughout the 30-year operational period.</td>
</tr>
<tr>
<td><strong>DBFOM Financing Structure</strong></td>
<td>Project Co. is expected to finance initial capital costs through long-term financing. This long-term financing is assumed to be covered through long-term debt (bond structure) and equity. In order to finance the 15% holdback withheld from payments made by the Region during construction, Project Co. is assumed to draw on a short-term debt (bank loan) facility that will be entirely repaid by the Substantial Completion Period.</td>
</tr>
<tr>
<td><strong>Private Sector Financing</strong></td>
<td>Long term financing is tied to the long-term Government of Canada bond yield plus a private financing spread based on precedent AFP projects. Similarly, short term financing rates are based on construction period financing facilities observed on precedent AFP projects.</td>
</tr>
<tr>
<td><strong>Transaction Costs</strong></td>
<td>Transaction costs consist of the upfront costs required by the Region to deliver the LRT (i.e. take it from the planning phase throughout procurement). These costs are typically higher in AFP projects, relative to the PSC, because of the greater complexity of AFP transactions which require the involvement of external transaction, financial and legal advisors.</td>
</tr>
<tr>
<td><strong>Project Management Costs</strong></td>
<td>Project Management costs represent the Region’s internal costs required to oversee the LRT until the commencement of operations as well as the cost of retaining a technical advisor. These costs have been assumed to be the same for the PSC and AFP delivery models.</td>
</tr>
</tbody>
</table>
VFM Results

Risk Analysis Results

Table 4 below summarizes the risk transfer profile for the LRT, by key categories of risks, based on the mean of the results obtained through the Monte Carlo simulation. Note that each risk category is comprised of a number of more detailed risks, each assessed individually as part of a proprietary model.

Table 4: Risks Retained by Each Party by Risk Category

<table>
<thead>
<tr>
<th>Type of Risk</th>
<th>DBFOM</th>
<th>Traditional DBB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Region</td>
<td>Private Sector</td>
</tr>
<tr>
<td>Policy / Strategic</td>
<td>$40,044,088</td>
<td>$40,044,088</td>
</tr>
<tr>
<td>Project Agreement</td>
<td>$4,963,479</td>
<td>$602,167</td>
</tr>
<tr>
<td>Design &amp; Tender</td>
<td>$6,140,157</td>
<td>$12,665,928</td>
</tr>
<tr>
<td>Site Conditions/Environmental</td>
<td>$9,492,031</td>
<td>$18,212,834</td>
</tr>
<tr>
<td>Construction</td>
<td>$18,954,399</td>
<td>$17,649,244</td>
</tr>
<tr>
<td>Permit and Approvals</td>
<td>$355,951</td>
<td>$949,203</td>
</tr>
<tr>
<td>Completion Commission</td>
<td>$19,644,367</td>
<td>$2,076,382</td>
</tr>
<tr>
<td>Maintenance</td>
<td>$14,618,792</td>
<td>$17,230,881</td>
</tr>
<tr>
<td><strong>SUB-TOTAL:</strong></td>
<td><strong>$114,213,284</strong></td>
<td><strong>$89,031,006</strong></td>
</tr>
</tbody>
</table>

Pre-RFP VFM Range

As discussed earlier the value of risk retained by the Region is obtained through a Monte Carlo simulation on the impacts of each risk. The resulting statistical distribution of total risk retained by the Region is presented in Figure 5 below.

---

3 Monte Carlo simulation is an estimation method based on a broad class of computational algorithms that rely on repeated random sampling to obtain numerical results i.e. by running simulations many times over in order to calculate probabilities.
In order to assess the impact of the statistical distribution on VFM, High and Low ranges for risks retained by the Region under the PSC and the DBFOM were obtained using the standard deviation calculated through the Monte Carlo simulation. By using the mean value of risk retained presented in Figure 5 the resulting VFM is approximately 12.3\%4.

To determine a range of VFM savings, a range of retained risks was calculated by taking one standard deviation from the mean value. This yields High and Low values of risks retained that translated into a range of VFM results that extends from 6.1\% to 17.9\%.5 This result compares to the preliminary VFM of 18\% reported to Regional Council in February 2012 which was based on generic assumptions from precedent and related projects that were made in advance of development of the Project Agreement. The difference in VFM is primarily due to revised assumptions on private financing costs and refining the risk matrix to make it more specific to this project and provisions of the proposed Project Agreement.

Interpretation of Results

When reviewing these results, the following considerations should be noted:

- The results illustrate the difference between two vastly different forms of contracts for an infrastructure project the Region has limited experience with. The VFM result is not intended as a criticism of the Region’s typical DBB contracting approach, which is not suited for the LRT project for the following reasons:

  - The Region’s typical construction delivery model is a DBB model using a standard form of construction contract that has been tested and applied against numerous projects that are typically less than $100m and does not include a long-term operating and maintenance obligation in the scope of the contractor. Current AFP uses the best practice of bundling design-construction-operations and maintenance through the design-life of the infrastructure for new legacy, large scale projects such as the LRT. The VFM illustrates this difference, with the main advantage of the DBFOM being that the same contract counterparty is responsible for all components, thus eliminating any “finger pointing” if the LRT does not perform.

---

4 VFM results are typically presented as a percentage calculated by taking the difference between the risk-adjusted cost of the AFP against that of the PSC (please see Figure 3) divided by the risk-adjusted cost of the PSC.

5 With the range calculated by taking one standard deviation from the mean.
- One of the motivations for the Region to select the DBFOM model was to have Project Co. assume operations and maintenance, since the Region has no expertise in operating LRTs. In other words, the VFM factors in the Region’s ability to be an LRT operator as compared to a private partner under the DBFOM whose core business is LRT operations.

- The DBB form of contract is prescriptive as the contractor bids against a 100% level design prepared by the Region, while the DBFOM relies on a performance based set of output specifications that are not prescriptive. The VFM contrasts the difference in the form of compliance, as Project Co. has flexibility to operate the LRT system and therefore must accept consequences if the system does not perform.

- The VFM captures the opportunities that exist under the AFP model to achieve cost synergies through innovations due to: (i) the use of non-prescriptive output-based specifications; and (ii) the integration of design, construction, operations and maintenance enables Project Co to make cost trade-off decisions as it is responsible for long-term asset performance and therefore has incentive to design, construct, and plan based on a “full lifecycle” view of the infrastructure.
Conclusions

At this pre-RFP stage of the Project and based on refined cost and other input assumptions, the VFM analysis demonstrates that the DBFOM project delivery model continues to achieve value for money savings for the Region when compared to the PSC. In line with best practices, the VFM will be updated prior to commercial and financial close with data from the preferred proponent’s bid replacing cost assumptions to ensure that the Region continues to achieve value for money savings using a DBFOM project delivery model.
MEMORANDUM

To: Chair Jim Wideman and Members of the Planning and Works Committee
From: Lee Ann Wetzel, Manager, Council & Administrative Services/Deputy Clerk
Subject: Motion of Reconsideration – Grass and Weed Cutting on Regional Roads
File No: C09-01

Requests have been made by area municipal Councils to reinstate grass and weed cutting on Regional Roads. In order for this matter to be considered, a motion of reconsideration of the two motions approved at the Budget Committee meeting on January 16, 2013 needs to be approved.

The following motions were approved at the January 16, 2013 Budget Committee meeting and subsequently approved as part of the whole budget on that same date:

MOVED by J. Wideman
SECONDED by T. Cowan

THAT the Regional Municipality of Waterloo approve an adjustment to the 2013 budget to implement a reduction of $100,000 for item 2.10 weed cutting on Regional roads, as set out in Schedule 6 to report F-13-003.

CARRIED

A Recorded Vote was requested.

MOVED by J. Wideman
SECONDED by B. Halloran

THAT the Regional Municipality of Waterloo approve an adjustment to the 2013 budget to implement a reduction of $300,000 for item 3.10 maintenance on Regional roads (urban and rural), as set out in Schedule 7 to report F-13-003, subject to a staff report on the status of the winter control budget to Planning and Works Committee in the spring of 2013.

CARRIED

Nays: D. Craig, B. Halloran, J. Mitchell, C. Zehr
The following sample motion of reconsideration would need to be considered prior to the Report E-13-072 being discussed at the May 28th Planning and Works Committee meeting:

THAT The Regional Municipality of Waterloo reconsider the resolutions of the January 16, 2013 Budget Committee concerning budget reductions for weed cutting and maintenance on Regional roads (urban and rural).

As required under Section 63 of the Procedural By-law, the mover of the motion of reconsideration needs to be a person who voted on the prevailing side of the motion. A majority is required for the motion of reconsideration to be approved.
TO: Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: T06-01

SUBJECT: GRASS AND WEED CUTTING ON REGIONAL ROADS

RECOMMENDATION:

That the Regional Municipality of Waterloo reinstate the grass and weeding cutting program in 2013 for all Regional roads to the level of service provided prior to the reductions approved on January 16, 2013 at a budgeted cost of $400,000 with funding from under expenditures in the Winter Maintenance Program, other program areas or from the Winter Maintenance Reserve Fund.

SUMMARY:

NIL

REPORT:

In order for this recommendation to be brought forward, a motion of reconsideration is required for the two motions passed at the January 16, 2013 budget Meeting. This Matter is listed on the May 28, 2013 Planning and Works Committee Agenda ahead of this report.

Regional Council approved as part of the 2013 property tax budget on January 16, 2013 a number of service level and budget adjustments including a reduction in grass and weed cutting on both urban and rural Regional roads subject to a staff report on the status of the winter control budget in the Spring of 2013. This reduction was in an amount of $400,000 and included the elimination of one FTE and the hiring of 9 summer students. Regional staff presented a report on March 19, 2013 to the Administration and Finance Committee regarding the weed and grass cutting indicating that as of February 28, 2013 it was expected that the overall winter maintenance expenditures for 2013 will be on budget.

The grass and weed cutting on Regional roads in the three Cities is currently undertaken by City staff on behalf of the Region under a maintenance agreement. The Region has received requests from City Councillors and staff as well as the public to reinstate the grass cutting on Regional roads.

Regional staff has recently reviewed the winter maintenance budget for 2013 based on expenditures as of April 30, 2013. The annual winter maintenance budget for all Regional roads in 2013 is $7.2 million and to date approximately $5.2 million has been spent. An estimate has been included for the costs from the Cities for April 2013 since these invoices have not yet been received. The estimated expenditures for the typical winter period of January to April is $4.8 million so at this time the winter maintenance expenditures for 2013 are slightly over budget, however the winter maintenance expenditures for the fall period (November/December) for the past several years have been lower than expected due to less severe weather than is typically
expected. If the Region of Waterloo receives a similar winter in November and December 2013 as 2012 it is estimated that approximately $1.7 million will be expended in November/December 2013 for a total of $6.9 million. This would result in an under-expenditure in the winter maintenance budget of approximately $300,000. If the under expenditure in the winter maintenance program does not total the amount to fully cover the grass and weed cutting expenditures, the costs will be covered by surpluses from other program areas or other funding sources (e.g. Winter Maintenance Reserves, etc). It should be noted that if the grass and weed cutting program is to be reinstated in 2013 the $400,000 reduction will also need to be brought forward as part of the 2014 budget process.

If the grass and weed cutting program is reinstated for 2013 the Cities have indicated that they will still be able to implement this program. The implementation of the grass and weed cutting on Regional roads in the Townships can also be completed, however as this has normally been done by students (who have not been hired) and one full time staff position (which has been eliminated) this work will be done through a combination of other full time staff and contractors.

CORPORATE STRATEGIC PLAN:

This report relates to Corporate Strategic Objective 5.3 “ensure Regional programs and services are efficient and effective and demonstrate accountability to the public”.

FINANCIAL IMPLICATIONS:

The 2013 Transportation operations budget was reduced by $400,000 based on the implementation of the reduced level of service for grass and weed cutting approved by Regional Council in January 2013. The cost for reinstatement of the grass and weed cutting to its previous level of service can be potentially covered by under-expenditures in winter maintenance for 2013 provided a less severe than normal winter occurs in November and December 2013. If this under-expenditure in winter doesn’t come to fruition the additional costs will need to be found from surpluses in other program areas or other funding sources such as reserve funds. It should be noted that if the grass and weed cutting program is reinstated in 2013 the $400,000 cost for this program will also need to be brought forward as part of the 2014 budget process.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Finance Staff has been involved in the preparation of this report.

ATTACHMENTS:

NIL

PREPARED BY: John Hammer, Director, Transportation

APPROVED BY: Thomas Schmidt, Commissioner of Transportation and Environmental Services
RECOMMENDATION:

THAT the Region direct staff to implement the communications plan for the Biosolids Heat Drying Facility Class Environmental Assessment (Class EA), as described in report E-13-065, dated May 28, 2013.

SUMMARY:

NIL

REPORT:

Project Background

2011 Biosolids Master Plan

In August 2011, the Region completed the Biosolids Master Plan (BMP) to update the previous BMP completed in 2003, which followed the Municipal Engineers Association Class Environmental Assessment (Class EA) process. The 2011 BMP examined how the Region manages the biosolids produced at all of its 13 wastewater treatment plants (WWTP’s) until the year 2041, addressing planning, technical, environmental, safety and regulatory changes since the completion of the 2003 BMP. The 2011 BMP builds on the volume reduction strategy recommended in the 2003 study and further recognizes that biosolids are a valuable renewable resource, which if properly managed can help reduce the greenhouse gas production in the Region. The underlying philosophy of the 2011 BMP was to develop a Region-wide sustainable strategy to support the Region’s Corporate Sustainability Strategy and to manage biosolids within our Regional boundary.

The 2011 BMP initially considered more than 40 biosolids processing technologies available in North America, for addressing biosolids at the Region’s largest WWTP’s. Four strategies were short listed including Contracted Disposal (incineration), Other Stabilization (Lystek), Multiple Heat Drying Facilities and Single Heat Drying Facility. After using a comprehensive multi-criteria decision analysis, the strategy of a Single Heat Drying Facility was selected as the preferred biosolids processing strategy for the Region. This strategy addresses aesthetics, environmental and financial objectives and provides flexibility for the disposal of the final product.
It aligns well with the Region’s Environmental Sustainability Strategy and has been successfully used worldwide. It has minimum impact on traffic (7 trucks a day in 2041), produces virtually no odours (all work is done indoors with process air treated prior to being released to the atmosphere), has low levels of noise and is safe.

**2011 Biosolids Master Plan**

The 2011 Biosolids Master Plan was developed following the Municipal Engineers Class Environmental Assessment process and included the following points of public contact and input:

- Notice of Project Initiation - 2010;
- Public Information Centres (PIC) – six PICs (three in 2010 and three in 2011);
- Notice of Completion – Fall 2011;
- Regional Council Approval - August 2011.

The Notice of Project Initiation was published in major local newspapers and mailed to all impacted Public Agencies. The notices of PICs and Notice of Completion were published twice in several local newspapers, posted on the Region’s web site, and mailed to Public Agencies and those on the project communication list.

The 2011 BMP was guided by a Stakeholder Committee which acted as an external advisor to the Region’s project team. This Committee had participation of the following parties:

- Regional Councillors
- Area municipalities in the Region
- Chamber of Commerce
- Sustainable Waterloo
- University of Waterloo
- Grand River Conservation Authority
- Ontario Ministry of The Environment
- Ontario Ministry of Agriculture, Food, and Rural Affairs
- Ontario Pork Producers
- Federation of Agriculture
- Waterloo Region Food Round Table

**Heat Drying Facility Class EA**

Following the recommendation in the 2011 BMP of a Single Heat Drying Facility as the preferred alternative for processing the Region’s biosolids, the Region initiated, in 2012, a Schedule B Class EA to determine the preferred location for the facility. The study is following the Municipal Engineers Association Class EA process, and is also expanding on the 2011 BMP study. Most of the work for the selection of the preferred location for the Heat Drying Facility has been completed to date, including identification of 11 potential locations for the facility, development of screening criteria for assessing the long list of locations, short listing the preferred locations (Cambridge and Waterloo Waste Management Centres), development of detailed evaluation criteria for the assessment of the 2 short listed locations, rating the short listed locations, and communicating the project to the public and Agencies.
The following points of public contact have been provided:

- Notice of Project Initiation - October 2012;
- Two Steering Committee Meetings and two Stakeholders Committee Meetings;
- PIC #1 - December 3 and 11, 2012 – Cities of Waterloo and Cambridge, respectively;
- Presentation to the Waterloo Region Landfill Liaison Committee – February 5, 2013;
- PIC #2 - April 10 and 15, 2013 - Cities of Waterloo and Cambridge, respectively.

The Notice of Project Initiation was published in major local newspapers, the Region’s web site, and mailed to all impacted Public Agencies and those included in the communication list from the 2011 BMP. The notices of PICs were published twice in several local newspapers, posted on the Region’s web site, and mailed to Public Agencies and those in the project communication list. In addition, the notice of PIC #2 was also mailed to residents and businesses in the vicinity of the two proposed sites.

The Heat Drying Facility Class EA has generated significant public attention. The major feedback received from the public was concerns with potential odour and noise from the facility, and increased truck traffic. There were also concerns in particular for the Cambridge meeting that notices were received late or not at all and the meeting room was not adequate. It was also evident that the general public is not fully aware of information provided during the 2011 BMP and how the proposed approach to handling biosolids was developed. In addition feedback at the PIC was received that members of the public wanted to have the opportunity to speak directly to Regional Council concerning biosolids prior to Council making a decision.

**Heat Drying Facility Class EA – Additional Communication**

Given the level of interest in the Heat Drying Facility Class EA and the need to provide additional information and address the concerns with the Cambridge venue Regional staff recommend that additional communication efforts be made to improve the public understanding of this project and to answer questions raised in the previous PICs.

The following additional steps in communicating this Class EA are recommended:

- Prepare and deliver an issue of Environews focusing on the Heat Drying Facility Class EA;
- Prepare Fact Sheets on the Heat Drying Facility;
- Hold a new PIC #3 in the Cities of Waterloo and Cambridge to raise awareness of the 2011 BMP and provide an opportunity for the public to raise issues;
- Hold a Public Input Meeting (PIM) after PIC#3 to allow the public to provide feedback directly to Region Council.

One concern raised during PIC #2 was the reach of notification for the PIC. Environews is a publication that reaches all households in the Region. Therefore, it is recommended that an issue focusing on the Heat Drying Facility Class EA be issued to communicate the project and upcoming public meetings.
During PIC #2, verbal feedback received by the public revealed that partially correct or incorrect information has been disseminated amongst the public regarding the Class EA and the heat drying technology. Therefore, the preparation of Fact Sheets answering several of the questions raised by the public is recommended. The Fact Sheets will cover the following topics:

- Biosolids and treatment;
- Heat drying technology as the sustainable solution;
- Site selection and aesthetics;
- Site safety.

Fact sheets will be posted on the project website and made available at upcoming PICs.

Schedule

The communication steps, PICs and PIM will be scheduled in September/October 2013.

Final Class EA Report

Upon completion of the recommended communication steps above, comments will be incorporated into the project and the Final Report for the Class EA study will be prepared. Late in 2013 or early in 2014, a separate Planning & Works Committee report will be submitted recommending the preferred location for the Heat Drying Facility and directing staff to place the final report for the 30 day public review.

CORPORATE STRATEGIC PLAN:

The implementation of the Class EA supports the Corporate Strategic Plan Focus Areas 1 and 2: Environmental Sustainability, and Growth Management and Prosperity, respectively; and the following strategic objectives: Reduce greenhouse emissions and work to improve air quality in Waterloo Region, protect the quality and quantity of our drinking water sources, and develop, optimize and maintain infrastructure to meet current and projected needs.

FINANCIAL IMPLICATIONS:

The additional time and activities required for the completion of the Heat Drying Class EA study will likely require additional consulting fees for the completion of the study. Regional staff are in discussion with CIMA, the consultant undertaking this study, to identify the impact of these changes in the current consulting fees. If required, the need for additional consulting fees will part of a separate report.

Regional Council approved the Business Case for Receiving P3 Canada Fund for the Biosolids Heat Drying Facility (Report E-13-037 of March 19, 2013). Due to delays of the Class EA study, P3 Canada will not be able to finalize the evaluation of the Region’s application for Round 4 of the P3 Canada program initially planned for June 2013. Formal correspondence has not been received from P3 Canada; however, Region staff has been verbally notified to re-submit an application to Round 5 of the P3 Canada Fund by June 14, 2013.
OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:
NIL

ATTACHMENTS
NIL

PREPARED BY:  Kaoru Yajima, Senior Project Engineer

APPROVED BY:  Thomas Schmidt, Commissioner, Transportation and Environmental Services
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: C06-60/E02-30/WWWMR.13

SUBJECT: 2013 WATER AND WASTEWATER MONITORING REPORT

RECOMMENDATION:


SUMMARY:

The 2013 Water and Wastewater Monitoring Report (2013 WWWMR) outlines the ability of the Regional water supply and wastewater treatment facilities to accommodate demands to 2026. The full report will be made available on the Region’s Water Services website and at the Water Services administration office. Draft copies of the report have been circulated to the cities of Cambridge, Kitchener and Waterloo and also to the townships of North Dumfries, Wellesley, Wilmot and Woolwich.

Water supply capacity was adequate to meet the actual maximum demands in all communities supplied by a Regional system in 2012. Wastewater treatment capacity was sufficient at all Regional plants to treat the actual average flows in 2012. Water supply and wastewater capacities in 2026 are based on the implementation of works from the Region’s current capital programs and both water supply capacity and wastewater capacity is anticipated to be adequate to accommodate all current development commitments. The allocation of remaining capacity to new development is determined by Region of Waterloo staff in consultation with the Area Municipalities. The available capacity expressed in this report is the capacity available to service all future Planning Act approvals (subdivisions, condominiums, consents, zoning bylaw amendments and minor variances) and/or any building permits issued for development outside of residential plans of subdivision that complies with existing zoning (e.g. site plans).

With the adoption of the Places to Grow: Growth Plan for the Greater Golden Horseshoe, municipalities are required to provide for a minimum of 40% of new residential units (phased in with full implementation by 2015) within the built-up areas. The implementation of the provincial policies is carried out through the regional and municipal official plans. It is the responsibilities of each of the municipalities to ensure that development occurs in compliance with relevant planning policies.

REPORT:

Water Services produces the annual Water and Wastewater Monitoring Report with input from the Region’s Planning, Housing and Community Services (PHCS). The purpose of this report is to:

1. Document actual water consumption and wastewater flows;
2. Provide a basis for water consumption and wastewater flow forecasts required in preparing the capital budgets and user rates;
3. Document water production and wastewater treatment capacities;
4. Update Regional Council with respect to remaining uncommitted capacities of water supply and wastewater treatment infrastructure; and
5. Provide a basis for Water Services staff to provide comment on the water and wastewater aspects of development applications.

In addition, the 2013 WWWMR report will be one of the inputs used in preparing the 2014 water and wastewater capital budget, longer term water and wastewater capital forecast, and in formulating responses to development applications.

Comparison the 2012 WWWMR

There have been no changes to the methodology used in the 2013 WWWMR from the 2012 report.

Water consumption patterns and wastewater flows are a function of yearly weather fluctuations. In 2012, the spring and summer months were much hotter and drier than average. However this was followed with some wetter than average months in the fall which resulted in an overall slightly drier than average year. The total snowfall accumulation was less than half the average and hence there was a lower than average snow melt. However the seasonal impacts at the wastewater treatment plants show generally average or slightly below average flows.

2013 Water Supply Capacity and Commitments

Water supply capacity was adequate to meet the actual maximum demands in all communities supplied by a Regional system in 2012. Water supply capacities up to 2026 are based on the implementation of works from the Region's current capital programs. Table 1, attached, summarizes the remaining water capacity as of December 31, 2012. The long-term water supply strategy is currently under review through the Water Supply Master Plan Update. Recommendations forthcoming from the master plan update will be incorporated into this monitoring report.

The Integrated Urban System (IUS) (Cambridge, Kitchener, Waterloo, Elmira and St. Jacobs water systems) has 72,381 m$^3$/d of remaining capacity, which is equivalent to 189,898 people.

The Baden/New Hamburg water system has 7,296 m$^3$/d of remaining capacity, which is equivalent to 19,211 people.

The Ayr water system has 2,720 m$^3$/d of remaining capacity, which is equivalent to 5,566 people.

The Wellesley water system has 1,829 m$^3$/d of remaining capacity, which is equivalent to 5,594 people.

The St. Clements water system has 1,339 m$^3$/d of remaining capacity, which is equivalent to 3,910 people.

Small Water Supply Systems

There are 12 small water supply systems owned and operated by the Region. These systems include: Conestogo (Conestoga Golf Course and Conestoga Plains), Maryhill (Maryhill and Village Heights) and West Montrose in Woolwich; Linwood and Heidelberg (reported as one system including a portion of Heidelberg in Woolwich) in Wellesley; Foxboro Green and New Dundee in Wilmot; and Roseville and Branchton Meadows in North Dumfries. In 2011 the community of St. Agatha was connected to the IUS and the St. Agatha water supply system was decommissioned.
All numbers reported, excluding actual average and maximum day demand figures, are design numbers based on MOE water usage guidelines for small communal water supply systems. Most of these systems were designed to only service specific subdivisions in the respective settlement areas and have no additional capacity to service units beyond those subdivisions. Given the complexity of calculating available capacity for the small systems, available system capacity will be evaluated on an individual basis prior to commenting on development applications. Table 2 summarizes the data on small water systems.

2012 Wastewater Treatment Capacity and Commitments

Wastewater treatment capacity was sufficient at all Regional plants to treat the actual average flows in 2012. Wastewater capacities up to 2026 are based on the implementation of works from the Region's current capital programs; Table 3 summarizes the remaining wastewater capacity as of December 31, 2012.

The Kitchener WWTP has 39,997 m³/d of remaining capacity, which is equivalent to 129,064 people.

The Waterloo WWTP has 4,212 m³/d of remaining capacity, which is equivalent to 11,888 people.

The Galt WWTP has 18,906 m³/d of remaining capacity, which is equivalent to 44,088 people.

The Preston WWTP has 5,151 m³/d of remaining capacity, which is equivalent to 10,327 people.

In the 2011 WWWMR wastewater capacity was reserved for the Boxwood Industrial Subdivision in the Preston Wastewater Service Area in the amount of 1,860 m³/d. This number will be assessed annually and adjusted according to the rate of build out of the subdivision. Since there has been no occupancy of the Boxwood Industrial Subdivision no adjustment has been made in the 2013 WWWMR.

The Hespeler WWTP has 1,178 m³/d of remaining capacity, which is equivalent to 3,711 people.

The Elmira WWTP has 1,907 m³/d of remaining capacity, which is equivalent to 4,358 people.

The St. Jacobs WWTP has 421 m³/d of remaining capacity, which is equivalent to 773 people. In 2012 the Region completed the Elmira and St Jacobs Wastewater Master Plan to optimize wastewater treatment in Elmira and St. Jacobs. One of the key recommendations of the master plan was to direct the flows from the St Jacobs WWTP to the Waterloo WWTP once the Waterloo WWTP undergoes an expansion. The capacity expansion for Waterloo was advanced such that before the capacity of the St Jacobs WWTP is reached, the preferred solution would be available. Once the flows have been directed to the Waterloo WWTP, the St Jacobs WWTP will be decommissioned.

The Baden/New Hamburg WWTP has 807 m³/d of remaining capacity, which is equivalent to 2,518 people.

The Ayr WWTP has 1,103 m³/d of remaining capacity, which is equivalent to 3,632 people.

The Wellesley WWTP has 249 m³/d of remaining capacity, which is equivalent to 1,054 people.

Servicing Agreements

Servicing commitments are made through separate servicing agreements between the Region and the developer, which are executed once a draft approved plan of subdivision is ready to proceed to registration/final approval. Developers seek an agreement for servicing just prior to registration of the plan of subdivision or final approval. The servicing agreement expires within six to 18 months of
being signed, at which time the developer would be required to seek a new commitment for servicing if registration of the plan of subdivision or final approval of the consent has not taken place.

Since 1996, the time of the registration of a plan of subdivision has traditionally been the point at which the capacity of water and wastewater systems is committed to new subdivisions in accordance with MOE policies. However, since 2004, a significant portion of all residential development has occurred outside of plans of subdivision. This includes development on previously existing lots of record both within the built up areas and within the designated greenfield areas. These units are typically townhouse or apartment units and are often registered as plans of condominium. This number is expected to increase particularly in the City of Waterloo as there is little remaining designated greenfield area and a large number of applications for site plans and plans of condominiums already in process.

Section 51 (24) (i) of the Planning Act obliges the Region to ensure the “adequacy of utilities and municipal services.” In addition ROP Policy 5.D.1 states that the “servicing requirements for planned development and projected growth will be monitored to ensure that the total system capacities are not exceeded, and to provide sufficient lead time for the planning, design, approval, financing and construction of new facilities.”

In 1996, Regional Council by Report PC-96-061/ E-96-138 revised the conditions of draft approval for plans of subdivision to include a new condition requiring an Agreement for Servicing. However, before future, unbuilt service capacity is considered, three criteria must be met:

1. The capacity expansion project must be imminent for construction and thereby included within the first five years of the 10 Year Capital Forecast;
2. There must be a sound technical basis for the anticipated new capacity associated with the project, as a result of completion of the Environmental Assessment, a suitable master plan or other Regional engineering evaluation; and
3. Approval of new draft plans of subdivision will be guided by Area Municipal Staging of Development programs and will not exceed 50 per cent of the estimated capacity of major planned service capacity projects or 75 per cent of minor planned projects.

It is important to note that the actual service capacity of a water or wastewater facility to be delivered from a future project cannot be guaranteed until a Certificate of Approval is issued by the MOE.

With the adoption of the Places to Grow: Growth Plan for the Greater Golden Horseshoe, municipalities are now required to provide for a minimum of 40% of new residential units (phased in with full implementation by 2015) within the built-up areas. The implementation of the provincial policies is carried out through the Regional and Area Municipal official plans. However, the new Regional Official Plan was appealed in its entirety to the Ontario Municipal Board in January 2011, and remains under adjudication at this time. One of the items under appeal before the Ontario Municipal Board relates to the allocation of the Region’s population and employment forecasts to each of the Area Municipalities.

Area Municipal Consultation/Coordination

A draft copy of this report was circulated to Area Municipal Planning staff for comment.

CORPORATE STRATEGIC PLAN:

The Water and Wastewater Monitoring Report supports “Focus Area 2: Growth Management - Manage and shape growth to ensure a livable, healthy, thriving and sustainable Waterloo Region.”
FINANCIAL IMPLICATIONS:

The financial implications of this report will be addressed in the preparation of the 2014 Water and Wastewater Capital Programs.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE

NIL

ATTACHMENTS:

Table 1 - Remaining Water and Wastewater Capacity as of December 31, 2012
Table 2: Small Rural Water System Summary as of December 31, 2012
Table 3: Commitments as of December 31, 2012
Table 4: Remaining Water and Wastewater Capacity as of December 31, 2012 (IMPERIAL)
Table 5: Small Rural Water System Summary as of December 31, 2012 (IMPERIAL)
Table 6: Commitments as of December 31, 2012 (IMPERIAL)

PREPARED BY:  Kevin Dolishny, Senior Project Engineer, Servicing and Development Planning
               Brenna MacKinnon, Manager, Greenfield Planning

APPROVED BY:   Thomas Schmidt, Commissioner, Transportation and Environmental Services
               Rob Horne, Commissioner, Planning, Housing and Community Services
### TABLE 1: REMAINING WATER AND WASTEWATER CAPACITY AS OF DECEMBER 31, 2012

<table>
<thead>
<tr>
<th>WATER SYSTEM</th>
<th>2011 CAPACITY (1000 m³/d)</th>
<th>MAX DAY / WEEK PROJECTED FLOW (1000 m³/d)</th>
<th>COMMITTED FLOW (1000 m³/d)</th>
<th>REMAINING CAPACITY (1000 m³/d)</th>
<th>MAX DAY / WEEK FLOWS PER CAPITA (m³/d)(c)</th>
<th>REMAINING CAPACITY (PEOPLE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTEGRATED URBAN WATER SYSTEM</td>
<td>232.00</td>
<td>186.41</td>
<td>23.30</td>
<td>72.38</td>
<td>0.3912</td>
<td>189,898</td>
</tr>
<tr>
<td>BADEN-NEW HAMBURG</td>
<td>12.61</td>
<td>4.77</td>
<td>0.64</td>
<td>7.30</td>
<td>0.3798</td>
<td>19,211</td>
</tr>
<tr>
<td>AYR WATER SYSTEM</td>
<td>5.53</td>
<td>2.28</td>
<td>0.53</td>
<td>2.72</td>
<td>0.4887</td>
<td>5,566</td>
</tr>
<tr>
<td>WILLOWSLEY</td>
<td>3.00</td>
<td>1.04</td>
<td>0.13</td>
<td>1.83</td>
<td>0.3270</td>
<td>5,594</td>
</tr>
<tr>
<td>ST. CLEMENTS</td>
<td>3.77</td>
<td>0.43</td>
<td>0.00</td>
<td>1.34</td>
<td>0.3424</td>
<td>3,910</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WASTEWATER</th>
<th>2011 CAPACITY (1000 m³/d)</th>
<th>AVERAGE PROJECTED FLOW (1000 m³/d)</th>
<th>COMMITTED FLOW (1000 m³/d)</th>
<th>REMAINING CAPACITY (1000 m³/d)</th>
<th>AVERAGE FLOWS PER CAPITA (m³/d)(c)</th>
<th>REMAINING CAPACITY (PEOPLE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KITCHENER WWTP</td>
<td>122.70</td>
<td>71.74</td>
<td>10.96</td>
<td>40.00</td>
<td>0.3099</td>
<td>129,064</td>
</tr>
<tr>
<td>WATERLOO WWTP</td>
<td>56.05</td>
<td>46.69</td>
<td>5.14</td>
<td>4.21</td>
<td>0.3543</td>
<td>11,888</td>
</tr>
<tr>
<td>GALT WWTP</td>
<td>56.80</td>
<td>36.20</td>
<td>1.70</td>
<td>18.91</td>
<td>0.4288</td>
<td>44,088</td>
</tr>
<tr>
<td>PRESTON WWTP</td>
<td>16.82</td>
<td>6.70</td>
<td>2.97</td>
<td>5.15</td>
<td>0.4968</td>
<td>10,327</td>
</tr>
<tr>
<td>HESPIZERL WWTP</td>
<td>9.32</td>
<td>8.01</td>
<td>0.13</td>
<td>1.18</td>
<td>0.3175</td>
<td>3,711</td>
</tr>
<tr>
<td>ELMIRA WWTP</td>
<td>7.80</td>
<td>4.32</td>
<td>1.57</td>
<td>1.91</td>
<td>0.4376</td>
<td>4,256</td>
</tr>
<tr>
<td>BADEN-NEW HAMBURG WWTP</td>
<td>5.20</td>
<td>3.93</td>
<td>0.46</td>
<td>0.81</td>
<td>0.3206</td>
<td>2,518</td>
</tr>
<tr>
<td>AYR WWTP</td>
<td>3.00</td>
<td>1.41</td>
<td>0.48</td>
<td>1.10</td>
<td>0.3037</td>
<td>3,632</td>
</tr>
<tr>
<td>ST. JACOBS WWTP</td>
<td>1.45</td>
<td>1.03</td>
<td>0.00</td>
<td>0.42</td>
<td>0.5447</td>
<td>777</td>
</tr>
<tr>
<td>WELLESLEY WWTP</td>
<td>1.10</td>
<td>0.75</td>
<td>0.10</td>
<td>0.25</td>
<td>0.2362</td>
<td>1,054</td>
</tr>
</tbody>
</table>

### TABLE 2: SMALL RURAL WATER SYSTEM SUMMARY AS OF DECEMBER 31, 2012

<table>
<thead>
<tr>
<th>WATER SYSTEM</th>
<th>2011 CAPACITY (m³/d)</th>
<th>MAX DAY PROJECTED FLOW (m³/d)</th>
<th>COMMITTED FLOW (m³/d)</th>
<th>REMAINING FLOW (m³/d)</th>
<th>MAX DAY FLOWS PER CAPITA (m³/d)(c)</th>
<th>REMAINING FLOW (PEOPLE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONESTOGA GOLF COURSE</td>
<td>601</td>
<td>524</td>
<td>N/A</td>
<td>77</td>
<td>1.0059</td>
<td>Case by Case</td>
</tr>
<tr>
<td>CONESTOGA PLAINS</td>
<td>786</td>
<td>229</td>
<td>N/A</td>
<td>557</td>
<td>0.6180</td>
<td>Case by Case</td>
</tr>
<tr>
<td>MARY HILL</td>
<td>157</td>
<td>127</td>
<td>N/A</td>
<td>30</td>
<td>0.7643</td>
<td>Case by Case</td>
</tr>
<tr>
<td>MARY HILL VILLAGE HEIGHTS</td>
<td>820</td>
<td>118</td>
<td>N/A</td>
<td>702</td>
<td>0.7726</td>
<td>Case by Case</td>
</tr>
<tr>
<td>WEST MONTROSE</td>
<td>238</td>
<td>193</td>
<td>N/A</td>
<td>45</td>
<td>0.9464</td>
<td>Case by Case</td>
</tr>
<tr>
<td>HEIDELBERG</td>
<td>829</td>
<td>385</td>
<td>N/A</td>
<td>444</td>
<td>0.3657</td>
<td>Case by Case</td>
</tr>
<tr>
<td>LINWOOD</td>
<td>605</td>
<td>270</td>
<td>N/A</td>
<td>335</td>
<td>0.3296</td>
<td>Case by Case</td>
</tr>
<tr>
<td>FOXBORO</td>
<td>527</td>
<td>169</td>
<td>N/A</td>
<td>358</td>
<td>0.4120</td>
<td>Case by Case</td>
</tr>
<tr>
<td>NEW DUNDEE</td>
<td>983</td>
<td>426</td>
<td>N/A</td>
<td>557</td>
<td>0.3844</td>
<td>Case by Case</td>
</tr>
<tr>
<td>ST. AGATHA SA3/SA4</td>
<td>518</td>
<td>0</td>
<td>N/A</td>
<td>518</td>
<td>0.0000</td>
<td>Case by Case</td>
</tr>
<tr>
<td>ROSEVILLE</td>
<td>358</td>
<td>185</td>
<td>N/A</td>
<td>173</td>
<td>0.6131</td>
<td>Case by Case</td>
</tr>
<tr>
<td>BRANCHTON</td>
<td>130</td>
<td>98</td>
<td>N/A</td>
<td>32</td>
<td>0.9212</td>
<td>Case by Case</td>
</tr>
</tbody>
</table>

(A) See Water Distribution Master Plan and Wastewater Treatment Master Plan for capacity details of each system
(B) See section 2.4 and 2.6 and appendix B & C for details of how average flow is calculated for individual systems. Integrated Urban System uses the max week to determine projected flow. All other systems use average day.
(C) See Table 3 for details about how committed flow is calculated from committed population in the DGA and BUA
(D) Both Water systems and Wastewater systems average/max day/week flow equals the average of the previous 5 years per capita flow
(E) See Section 2.4 and 2.5 for an explanation of average/max flows per capita
(F) Remaining Capacity divided by Average/Max Flow Per Capita multiplied by 1000. Any new service in the small rural systems must be reviewed by the Region of Waterloo Water Services staff and will be evaluated on a case by case basis
### TABLE 3: COMMITMENTS AS OF DECEMBER 31, 2012

<table>
<thead>
<tr>
<th>Water Source</th>
<th>COMMITMENTS (PEOPLE)</th>
<th>MAX DAY / WEEK FLOWS PER CAPITA (m³/d/c)</th>
<th>COMMITMENTS (m³/d)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DGA</td>
<td>BUA</td>
<td>TOTAL</td>
</tr>
<tr>
<td>INTEGRATED URBAN WATER SYSTEM</td>
<td>45,340</td>
<td>15,239</td>
<td>60,580</td>
</tr>
<tr>
<td>BADEN-NEW HAMBURG</td>
<td>1,309</td>
<td>123</td>
<td>1,432</td>
</tr>
<tr>
<td>AYR WATER SYSTEM</td>
<td>1,082</td>
<td>0</td>
<td>1,082</td>
</tr>
<tr>
<td>WELLESLEY</td>
<td>315</td>
<td>97</td>
<td>412</td>
</tr>
<tr>
<td>ST. CLEMENES</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wastewater Source</th>
<th>COMMITMENTS (PEOPLE)</th>
<th>AVERAGE FLOWS PER CAPITA (m³/d/c)</th>
<th>COMMITMENTS (m³/d)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DGA</td>
<td>BUA</td>
<td>TOTAL</td>
</tr>
<tr>
<td>KITCHENER WWTP</td>
<td>27,851</td>
<td>7,526</td>
<td>35,377</td>
</tr>
<tr>
<td>WATERLOO WWTP</td>
<td>8,719</td>
<td>5,800</td>
<td>14,519</td>
</tr>
<tr>
<td>GALT WWTP</td>
<td>2,654</td>
<td>1,305</td>
<td>3,959</td>
</tr>
<tr>
<td>PRESTON WWTP</td>
<td>2,014</td>
<td>205</td>
<td>2,219</td>
</tr>
<tr>
<td>HESPELER WWTP</td>
<td>37</td>
<td>371</td>
<td>408</td>
</tr>
<tr>
<td>ELMIRA WWTP</td>
<td>3,570</td>
<td>29</td>
<td>3,599</td>
</tr>
<tr>
<td>BADEN-NEW HAMBURG WWTP</td>
<td>1,309</td>
<td>123</td>
<td>1,432</td>
</tr>
<tr>
<td>AYR WWTP</td>
<td>1,082</td>
<td>0</td>
<td>1,082</td>
</tr>
<tr>
<td>ST. JACOBS WWTP</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>WELLESLEY WWTP</td>
<td>315</td>
<td>97</td>
<td>412</td>
</tr>
</tbody>
</table>

(A) See appendix D for a breakdown of committed population from known development, DGA = Designated Greenfield Area, BUA = Built-Up Area
(B) Average of the previous five years. See Section 2.5 and 2.6 for an explanation of the Average/Max Flow Per Capita Per Day in Column 'B'
(C) Column 'A' multiplied by column 'B'

* Preston WWTP commitments include 1,860 m³/day for the Boxwood Industrial Subdivision, and Ayr WWTP commitments include 154 m³/day for the Schneider’s property
**TABLE 4: REMAINING WATER AND WASTEWATER CAPACITY AS OF DECEMBER 31, 2012 (IMPERIAL)**

<table>
<thead>
<tr>
<th>WATER SYSTEM</th>
<th>2011 CAPACITY (mg/d)</th>
<th>MAX DAY / WEEK MEASURED FLOW (mg/d)</th>
<th>COMMITTED FLOW (mg/d)</th>
<th>REMAINING CAPACITY (mg/d)</th>
<th>MAX DAY / WEEK FLOWS PER CAPITA (g/d/c)</th>
<th>REMAINING CAPACITY (PEOPLE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTEGRATED URBAN WATER SYSTEM</td>
<td>62.03</td>
<td>41.01</td>
<td>5.104</td>
<td>15.92</td>
<td>84</td>
<td>189,898</td>
</tr>
<tr>
<td>BADEN-NEW HAMBURG</td>
<td>2.77</td>
<td>1.05</td>
<td>0.120</td>
<td>1.60</td>
<td>84</td>
<td>19,211</td>
</tr>
<tr>
<td>AYR WATER SYSTEM</td>
<td>1.22</td>
<td>0.50</td>
<td>0.116</td>
<td>0.60</td>
<td>108</td>
<td>5,566</td>
</tr>
<tr>
<td>WELLESLEY</td>
<td>0.66</td>
<td>0.23</td>
<td>0.030</td>
<td>0.40</td>
<td>72</td>
<td>5,594</td>
</tr>
<tr>
<td>ST. CLEMENTS</td>
<td>0.39</td>
<td>0.09</td>
<td>0.000</td>
<td>0.29</td>
<td>75</td>
<td>5,910</td>
</tr>
</tbody>
</table>

**TABLE 5: SMALL RURAL WATER SYSTEM SUMMERY AS OF DECEMBER 31, 2012 (IMPERIAL)**

<table>
<thead>
<tr>
<th>WATER SYSTEM</th>
<th>2011 CAPACITY (1,000 g/d)</th>
<th>AVERAGE MEASURED FLOW (1,000 g/d)</th>
<th>COMMITTED FLOW (1,000 g/d)</th>
<th>REMAINING FLOW (1,000 g/d)</th>
<th>AVERAGE FLOWS PER CAPITA (g/d/c)</th>
<th>REMAINING CAPACITY (PEOPLE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KITCHENER WWTP</td>
<td>26.99</td>
<td>15.78</td>
<td>2.41</td>
<td>8.80</td>
<td>68.17</td>
<td>129,064</td>
</tr>
<tr>
<td>WATERLOO WWTP</td>
<td>12.33</td>
<td>10.27</td>
<td>1.13</td>
<td>0.93</td>
<td>77.94</td>
<td>11,888</td>
</tr>
<tr>
<td>GALT WWTP</td>
<td>12.49</td>
<td>7.96</td>
<td>0.37</td>
<td>4.16</td>
<td>94.33</td>
<td>44,088</td>
</tr>
<tr>
<td>PRESTON WWTP</td>
<td>3.70</td>
<td>1.91</td>
<td>0.42</td>
<td>1.36</td>
<td>109.71</td>
<td>10,327</td>
</tr>
<tr>
<td>HESPELER WWTP</td>
<td>2.05</td>
<td>1.76</td>
<td>0.03</td>
<td>0.26</td>
<td>69.83</td>
<td>3,711</td>
</tr>
<tr>
<td>ELMIRA WWTP</td>
<td>1.72</td>
<td>0.95</td>
<td>0.35</td>
<td>0.42</td>
<td>96.25</td>
<td>4,358</td>
</tr>
<tr>
<td>BADEN-NEW HAMBURG WWTP</td>
<td>1.14</td>
<td>0.87</td>
<td>0.10</td>
<td>0.18</td>
<td>70.53</td>
<td>2,518</td>
</tr>
<tr>
<td>AYR WWTP</td>
<td>0.66</td>
<td>0.31</td>
<td>0.13</td>
<td>0.22</td>
<td>66.90</td>
<td>3,632</td>
</tr>
<tr>
<td>ST. JACOBS WWTP</td>
<td>0.32</td>
<td>0.23</td>
<td>0.00</td>
<td>0.09</td>
<td>119.82</td>
<td>773</td>
</tr>
<tr>
<td>WELLESLEY WWTP</td>
<td>0.24</td>
<td>0.17</td>
<td>0.02</td>
<td>0.05</td>
<td>51.96</td>
<td>1,054</td>
</tr>
</tbody>
</table>

(A) See Water Distribution Master Plan and Wastewater Treatment Master Plan for capacity details of each system
(B) See section 2.4 and 2.6 and appendix B & C for details of how average flow is calculated for individual systems. Integrated Urban System uses the max week to determine projected flow. All other systems use average day.
(C) See Table 3 for details about how committed flow is calculated
(D) Both Water systems and Wastewater systems average flow equals the average of the previous 5 years per capita flow
(E) See Section 2.4 and 2.5 for an explanation of average flows per capita
(F) Remaining Capacity divided by Average Flow Per Capita multiplied by 1000. Any new service in the small rural systems must be reviewed by the Region of Waterloo Water Services staff and will be evaluated on a case by case basis
TABLE 6: COMMITMENTS AS OF DECEMBER 31, 2012 (IMPERIAL)

<table>
<thead>
<tr>
<th>WATER</th>
<th>DGA</th>
<th>BUA</th>
<th>TOTAL</th>
<th>MAX DAY / WEEK FLOWS PER CAPITA (g/d/c)</th>
<th>COMMITMENTS (1000 g/d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTEGRATED URBAN WATER SYSTEM</td>
<td>45,640</td>
<td>15,238</td>
<td>60,878</td>
<td>84</td>
<td>3,827</td>
</tr>
<tr>
<td>BADEN-NEW HAMBURG</td>
<td>1,309</td>
<td>123</td>
<td>1,432</td>
<td>84</td>
<td>109</td>
</tr>
<tr>
<td>AYR WATER SYSTEM</td>
<td>1,082</td>
<td>0</td>
<td>1,082</td>
<td>108</td>
<td>116</td>
</tr>
<tr>
<td>WELLESLEY</td>
<td>315</td>
<td>97</td>
<td>412</td>
<td>72</td>
<td>23</td>
</tr>
<tr>
<td>ST. CLEMENTS</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>75</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WASTEWATER</th>
<th>DGA</th>
<th>BUA</th>
<th>TOTAL</th>
<th>AVERAGE FLOWS PER CAPITA (m^3/d/c)</th>
<th>COMMITMENTS (1000 g/d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>KITCHENER WWTP</td>
<td>27,851</td>
<td>7,526</td>
<td>35,377</td>
<td>68</td>
<td>1,899</td>
</tr>
<tr>
<td>WATERLOO WWTP</td>
<td>8,719</td>
<td>5,800</td>
<td>14,519</td>
<td>78</td>
<td>680</td>
</tr>
<tr>
<td>GALT WWTP</td>
<td>2,654</td>
<td>1,305</td>
<td>3,959</td>
<td>94</td>
<td>250</td>
</tr>
<tr>
<td>PRESTON WWTP</td>
<td>2,014</td>
<td>205</td>
<td>2,219</td>
<td>110</td>
<td>221</td>
</tr>
<tr>
<td>HESPELER WWTP</td>
<td>37</td>
<td>371</td>
<td>408</td>
<td>70</td>
<td>3</td>
</tr>
<tr>
<td>ELMIRA WWTP</td>
<td>3,570</td>
<td>29</td>
<td>3,599</td>
<td>96</td>
<td>344</td>
</tr>
<tr>
<td>BADEN-NEW HAMBURG WWTP</td>
<td>1,309</td>
<td>123</td>
<td>1,432</td>
<td>71</td>
<td>92</td>
</tr>
<tr>
<td>AYR WWTP</td>
<td>1,092</td>
<td>0</td>
<td>1,092</td>
<td>67</td>
<td>72</td>
</tr>
<tr>
<td>ST. JACOBS WWTP</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td>120</td>
<td>0</td>
</tr>
<tr>
<td>WELLESLEY WWTP</td>
<td>315</td>
<td>97</td>
<td>412</td>
<td>52</td>
<td>16</td>
</tr>
</tbody>
</table>

(A) See appendix D for a breakdown of committed population from known development. DGA = Designated Greenfield Area, BUA = Built-Up Area

(B) Average of the previous five years. See Section 2.5 and 2.6 for an explanation of the Average/Max Flow Per Capita Per Day in Column 'B'

(C) Column 'A' multiplied by column 'B'

* Preston WWTP commitments include 409,143 g/day for the Boxwood Industrial Subdivision, and Ayr WWTP commitments include 33,875 g/day for the Schneider's property
TO: Chair Jim Wideman and Members of the Planning and Works Committee

DATE: May 28, 2013

FILE CODE: D16-05

SUBJECT: “THE BIG SHIFT TOOLBOX” – PLANNING, INFRASTRUCTURE AND FINANCIAL ASSISTANCE TOOLS TO SHAPE OUR COMMUNITY

RECOMMENDATION:

THAT the Regional Municipality of Waterloo approve the following recommendations that support “The Big Shift Toolbox”, as described in Report No. P-13-057, dated May 28, 2013:

a) Endorse “The Big Shift Toolbox” to communicate the many initiatives offered by the Region of Waterloo to shape our community;

b) Invite the Area Municipalities to be linked to the Big Shift Toolbox and to explore potential new tools; and

c) Request the Province of Ontario to collaboratively examine regulatory changes that would provide the opportunity for the Region of Waterloo and the Area Municipalities to implement additional tools.

SUMMARY:

“The Big Shift” is a series of economic, environmental and social changes which are occurring in our community and are fundamentally “shifting” how we need to plan and manage growth to maintain Waterloo Region’s prosperity and accommodate a growing population. Specifically, “The Big Shift” is a move toward:

- More compact and higher densities of development to accommodate growth, while respecting the need to maintain a high quality of life;
- Limits to outward growth and the protection of valuable rural farmland;
- Protection of environmental systems instead of “islands of green”;
- New employment areas and places, including larger lots and re-purposed buildings;
- Increased focus on transit, walking and cycling, while still supporting our road system through strategic investment;
- Increased focus on design excellence, ranging from infrastructure to architectural building design, and including heritage conservation;
- Encouraging development, including affordable housing, adjacent to the forthcoming rapid transit system in the Central Transit Corridor and along the redesigned conventional bus system;
- A greater range and mix of housing types in traditional neighbourhoods; and
- Increased focus on a knowledge-based economy.

Staff is recommending that “The Big Shift” be used as a foundation to showcase a new consolidated communication initiative that provides information about the various tools that the Region of Waterloo (and potentially the Area Municipalities) has to offer. This initiative is intended to make it much easier for the community and prospective investors to find these tools. “The Big Shift Toolbox”
is similar to communication initiatives being used in other communities that are planning for rapid transit. Examples include Hamilton’s “Rapid Ready” initiative and the Metrolinx Regional Transportation Plan’s “The Big Move”.

A focus for the communication initiative would be the development of a new web page on the Region’s website and in related Regional social media. The web page will provide information about key tools in the Big Shift Toolbox and a contact for further details, and can be readily expanded.

In addition, staff is proposing to explore potential new tools with the Province and the Area Municipalities which could enhance the suite of opportunities offered by the Region as part of the “The Big Shift Toolbox”.

It should be noted that most of these initiatives are focused within the Central Transit Corridor.

Staff proposes to report back to Regional Council later in 2013.

REPORT:

What is “The Big Shift and Why Create a “Big Shift Toolbox”?"

“The Big Shift” is a series of economic, environmental and social changes which are occurring in our community and are fundamentally “shifting” how we need to plan and manage growth to maintain Waterloo Region’s prosperity and accommodate a growing population. These changes include: an older and more diverse population; a more diversified economy with a greater emphasis on technology, education, medicine, finance, arts and culture, and a growing transit system, particularly rapid transit. Specifically, “The Big Shift” is a move toward:

- More compact and higher densities of development to accommodate growth, while respecting the need to maintain a high quality of life;
- Limits to outward growth and the protection of valuable rural farmland;
- Protection of environmental systems instead of “islands of green”;
- New employment areas and places, including larger lots and re-purposed buildings;
- Increased focus on transit, walking and cycling, while still supporting our road system through strategic investment;
- Increased focus on design excellence, ranging from infrastructure to architectural building design, and including heritage conservation;
- Encouraging development, including affordable housing, adjacent to the forthcoming rapid transit system in the Central Transit Corridor and along the redesigned conventional bus system;
- A greater range and mix of housing types in traditional neighbourhoods; and
- Increased focus on a knowledge-based economy.

Staff is also recommending that “The Big Shift” be the foundation of a new consolidated communication initiative that provides information about the various tools that the Region of Waterloo has to offer. This step is intended to make it much easier for the community and prospective investors to find these tools as well. “The Big Shift Toolbox” is similar to initiatives being used in other communities that are planning for rapid transit. Examples include Hamilton’s “Rapid Ready” initiative and the Metrolinx Regional Transportation Plan’s “The Big Move”. Legal staff has also completed a search of existing trademarks and copyrights and determined that the intended use of the phrase “The Big Shift” by the Region of Waterloo will not infringe on any existing intellectual property rights of other parties.

The focus for communication would be the development of a new web page and in related Regional social media. The new web page would be hosted on the Region of Waterloo’s website and provide
promotional material about each of the tools offered by the Region. New tools can be easily added as well. In addition, the web page could provide links to information about the tools offered through the Area Municipalities. This matter will be further discussed with the Area Municipalities.

This report provides details on the tools that are currently available or are being explored. In addition, this report describes some of the tools which may be implemented by the Area Municipalities. Specifically, the report identifies Regional staff’s interest in exploring with Area Municipalities a pilot Development Permit System (DPS) and to determine if there is any potential to increase the use of density bonusing to realize additional community benefits.

**Current Regional Planning/Infrastructure and Financial Tools**

*Planning/Infrastructure Tools*

The following are the key planning and infrastructure tools currently being offered or being developed by the Region of Waterloo.

a) **Regional Community Improvement Plan**

   The Region’s Reurbanization Community Improvement Plan (RRCIP) has been in place since 2007. The RRCIP is an important document and includes the Regional Reurbanization Facilitation Program which enables the acquisition of lands for strategic Regional infrastructure projects such as the Multi-Modal Transit Hub at King and Victoria Streets. Additional incentive programs (discussed below) could be created within the RRCIP in accordance with Regulation 550/06 of the *Planning Act*, which grants upper-tier municipalities, such as the Region of Waterloo, a specific mandate to address the following matters under an upper-tier Community Improvement Plan:

1. Infrastructure that is within the upper-tier municipalities’ jurisdiction;
2. Land and buildings within and adjacent to existing or planned transit corridors that have the potential to provide a focus for higher density mixed-use development and redevelopment; and
3. Affordable housing.

b) **Draft Central Transit Corridor Community Building Strategy**

   The draft Community Building Strategy (CBS) provides developers and investors a flexible framework that identifies new development opportunities in Major Transit Station Areas. An initial draft of the CBS was presented to Council in Report P-13-007. Staff is currently undertaking public consultation on the draft CBS. Over the coming six months, the Region and the Area Municipalities will review this input and further investigate and prioritize the key actions that should be undertaken in the short and medium terms, and where possible, link them to applicable regulatory and financial tools and/or development applications.

c) **The Multi-Modal Transit Hub**

   In 2008, the Region embarked on the development of a Multi-Modal Transit Hub at the intersection of King and Victoria Streets in downtown Kitchener. The Region has assembled properties to develop new transportation infrastructure that is expected to incorporate GO and VIA Train platforms, local bus and LRT connections and inter-city bus services. The Hub will be an integral step toward helping to retain existing Waterloo Region businesses and attracting new investment by providing more seamless connections between inter-city and local transit systems.
Alternative Transportation Demand Management in New Development

Regional Council recently adopted recommendations to modify the Region’s Transportation Impact Study (TIS) guidelines to include a Transportation Demand Management (TDM) Checklist. The TDM Checklist can be used to encourage non-residential developers in the Urban Growth Centres, Major Transit Station Areas and reurbanization corridors of Cambridge, Kitchener and Waterloo to incorporate TDM measures into their proposed developments. Including TDM measures such as bicycle facilities, showers and reduced bus passes for building occupants in the design and/or operation of proposed developments provides Area Municipalities with a basis for considering reduced parking rates or density bonusing as part of proposed zoning bylaw amendments (Report P-13-031). TDM measures can also be used by developers as a means of promoting their developments to the community.

Regional Implementation Guidelines for Road Allowance Dedications

In 2011, Regional staff identified opportunities for incorporating flexibility into Regional Guidelines for the acceptance of Regional Road Allowances (Report P-11-069). As a result, the Region can now accept road allowances, in some circumstances, which are contaminated. This practice better reflects the need for flexibility in existing built-up areas, where contamination is frequently encountered.

Financial Tools

The following are the financial tools currently offered by the Region of Waterloo.

Regional Development Charges: Core Area Exemptions

The Region provides exemptions on Regional Development Charges (RDC) for developments, including affordable housing, occurring within the core area of Kitchener and the three core areas of Cambridge (Galt, Hespeler, Preston). The exemption is provided through the Regional Development Charge Bylaw for areas where an Area Municipality offers an exemption under its own DC Bylaw. In 2010, the City of Waterloo ceased Development Charge exemptions for the core area and consequently the Region ceased its exemption for Regional Development Charges for that same area, as the by-law is structured accordingly.

Regional Development Charges: Demolition Credit

In order to promote redevelopment, the Regional Development Charge Bylaw calculates Regional Development Charges owed for a new development based on the net assessable floor area. As a result, redevelopments that require demolition of a pre-existing structure are able to deduct the equivalent floor area demolished from the total floor area being redeveloped, essentially resulting in a financial credit which is valid for up to 5 years.

Brownfield Financial Incentive Program

The Brownfield Financial Incentives Program (BFIP) assists in the investigation, clean up and redevelopment of Brownfield sites located throughout the Region. The program has three components:

1. Phase Two Environmental Site Assessment (ESA) Grants – a cost sharing program which funds up to 50% of eligible costs associated with the completion of environmental site investigation, in the form of a Phase Two ESA report, to a maximum of $40,000;
2. Regional Development Charge (RDC) Exemptions – are provided through the RDC By-law and provide DC exemptions up to a maximum of the total eligible remediation costs incurred for the remediation of environmentally impacted sites in areas where RDCs would otherwise be due; and

3. Tax Increment Grants (TIG) – a joint municipal program that further offsets remediation costs by providing grants to developers who remediate and redevelop a specific brownfield site. The TIG program is currently operated jointly with the Cities of Cambridge and Kitchener. The Tax Increment Grant program is offered under the authority granted to upper-tier municipalities to provide financial assistance to support community improvements plans implemented by area municipalities under s.28 of the Planning Act. On March 18, 2013, the City of Waterloo approved the development of a Tax Increment Grant program for brownfields, with program details to be determined by City and Regional staff.

Both Cambridge and Kitchener have existing brownfield tax increment programs. Regional Council approved revisions to the BFIP in Report P-13-004/F-13-007 that provided additional funding for the Phase Two ESA program and implemented a sustainable, long term funding model for TIGs that aligns with the funding models used by Cambridge and Kitchener. To date the BFIP programs have contributed to the creation of approximately 285 new residential units and approximately 60,000 sq m (646,000 sq ft) of non-residential floor area that together have resulted in building permits valued at approximately $57.1 million.

d) Property Tax Class for Multi-Residential (Rental) Developments

In 2001, the Region adopted the optional property tax class for new multi-residential (rental) developments (7 or more self-contained rental units). As a result, this rental housing is taxed at a lower rate than multi-residential property developed prior to 2001 and now has a tax rate equal to that for low density residential, including single detached dwellings. In addition to facilitating affordable housing funding from senior level governments, the tax class encourages the development of new multi-residential (rental) developments and supports the provision of affordable housing throughout Waterloo Region. Detailed information regarding this tax class was recently provided to Regional Council as part of the 2013 Tax Ratios and Subclass Rate Reductions Report (F-13-023).

e) Community Environmental Fund

In 2011, Regional Council established the Community Environmental Fund, with the goal of promoting community-based sustainability and stewardship initiatives. To date, the Community Environmental Fund has allocated a total of $430,767 for projects having a total value of $1,965,361 resulting in $4.56 from proponents for every dollar provided by the Region. Examples of projects within the Central Transit Corridor that have received funds include:

- Ryerson Public School in Cambridge, which received $2,100 to create adequate shade for students and improve screening from adjoining industrial facilities through tree planting, and other landscaping; and
- Eastwood Collegiate Institute in Kitchener, which received $1,100 to purchase compost, lumber and garden tools to establish a community garden at the school.

f) Waterloo Regional Heritage Foundation

The Waterloo Regional Heritage Foundation (WRHF) was established by Regional Council in 1973 to promote and encourage interest in the heritage and culture of Waterloo Region. The Foundation was the first heritage organization set up and funded by a regional government, and set a precedent in Canada as the first heritage organization that was allocated a substantial
amount of public money by any level of government. Since 1973, the Foundation has distributed over $1,000,000 to a wide variety of projects, including those within the Central Transit Corridor (e.g. Waterloo Post Office, Cambridge City Hall, Industrial Artifacts Project). WRHF grants are an important financial tool that can be used to encourage the adaptive reuse of significant cultural heritage resources during reurbanization.

Other Tools Being Examined

Staff is continuing to identify new opportunities to potentially enhance the suite of tools that could also be promoted under “The Big Shift Toolbox”. This section describes several opportunities.

a) Regional Development Charge Bylaw Review

The Regional Development Charge (RDC) By-law review is required as the RDC By-law expires after five years (July 31, 2014). The Region is required to complete a Background Study which reviews growth forecasts and capital project requirements to support anticipated growth and determine the RDC rates to be imposed in the new RDC By-law. The Region will be reviewing all of the provisions of the By-law, including current exemptions for the costs of brownfield remediation and the downtown core area DC exemptions, to determine if these exemptions are still meeting the needs of the Region and should be continued in the new RDC By-law.

b) Potential Pilot Tax Increment Grant (TIG) Program for Uncontaminated Properties

As part of the continued development of the draft Community Building Strategy (CBS), staff has identified the opportunity to further explore the use of a new Tax Increment Grant (TIG) program as a means of promoting new redevelopment and investment in Waterloo Region.

Currently, the Region participates in a Joint TIG program for Brownfields through the Community Improvement Plans (CIPs) of Cambridge and Kitchener. However under the authority granted the Region through the Planning Act (s.28 and Reg. 550/06), there exists the opportunity to establish a new program for uncontaminated sites that would focus on providing grants to developers of new catalytic development on specific sites that would support the Region’s investment in rapid transit.

Such a program could reimburse developers for specific eligible expenses associated with larger scale redevelopments. The reimbursement would be in the form of an annual grant to the developer in an amount not to exceed the realized annual tax increment provided to the Region upon development completion. This grant would be provided annually until such time as all eligible costs incurred have been reimbursed to the developer or until a maximum period for annual payments has been reached. The eligible costs which form the basis of the grant could include a wide variety of expenses incurred by a developer for large developments in Waterloo Region, such as:

- Underground/structured parking;
- Applicable Regional planning fees;
- Costs associated with development of sites with high water tables;
- Heritage preservation; and
- Development of affordable housing.

The ability to implement this program in specific, strategic areas, such as the Central Transit Corridor or Major Transit Station Areas means that a new TIG program for uncontaminated sites could be implemented, consistent with the objectives and priorities of the Community Building Strategy.
A new TIG program could be operated jointly with the consent of Area Municipalities or implemented solely by the Region under the Region’s Reurbanization Community Improvement Plan (RRCIP). The implementation of a new TIG program within the current RRCIP would require additional consultation with both the Province of Ontario and members of the public.

Staff propose to consult with the Area Municipalities and identify the necessary amendments that would be required to the RRCIP to implement this program. In addition staff would determine the potential structure of a new pilot program, including identifying eligible costs for reimbursement, proposed site/development criteria for program eligibility and a recommended duration for the pilot program. This would provide Regional Council an opportunity to gauge the program’s performance. Conclusions regarding the merits of such a new program will be brought before Regional Council for consideration later in 2013.

c) Exploring Tax Increment Financing (TIF)

Tax increment Financing (TIF) is a financial tool that can be used to encourage development in underdeveloped areas (TIF Districts) of a municipality. A tax increment is defined as the difference between the property taxes within a defined TIF District for a base year when the TIF tool is first used and the property taxes in that District in any future year when some level of new development has occurred.

The idea behind TIFs is that strategic investments in infrastructure (e.g. new roads and bridges, utility and sewer upgrades, and sidewalks) and/or related projects (e.g. affordable housing, heritage preservation, tree planting and trail enhancements) will stimulated private investment within a defined TIF District. Higher property tax revenues will then accrue to the municipality as a result of the new development and from existing properties, whose assessed values have increased due to the enhanced desirability of the area. It is assumed that, over time, these higher property tax revenues will exceed the property tax revenues that the municipality would otherwise have received from the vacant and underdeveloped properties located within the TIF District.

TIFs are designed to be self-financing and have no impact on the collection of Development Charges. TIFs are usually financed in one of two ways – issuing upfront debentures and recovering the related debenture costs over time, or foregoing a portion of the tax increment from new development for a period of time as a means to attract investment, and then using the increased property tax revenue from the new investment to fund projects within the TIF District.

The first financing approach is typically used to fund infrastructure projects which municipalities believe are necessary to attract new investment to a TIF District. The expectation is that the debenture principal and interest costs will be recovered through increases in property tax revenue over a specified period (typically 20-30 years). Alternatively, when addressing non-infrastructure projects such as affordable housing and heritage preservation, municipalities often adopt by-laws which specify that new development within a TIF District will not be required to pay the full tax increment for a period that typically ranges from 3 to 10 years. The by-laws further specify that a certain percentage of the property tax revenue generated by each new development will be pooled and applied to fund projects that will make the District even more attractive to future investment.

TIFs have been used extensively in the United States and a few Canadian cities (e.g. the East Village community in downtown Calgary and the Downtown Winnipeg Sports, Hospitality and Entertainment District). However, as with any financial incentive program, TIFs do carry financial risks to a municipality. There are examples of TIFs in the United States where the expected tax increments were not realized because either the anticipated amount of new development did not
occur, or because much of the new retail and office development became vacant after a period of time due to competition. Regardless of the reasons for the lack of success, municipalities are responsible for dealing with the consequences of the lower than anticipated property tax revenue.

Staff believe that TIFs have the potential to provide Regional Council with an additional tool for financing public improvements that have been identified and prioritized through the draft Community Building Strategy. In particular, TIFs may be helpful to facilitate redevelopment and investment opportunities in Major Transit Station Areas. However, TIFs are not currently permitted by the Ontario Planning Act. Regional staff is optimistic that there is potential to amend the Planning Act because the Province has recently allowed TIFs to be used for two pilot projects in Toronto: the West Don Lands redevelopment and the Toronto subway extension. This is being done by way of implementation of a project specific regulation to Tax Increment Financing Act, which is recent legislation enabling municipalities to obtain project specific approval to apply the education portion of a tax increment within a defined district to finance an eligible project.

It is imperative that staff explore TIFs strategically and with a solid understanding of the lessons learned from other municipalities, to limit any potential liabilities to the Region. Therefore, as an initial step, staff propose to further examine the potential use of TIFs only as a pilot TIF program and that Regional Council endorse staff’s recommendation to begin discussions with the Province to explore regulatory changes to enable such other tools to be used.

d) Regional Noise Guideline From Stationary Sources

Historically, development and condominium applications have been approved by staff where noise studies show results that do not exceed Provincial Guidelines by more than 1 dBA for stationary noise. Stationary noise sources include heating, ventilation and air conditioning units. Those standards are now shifting due to Provincial and Regional growth policies that have resulted in a greater number and concentration of multi-residential developments in our urban areas. The City of Ottawa, for example, has been approving applications with 1-5 dBA above the Noise Level Objectives for stationary noise as permitted by the Guidelines in order to provide greater flexibility and facilitate new developments. However, “livability” and potential impacts on adjacent properties must also be carefully assessed.

Staff is currently reviewing stationary noise issues and will recommend any refinements to the existing Regional Transportation Noise Guidelines at a future Planning and Works Committee meeting.

e) Enhancement of Alternative Transportation Demand Management in New Development – Residential

While the current Regional guidelines (described earlier in this report) pertain to non-residential development, Regional staff will also be examining the establishment of a TDM checklist for new residential development. This would permit Area Municipalities to consider additional parking reductions using a TDM checklist to inform their decisions.

f) Area Municipal Opportunities

As part of “The Big Shift”, staff has discussed the potential for complementary regulatory and financial tools with the Area Municipalities. Specifically, staff would like to explore opportunities available under the Planning Act for Area Municipalities, including the following:
1. A Pilot Development Permit System (DPS): DPS is a development application process, whereby the land use planning approval process for zoning, site plan and minor variances are consolidated as part of a single application and approval process.

A DPS process has the potential to provide benefits including:
- A faster and more streamlined approval process for applicants;
- Greater flexibility for use approvals through the provision of permitted and discretionary uses under a Development Permit/Land Use Control Bylaw; and
- Site specific development variations or “relaxations” from the standard zoning requirements.

Such a system could be explored with interested Area Municipalities in the form of a pilot program, whereby staff would review applications processed under the traditional (current) planning process over a specific period and evaluate if a DPS process could have provided additional benefits to the municipalities and applicants. This pilot could be applied in specific areas such as the Central Transit Corridor or in specific Major Transit Stations Areas. A Pilot DPS review could also be applied to other strategic areas such as business parks similar to Niagara Region’s plans to apply a DPS process as part of the development of the Niagara Economic Gateway Employment Lands.

2. Density Bonusing Provisions: Density Bonusing is a provision under the Planning Act that permits Area Municipalities to grant higher maximum densities than allowed under the existing zoning. In exchange for density increases, the developer incorporates additional public interests into the project (which are publically accessible) and are intended to benefit the immediate neighbourhood or community. Public amenities may include the provision of green spaces, public squares, public art, community spaces, affordable housing or enhanced public realm improvements.

Density bonusing has been used by Cambridge, Kitchener and Waterloo as a development incentive to promote transit oriented development. Examples include the Black Forest condominiums (Cambridge), the City Centre condominiums and the 1 Victoria Condominiums (Kitchener) and the 144 Park condominiums (Waterloo). Regional staff would like to discuss whether there is opportunity for further use of density bonusing to promote higher density residential, mixed-use or non-residential development within Major Transit Station Areas.

Proposed Next Steps

Staff proposes to immediately undertake implementation of “The Big Shift” communication initiative and to explore new regulatory tools and financial incentives which may be beneficial to the Region and Area Municipalities. More specifically, staff propose:

- Spring/Summer 2013 – Develop a new web page on the Region’s website and in Regional social media that will serve as a central point for communicating “The Big Shift Toolbox” to the public, including prospective investors and developers, and provide information about the tools that the Region has to offer, and potentially the Area Municipalities as well;
- Summer 2013 – Identify amendments to the Region’s Reurbanization Community Improvement Plan (RRCIP) to enable the use of other tools;
- Summer/Fall 2013 – Consult with the Province to identify opportunities for Provincial regulatory changes which may be required to enable the use of new tools;
- Summer 2013 – Begin detailed discussions with the Area Municipalities to explore interest in additional tools to promote strategic development; and
- Fall 2013 – Report to Regional Council on findings.
Area Municipal Consultation/Coordination

Staff has had preliminary discussions about the potential to expand the range of tools with the Area Municipalities. Regional staff will meet with the Area Municipalities to further explore their interests. A copy of this report has been distributed to all Area Municipalities.

CORPORATE STRATEGIC PLAN:

The Report supports Focus Area 1.1. - Develop and implement an integrated funding program to support community-based environmental initiative, Focus Area 2.1.1 – Implement a sustainable Brownfield Program to promote the redevelopment of previously contaminated sites, and Focus Area 2.1.2 - Work with area municipalities to develop and implement a comprehensive strategy to promote intensification and reurbanization within existing urban areas.

FINANCIAL IMPLICATIONS:

Each of the proposed programs recommended in this report must be explored by staff strategically and with lessons learned from other municipalities to understand both the benefits and the potential financial liabilities to the Region. Accordingly, staff propose to explore these potential new initiatives in the context of pilot programs only. In addition, staff will identify the necessary amendments required to the Regional Reurbanization Community Improvement Program and determine the potential structure of any new programs. This will include identifying potential eligible costs for reimbursement, proposed site/development criteria for program eligibility and a recommended duration for any new pilot program.

These findings will form part of the report to be brought before Regional Council for consideration later in 2013.

OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:

Staff from Legal Services has been involved in the development of this report and will continue to be involved. This report has also been reviewed by Finance and Transportation and Environmental Services staff.

ATTACHMENTS:

NIL

PREPARED BY: Phillip Caldwell, Principal Planner/Brownfield Coordinator
Kevin Curtis, Manager, Reurbanization Planning
Rob Horne, Commissioner, Planning, Housing and Community Services

APPROVED BY: Rob Horne, Commissioner, Planning, Housing and Community Services
Office of the City Clerk
May 14, 2013

Kris Fletcher
Regional Municipality of Waterloo
150 Frederick Street
Waterloo ON N2G 4J3

Dear Ms. Fletcher:

This is to advise that City Council, at a meeting held on May 13, 2013, passed the following resolution:

"That Waterloo Regional Council be requested to reconsider its January 16, 2013 decision to change the maintenance service level related to turf cutting for the 2013 season; and further,

That subject to receiving advice from the City Solicitor prior to the May 13, 2013 Council meeting, Regional Council be further requested to abide by the specifications in the Region of Waterloo Transportation Division Maintenance Agreement with respect to turf maintenance."

Yours truly,

C. Goodeve
Supervisor of Legislated Services
& Deputy City Clerk
<table>
<thead>
<tr>
<th>Meeting date</th>
<th>Requestor</th>
<th>Request</th>
<th>Assigned Department</th>
<th>Anticipated Response Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>28-Mar-12</td>
<td>Council</td>
<td>Staff to review the operation of the Homer Watson Boulevard/Block Line Road roundabout and report back to Council in 2013.</td>
<td>Transportation and Environmental Services</td>
<td>Sept. 2013</td>
</tr>
<tr>
<td>08-May-12</td>
<td>P&amp;W</td>
<td>Report detailing the rationale for the Injury Crash Cost calculation used by staff in reports for roadway improvements. (E-12-045 page 48 authored by Frank Kosa)</td>
<td>Transportation and Environmental Services</td>
<td>Spring 2013</td>
</tr>
<tr>
<td>08-May-12</td>
<td>P&amp;W</td>
<td>Staff to review options for signalized vehicle lights and signalized pedestrian crosswalks in Roundabouts in the detailed design report prepared later in 2012 for Franklin Boulevard Improvements.</td>
<td>Transportation and Environmental Services</td>
<td>May 28, 2013</td>
</tr>
<tr>
<td></td>
<td>J. Haalboom</td>
<td>Staff continue to lobby the Province for changes to the Highway Traffic Act providing right of way to pedestrians and on an as needed basis provide an update to Council</td>
<td>Transportation and Environmental Services</td>
<td>as required</td>
</tr>
</tbody>
</table>