Regional Municipality of Waterloo
Planning and Works Committee
Agenda
Tuesday, January 7, 2014
Approximately 2:00 p.m., Immediately Following Special Council
Regional Council Chambers
150 Frederick Street, Kitchener

1. Declarations Of Pecuniary Interest Under The Municipal Conflict Of Interest Act

2. Delegations
   a) Sue Stubley re: Stormwater Discharge into Barrie’s Lake ESPA 57
   b) Trevor Preis re: Development on Woolwich Street, Waterloo

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.
3. **Request To Remove Items From Consent Agenda**

4. **Motion To Approve Items Or Receive For Information**

   **Reports – Planning, Housing and Community Services**

   **Community Planning**
   

   **Transportation Planning**
   
   b) *P-14-002*, Amendment to Regional Municipality of Waterloo Controlled Access By-law #58-87 for an Access to Regional Road #28 (Homer Watson Boulevard), City of Kitchener (Approval)  

   
   **Regular Agenda Resumes**

5. **Reports – Planning, Housing and Community Services**

   a) *P-14-003*, Western Golden Horseshoe Municipal Network Charter  

   **Reports - Transportation and Environmental Services**

   **Rapid Transit**
   
   b) *E-14-001*, Ion Adapted Bus Rapid Transit Implementation  

   c) *E-14-003/F-14-001*, Stage 1 Light Rail Project – Infrastructure Cost Sharing with Area Municipalities  

   d) *E-14-008*, Hydro One Transmission Line Relocation for LRT Project Courtland Avenue to Fairview Park Mall  

   **Water Services**
   
   e) *E-14-004*, Additional Information - Biosolids Handling Contract for the Waterloo Wastewater Treatment Plant Construction Project
6. **Information/Correspondence**
   a) Council Enquiries and Requests for Information Tracking List 83

7. **Other Business**

8. **Next Meeting – January 28, 2014**

9. **Adjourn**
<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>Tuesday, January 28, 2014</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>Tuesday, February 11, 2014</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><strong>Transportation and Environmental Services</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuesday, January 14, 2014</td>
<td>5:00 p.m. - 7:00 p.m.</td>
<td>Water Distribution By-law for the Townships of North Dumfries and Wellesley &amp; Sewer Use By-law Amendment – Public Information Centre</td>
<td>Wellesley Community Centre Wellesley Room 1000 Mapleleaf Street, Wellesley, Ontario</td>
</tr>
<tr>
<td>Thursday, January 16, 2014</td>
<td>5:00 p.m. - 7:00 p.m.</td>
<td>Water Distribution By-law for the Townships of North Dumfries and Wellesley &amp; Sewer Use By-law Amendment</td>
<td>North Dumfries Community Complex Dumfries Room 2968 Greenfield Road, Ayr, Ontario</td>
</tr>
</tbody>
</table>
Region of Waterloo
Planning, Housing and Community Services
Community Planning

To: Chair Jim Wideman and Members of the Planning and Works Committee
Date: January 7, 2014    File Code: D18-01

Recommendation:

Summary:
In accordance with the Regional By-law 01-023, as amended, the Commissioner of Planning, Housing and Community Services has:

- Approved the following part lot control exemption by-laws;
- Accepted the following plan of subdivision;
- Draft approved the following plan of condominium;
- Released for registration the following plan of subdivision and plans of condominium; and
- Approved the following official plan amendment.

Report:

City of Cambridge
Plan of Subdivision Application 30T-13103
Date Accepted: December 2, 2013
Applicant: 1261 Dundas Street Limited/Bosdale Farms
Location: 1261 and 1265 Dundas Street South
Proposal: To permit the development of 243 to 252 residential units, including 49 to 52 single detached units, 93 townhouse units, 73 to 77 multiple residential units and 28 to 30 multiple residential (apartment) units.
Regional Processing Fee: Paid September 18, 2013
Draft Approval of Plan of Condominium 30CDM-13105
Applicant: Old Galt Lofts Inc.
Location: 24 Cedar Street
Proposal: To permit the development of 27 condominium apartment units
Regional Processing Fee: Paid October 17, 2013
Commissioner’s Approval: November 28, 2013
Came Into Effect: December 19, 2013

Registration of Draft Plan of Condominium 30CDM-13101
Draft Approval Date: July 29, 2013
Phase: Phase 1
Applicant: Aberdeen Homes/Christopher Height Development Corporation
Location: 10 Cheese Factory Road
Proposal: To permit the development of 8 condominium apartment units.
Regional Processing Fee: Paid November 21, 2013
Commissioner’s Release: November 28, 2013

City of Kitchener
Registration of Draft Plan of Subdivision 30T-02203
Draft Approval Date: February 4, 2013
Phase: Entire Plan
Applicant: Genstar Titleco Limited
Location: 1290 Old Zeller Drive
Proposal: To permit the development of 59 single detached units.
Regional Processing Fee: Paid October 25, 2013
Commissioner’s Release: November 19, 2013

Registration of Draft Plan of Condominium 30CDM-11204
Draft Approval Date: January 24, 2012
Phase: Stage 4
Applicant: Savic Homes
Location: 55 Mooregate Crescent
Proposal: To permit the development of 15 condominium townhouse units.
Regional Processing Fee: Not applicable.
Commissioner’s Release: November 28, 2013

Official Plan Amendment No. 99
Applicant: City of Kitchener
Location: City Wide (Housekeeping Amendment)
Proposal: Official Plan Amendment No. 99 removes special policies in the Mill Courtland Woodside Park Secondary Plan relating to the elimination of the Benton Street Diversion planned Regional Road.
Further, in order to protect employment lands and to conform with Places to Grow Growth Plan legislation, Religious Institutions and Educational Establishments have been removed from employment designations. However, to compensate for this removal, the Official Plan Amendment permits Religious Institutions within the Planned Commercial Campus designation.

Another significant change is the elimination of the potential for a transfer of bonus floor area rights from one site to another except for heritage conservation purposes. This change removes the potential for compatibility and contextual concerns in site development.

Regional Processing Fee: Paid November 29, 2013
Commissioner’s Approval: November 29, 2013

**Township of North Dumfries**

Part Lot Control Exemption By-law 2593-13
Applicant: Forest Park Homes
Location: Robert Simone Way, Ayr
Proposal: To permit the creation of 7 single detached dwellings.
Processing Fee: Paid November 6, 2013
Commissioner’s Approval: November 6, 2013

Part Lot Control Exemption by-law 2597-13
Applicant: Forest Park Homes
Location: Robert Simone Way, Ayr
Proposal: To accommodate the lifting of Part Lot Control Exemption By-law 2593-13 and to permit the creation of 7 single detached units.
Processing Fee: Not applicable due to the nature of the application.
Commissioner’s Approval: November 29, 2103

**Residential Subdivision Activity January 1, 2013 November 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><em>Kitchener</em></td>
<td>1684</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Waterloo</td>
<td>0</td>
<td>43</td>
<td>0</td>
</tr>
<tr>
<td>Cambridge</td>
<td>122</td>
<td>26</td>
<td>736</td>
</tr>
<tr>
<td>Woolwich</td>
<td>0</td>
<td>0</td>
<td>569</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>54</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Region of Waterloo</td>
<td>1860</td>
<td>69</td>
<td>1305</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 1, 2012 to November 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><em>Kitchener</em></td>
<td>383</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Waterloo</td>
<td>878</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cambridge</td>
<td>184</td>
<td>764</td>
<td>2,181</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>1,445</td>
<td>764</td>
<td>2,335</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 and releases, including consultations 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 consistent with objectives of Focus Area A: Growth Management and Prosperity.

**Financial Implications**

Nil

**Other Department Consultations/Concurrence:**

Nil

**Prepared By:** Andrea Banks, Program Assistant

**Approved By:** Rob Horne, Commissioner, Planning, Housing and Community Services
Region of Waterloo
Planning, Housing and Community Services
Transportation Planning

To: Chair Jim Wideman and Members of the Planning and Works Committee
Date: January 7, 2014
File Code: T 15-40/28
Subject: Amendment to Regional Municipality of Waterloo Controlled Access By-law #58-87 for an Access to Regional Road #28 (Homer Watson Boulevard), City of Kitchener

Recommendation:

That the Regional Municipality of Waterloo approve an amendment to Controlled Access By-law #58-87 for a right-in/right-out access on the north side of Regional Road #28 (Homer Watson Boulevard), approximately 355 metres west of Conestoga College Boulevard in the City of Kitchener, as described in Report No. P-14-002, dated January 7, 2014.

Summary:

Conestoga College is the owner of a vacant parcel of land on the north side of Homer Watson Boulevard (Regional Road #28) approximately 250 metres west of the intersection of Conestoga College Boulevard and Homer Watson Boulevard (Attachment 1). The Lisaard House (applicant) is a non-profit, charitable organization that provides end-of-life care; they currently operate a hospice at 990 Speedsville Road in Cambridge. The applicant is proposing to develop the vacant parcel of land into a new hospice, called Innisfree House, by entering into a long term lease with Conestoga College. The applicant is requesting a right-in/right-out access to Homer Watson Boulevard because the only public frontage that can accommodate vehicular access is along Homer Watson Boulevard (Attachment 2). This proposed access is required to facilitate all vehicular access to the site.

Since Homer Watson Boulevard is a Regionally controlled, access prohibited road, with high speeds and volume, staff explored alternative locations for the access. These included access through an adjacent property and former City of Kitchener rights-of-way. These options however, were not feasible.

1525597
The applicant has also provided an Access Review by a qualified Engineering Consultant to review the operation of the proposed access on Homer Watson Boulevard from the subject lands. The Access Review has recommended that the proposed centreline of the access should be located a minimum of 355 metres from the centreline of Homer Watson Boulevard and Conestoga College Boulevard.

Region of Waterloo staff have reviewed the proposed location of a permanent right-in/right-out access on the north side of Homer Watson Boulevard in conjunction with the Access Review noted above and recommend approval of the proposed by-law amendment.

City of Kitchener staff, the applicant, and Conestoga College staff are also in support of the location of the proposed permanent access to Homer Watson Boulevard.

As Homer Watson Boulevard is designated as a Controlled Access Prohibited Road under the Region’s Controlled Access By-law #58-87 from Regional Road #04 (Ottawa Street) to King’s Highway 401, an amendment to this By-law is required prior to issuance of an Access Permit by staff.

Report:

By-law #58-87, ”A By-law to Designate and Regulate Controlled – Access Roads” was enacted to control the construction or alteration to the geometric design of any private means of access to a Regional Road. All Regional Roads are included in either Schedule A or Schedule B of the By-law. Regional Roads included in Schedule A (Controlled Access – Prohibited) include arterial roads and freeways where access to these roads must be restricted due to high speeds and volume of traffic. The main function of a Controlled Access – Prohibited road is to move through traffic. All requests for changes to existing accesses or for a new access on these roads require an amendment to the By-law.

Homer Watson Boulevard is a Controlled Access – Prohibited Road in Schedule A of the By-law. Conestoga College is the owner of a vacant parcel of land on the north side of Regional Road #28 (Homer Watson Boulevard) approximately 250 metres west of the intersection of Conestoga College Boulevard and Homer Watson Boulevard (Attachment 1). The Lisaard House (applicant) is a non-profit, charitable organization that provides end-of-life care. Lisaard House currently operates a hospice at 990 Speedsville Road in Cambridge and is looking to build a new facility in Kitchener. The applicant is proposing to develop the vacant parcel of land into a new hospice, called the Innisfree House. The applicant is entering into a long term lease with Conestoga College for the operation of a hospice on the vacant parcel.

The applicant is requesting a right-in/right-out access to Homer Watson Boulevard because the only public frontage that will accommodate vehicular access is along Homer Watson Boulevard (Attachment 2). An access is required to facilitate vehicular movements to and from the site.

Since Homer Watson Boulevard is a Regionally controlled, access prohibited road, with high speeds and volume, staff explored alternative locations for the access. These included access through an adjacent property and former City of Kitchener rights-of-
The following access alternatives were also explored and found to be not feasible (please see Attachment 2):

Option 1 – Access through adjacent Conestoga College property.

The vacant lands immediately east of the subject property are also owned by Conestoga College but they are not part of the property that the proposed hospice would occupy. An access easement was considered from Doon Valley Drive adjacent to the easterly and southerly property lines of 49 Doon Valley Drive on the Conestoga College property. While Conestoga College does not have any development plans for this property at this time, they do not wish to encumber the property with an access easement for the subject lands, as their campus is relatively contained.

Option 2 – Access through closed Pinnacle Drive right of way.

The former Pinnacle Drive extension to the subject lands between the properties at 39 and 49 Doon Valley Drive was closed by the City of Kitchener and the right-of-way conveyed to the adjacent properties at 39 and 49 Doon Valley Drive.

Option 3 – Access through closed Doon Valley Drive.

The former Doon Valley Drive road allowance that extends from the end of Doon Valley Drive west of Pinnacle Drive and accessing the subject lands was conveyed back to the City of Kitchener through a legal order for use as a trail only. City of Kitchener staff has indicated that this narrow right of way cannot be used for vehicular access, (only non-motorized trail access). Therefore, it cannot be used for vehicular access to the subject lands.

The applicant has provided an Access Review by a qualified Engineering Consultant which reviews the operation of the proposed access to Homer Watson Boulevard. Currently, there is an existing westbound merge lane on Homer Watson Boulevard from Conestoga College Boulevard that terminates at the easterly boundary of the subject property. The Access Review has recommended that the proposed driveway be located a minimum of 65 metres from the termination of the merge lane. This results in the centreline of the proposed access being located 355 metres from the centreline of Homer Watson Boulevard and Conestoga College Boulevard.

City of Kitchener staff, the applicant and Conestoga College staff are in support of the location of the proposed permanent access to Homer Watson Boulevard.

As Homer Watson Boulevard is designated as a Controlled Access Prohibited Road under the Region’s Controlled Access By-law #58-87 from Regional Road #04 (Ottawa Street) to King’s Highway 401, an amendment to this By-law is required prior to issuance of an Access Permit by staff.

Region of Waterloo staff have reviewed the proposed location of a permanent right-in/right-out access on the north side of Homer Watson Boulevard in conjunction with the
Access Review noted above, and recommend approval of the proposed by-law amendment.

**Area Municipal Consultation/Coordination**

City of Kitchener Planning and Transportation staff have been involved in all discussions related to access to this property and support access to Homer Watson Boulevard. A copy of this report has been sent to City of Kitchener staff as well.

**Corporate Strategic Plan:**

Managing access to the Regional Road system is integral to the development approval process and is represented in Focus Area 2: Growth Management and Prosperity: Manage growth to foster thriving and productive urban and rural communities

**Financial Implications:**

Lisaard House would be responsible for all costs to construct the permanent right-in, right-out only access onto Homer Watson Boulevard to Region of Waterloo standards.

**Other Department Consultations/Concurrence:**

Corporate Resources would be required to amend the Controlled Access By-law #58-87. Upon issuance of a Regional Road Access Permit, Transportation Engineering would issue a Regional Work Permit to allow works within the Regional right-of-way on Homer Watson Boulevard.

**Attachments:**

Attachment 1 – Key Map
Attachment 2 – Options considered for access to the subject lands
Attachment 3 – Detailed design of proposed right-in, right-out access to Homer Watson Boulevard and proposed amendment to Controlled Access By-law #58-87

**Prepared By:** Jason Wigglesworth, Technician, Transportation Planning

**Approved By:** Rob Horne, Commissioner, Planning, Housing and Community Services
Attachment 1 - Key Map
Attachment 2 - Options

[Diagram showing various options for access through closed roads and properties]

1. Access through adjacent Conestoga College Property
2. Access through closed Pinnacle Drive right of way
3. Access through closed Doon Valley Drive
4. Access from Regional Road #28 (Homer Watson Boulevard)
Attachment 3 – Detailed Design

REVISED ACCESS TO PROPOSED HOSPICE
HOMER WATSON BOULEVARD
CITY OF KITCHENER
Report: P-14-003

Region of Waterloo

Planning, Housing and Community Services

Transportation Planning

To: Chair Jim Wideman and Members of the Planning and Works Committee
Date: January 7, 2014
File Code: D09-30/WGHMN
Subject: Western Golden Horseshoe Municipal Network Charter

Recommendation

That the Regional Municipality of Waterloo endorse the Western Golden Horseshoe Municipal Network Charter (“the Charter”) attached to Report P-14-003, dated January 7, 2014, and that the Region’s Chief Administrative Officer be authorized to sign the Charter signifying the Region’s membership in the Western Golden Horseshoe Municipal Network.

Summary

Nil

Report

Inter-regional transportation plays an important role for the Regional economy. Commuters, business travellers, post-secondary students and tourists drive on the Provincial highway network, ride GO Bus and private highway coaches, and take the GO Train and VIA Rail. Regional businesses send and receive raw materials and processed goods within Ontario, Canada and internationally. However, recurrent highway congestion impedes private automobiles, buses and trucks, while infrequent passenger rail service reduces its viability as an alternative mode. Improving inter-regional transportation is critical to ensuring that the Region remains competitive economically.

The Ontario Ministry of Transportation (M.T.O.) has been working on many studies in southwestern Ontario, such as the new Highway 7 (Kitchener to Guelph), Highway 401 widening (Hespeler Road to Wellington County/Halton Region boundary), the G.T.A.

1522246
January 7, 2014 2 Report: P-14-003

(Greater Toronto Area) West Corridor and the Niagara to Greater Toronto Area Corridor. A common criticism of past studies was that transportation planning was being done on the basis of individual facilities, lacking comprehensive planning and inhibiting the formation of public transit networks. Additionally, the Provincial Policy Statement currently limits infrastructure planning to a 20-year period, a short timeframe considering the time required to complete major Environmental Assessments.

Since December 2012, the Region has been meeting regularly with the Regions of Halton, Niagara and Peel, and the City of Hamilton, to form the Western Golden Horseshoe Municipal Network (the Municipal Network). The Municipal Network aims to articulate a common transportation vision for this area of the Province, coordinate input on Provincial transportation studies, and encourage other levels of government to consider strategic transportation planning as an economic growth initiative. Other single-tier municipalities (Cities of Brantford, Guelph and London, Brant and Wellington Counties) have attended past meetings as stakeholders.

Work has focused on drafting a Municipal Network Charter to state its principles and guide future work. The Charter (please see Attachment 1) describes a Western Golden Horseshoe Transportation Trade Network in southwestern Ontario (please see Attachment 2), articulates the vision, goals and membership of the Municipal Network, and describes how the Municipal Network will benefit the economy, quality of life, land use and infrastructure planning, the natural environment and transportation infrastructure.

Participation in the Municipal Network will provide a stronger platform for advocacy to higher levels of government about the following Regional priorities:

- New and expanded GO and VIA passenger rail service: Reducing automobile commuting on Provincial highways will free up capacity for goods movement, and federal investment in railways will improve service speeds, capacity and safety for both passenger and freight rail.
- Border crossings: Improving border crossings will minimize delays and help Regional companies to be more competitive.
- Coordinated transportation networks: Planning of transportation networks will help give Regional residents alternatives to the automobile, and coordinated highway planning will remove bottlenecks for Regional goods movement providers.
- Policy improvements: Updating the Provincial Policy Statement to permit longer-term infrastructure planning will help ensure that transportation facilities meet long-term needs. Streamlining Provincial and Federal Environmental Assessment legislation will help to plan environmentally responsible infrastructure in a more timely and cost-effective manner.

Successfully implementing the above priorities will make it easier to achieve goals of the Regional Transportation Master Plan. For example, improvements in inter-regional transit may help residents reduce their dependence on private automobiles.

Successfully advocating for policy improvements may help municipalities realize more sustainable transportation infrastructure funding. Staff recommend signing the Charter 1522246
and continuing to work with the Municipal Network. The Municipal Network has suggested that the Regional Chief Administrative Officers be the signatories.

Next Steps

The Municipal Network will continue to meet regularly to discuss areas of common interest. The next meeting in January will include the Transportation Planning Branch of MTO and provide the first opportunity to introduce the signed Charter. The Region of Peel is planning to host a transportation planning and infrastructure funding workshop in early 2014 to bring together all levels of government and the private sector.

It is anticipated that the other four members of the Municipal Network will endorse the Charter and will authorize their respective Chief Administrative Officers to formalize their membership by signing the Charter document.

Area Municipal Consultation/Coordination

Members of the Municipal Network are upper-tier or single-tier municipalities. However, all area municipalities in the Region of Waterloo have been circulated a copy of this report, as the broader transportation infrastructure network is a shared community issue. The Municipal Network and its goals were also described at a recent “All-Councils meeting” on December 18, 2013.

Corporate Strategic Plan

Participation in the Municipal Network has the potential to advance the following Regional Focus Areas and Strategic Objectives:

- Growth Management and Prosperity: “Develop, optimize and maintain infrastructure to meet current and projected needs” and “Support a diverse, innovative and globally competitive economy”
- Sustainable Transportation: “Encourage improvements to intercity transportation services to and from Waterloo Region”
- Service Excellence: “Strengthen and enhance partnerships with area municipalities, academia, community stakeholders and other orders of government”

Financial Implications

There are no direct financial implications associated with the Region becoming a member of the Municipal Network. Members are discussing a proposed work plan submitted by Strategy Corp to assist with coordination and communications. If additional financial contributions are required for future studies, they would be funded from existing operating or capital budgets, or a report would be brought to Council for specific approval.
Other Department Consultations/Concurrence

Transportation and Environmental Services has been circulated a copy of this report.

Attachments

Attachment 1 – Western Golden Horseshoe Municipal Network Charter
Attachment 2 – Transportation Trade Network Vision

Prepared By: Geoffrey Keyworth, Senior Transportation Planning Engineer
Approved By: Rob Horne, Commissioner, Planning, Housing and Community Services
Western Golden Horseshoe Municipal Network 2013

A: Western Golden Horseshoe Transportation Trade Network

The Western Golden Horseshoe, as illustrated in Figure 1, is an area rich in opportunity. It is one of the most strategic commercial and industrialized locations in all of North America.

The foundation of our economies is the municipal infrastructure we have in place. Businesses need roads and bridges to deliver goods and services. Workers need fast, efficient public transit to connect them to jobs. And growing companies count on high-quality community services to attract skilled workers.

However, today our municipal foundations are under growing pressure and lack of capital investment. The infrastructure gap continues to increase. Given the major fiscal and infrastructure challenges facing this area, local governments have decided it’s time to look past municipal boundaries and have an open and frank discussion on what needs to be done.

The issues, challenges, and opportunities facing the Western Golden Horseshoe are not singularly municipal, regional, provincial, or federal. They are shared across all levels of government, the private sector, and transcend local political boundaries. If various government factions continue to work separately on these matters when cooperation and collaboration is required, this will continue to create confusion and waste.

Recognizing the growth momentum occurring in the Western Golden Horseshoe, the regions of Peel, Halton, Niagara, and Waterloo and the City of Hamilton have formed an alliance to advance common perspectives regarding the challenges and opportunities facing this area. It is important to improve the competitiveness of the Western Golden Horseshoe to grow our economies, meet the requirements of our growing populations and play a proper role in the provincial, federal, and global economy.

As a result, there is an excellent opportunity to form an overarching regional Network to champion and work with provincial and federal governments to see our unified vision of a Western Golden Horseshoe Transportation and Trade Network come to fruition.

---

1. The Road to Jobs & Growth: Solving Canada’s Municipal Infrastructure Challenge, FCM, November 2012.
2. The Western Golden Horseshoe Transportation and Trade Network was formerly known as the Greater Golden Horseshoe Corridor.
B: The Western Golden Horseshoe Municipal Network

Vision:
The purpose of the Western Golden Horseshoe Municipal Network is to advance common perspectives regarding the need for transportation/transit infrastructure and a more efficient and connected network for the movement of goods and people.

Ultimate Goal:
The Network’s ultimate goal is to see an integrated multi-modal transportation network established that:

- Addresses existing highway capacity issues,
- Maximizes the potential of air, rail and marine goods movement modes,
- Provides efficient connections to hubs, employment lands, and local and international markets,
- Incorporates an inter-regional multi-modal transit network that uses road and rail based modes and connects our communities,
- Provides redundancy to reduce impacts of collisions or maintenance construction work,
- Is planned and implemented in a manner that respects the importance of sensitive natural heritage, prime agricultural, social, cultural and environmental areas, and
Western Golden Horseshoe Municipal Network 2013

- Is planned to keep pace with growth and in a cooperative manner, with active participation by municipalities, the province, the federal government and the private sector.

The Network will be a leader in establishing and using cross-boundary, multi-governmental, multi-disciplinary partnerships to advocate for the infrastructure needed for the region (area), recognizing benefits of working together and with the private sector.

Membership and Stakeholders:
The Regions of Peel, Halton, Niagara, and Waterloo and the City of Hamilton are the current members of the Municipal Network. Key stakeholders to be involved in achieving the Municipal Network’s objectives include:

- Local municipalities within the boundaries of the members’ jurisdictions
- Neighbouring municipalities, including York Region, Durham Region, Brantford, Brant County, Haldimand County, London, Guelph and the County of Wellington
- Various ministries of the Provincial Government, including those with responsibility for and oversight of transportation/transit, land use planning, economic development, the environment, agricultural, natural resources, infrastructure planning and funding, approval processes, and finance.
- Various departments of the Federal Government, including those with responsibility for and oversight of railways, ports and airports; economic development and trade; the environment; natural resources; infrastructure planning and funding; approval processes; and finance.
- The private sector, including groups such as the Southern Ontario Gateway Council, the trucking and rail industries, industry, and goods movement and logistics companies and carriers.

C: Enhancing and Sustaining Prosperity

The Municipal Network will develop a united vision for our future quality of life that supports the forecasted population and economic growth in the west end of the Greater Golden Horseshoe as well as regional and municipal targets.

The Municipal Network will advocate as a unified coalition for a TTN across our municipal boundaries through the Western Golden Horseshoe and will work with Provincial and Federal Governments and private stakeholders to ensure a clear plan is developed, funded and constructed.
Western Golden Horseshoe Municipal Network 2013

MTO and governments of the Network need to take an integrated approach to have an understanding of how decisions made in one area can affect the economy of a much larger area.

Economic Reality:
The Municipal Network recognizes that a "regional benefits focus" approach for a transportation and trade network is important to strengthen Ontario's competitiveness as well as Canada's.

Quality of Life Reality:
The Municipal Network is focused on the transportation/transit infrastructure needed to maintain and improve the quality of life of those that work, live and play in the Western Golden Horseshoe area.

Land Use and Infrastructure Planning Reality:
The Municipal Network will consider the Protection of lands for transportation/transit infrastructure needed to maintain and improve the quality of life of those that work, live and play in the Western Golden Horseshoe area.

Natural Environment Reality:
Planning a new transportation and trade network through the Western Greater Golden Horseshoe, while protecting the environment (Niagara Escarpment), agricultural lands and rural character, will require a balance between transportation, economic, and environmental priorities.

The Niagara Escarpment is a prominent environmental feature in the Western Golden Horseshoe and the Network supports a western connection between Highway 403 and Highway 401 that avoids a new escarpment crossing.

Transportation Infrastructure Reality:
The Municipal Network supports the reform of approval processes for transportation infrastructure to make them more efficient and adaptable than the existing Environmental Assessment (EA) paradigm in Ontario for highway planning.

The planning horizon of 2031 needs to be extended to 2041 to meet the objectives and targets of the current provincial growth plan and a streamlined EA process for highway/transportation network planning is required.

The Municipal Network supports "The Big Move" and the projects listed therein.
Western Golden Horseshoe Municipal Network 2013

However, capital investment strategies are needed in both transit and road-based transportation, in an area larger than that covered by "The Big Move" to keep pace with growth. In addition to the projects in "The Big Move", new infrastructure is required to:

- Support the growth in population and employment projected by Places to Grow,
- Provide capacity within the Provincial network to address congestion issues such as the off-loading traffic onto Highway 401 from the future GTA West corridor,
- Provide regular inter-regional transit connections to neighbouring municipalities outside of the GTA,
- Provide redundancy in the event of major collision or incident on existing Provincial corridors,
- Improve connections to multi-modal terminals, planned and existing logistics and employment centres, and to address market access constraints, and
- Protect the condition and usefulness of existing infrastructure.

Success:
The major benefit of the Municipal Network is the development of a united vision for our future quality of life that supports the forecasted population and economic growth in the west end of the Greater Golden Horseshoe as well as regional and municipal targets. Working in partnership, the Network can take a broader view of transportation/transit and planning issues, focusing on and promoting the prosperity of the greater region and the Province.

SIGNATURES & APPROVAL

______________________________________________________________  ______________________________________________________________
Regional Municipality of Halton                           Regional Municipality of Niagara

______________________________________________________________  ______________________________________________________________
Regional Municipality of Peel                             Regional Municipality of Waterloo

______________________________________________________________
City of Hamilton


5 | Page
Attachment 2 – Transportation Trade Network Vision
Region of Waterloo

Transportation and Environmental Services

Rapid Transit

---

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

Date: January 7, 2014 File Code: A02-30/PW

Subject: ION Adapted Bus Rapid Transit Implementation

Recommendation: For information.

Report:

1. Introduction

In June 2011, Council approved the technology, route, stations, staging and funding for Stage 1 of the Region’s ION rapid transit service. 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. Stage 2 will extend LRT from Fairview Park Mall to the Ainslie Street Terminal. This staging approach will:

- Allow for the efficient establishment of the rapid transit service and future extensions to the system as demand for public transit in the Region grows;
- Enable the Region to cost-effectively deliver a staging option that meets the most immediate public transit needs;
- Lessen the initial impact of construction on the local community and road users by deferring the construction of certain sections; and
- Allow a level of flexibility so that future stages can be refined and tailored to meet the growing needs of the Region as it continues to develop.
The staging approach also provides the necessary time for the Region, area municipalities and private land owners to collaborate on planning initiatives for increasing densities, improving walkability, controlling parking and enhancing the overall environment for using public transit in the planned rapid transit stop areas. In areas where aBRT is implemented, initiatives to increase ridership will be implemented with the goal of converting aBRT to LRT as soon as possible.

aBRT includes buses driving in mixed traffic, but given special features enabling faster, consistent and more convenient service. These features include: frequent service, limited stops, signal priority, queue jumping, bus bypass shoulders, enhanced stop design, cycling amenities, and passenger information systems.

A tender for the implementation of aBRT will be released in early 2014 and will include all works related to the aBRT stops and intersection improvements, including queue jumps. Work on transit signal priority and bus bypass shoulders is also occurring concurrently. It is anticipated that aBRT will be operational by late 2014 / early 2015.

2. ION aBRT System

The aBRT component of ION consists of 17 km of bus service between the Ainslie Street Terminal in Cambridge and Fairview Park Mall in Kitchener, as well as seven stops (Attachment A). These stops will serve the following destinations:

- Fairview Park Mall (where LRT and aBRT meet)
- Sportsworld
- Hespeler Road at Eagle Street
- Cambridge Centre Mall
- Can-Amera Parkway
- The ‘Delta’ Intersection (Hespeler Road at Coronation Boulevard)
- The Ainslie Street Terminal

The Fairview Park Mall and Sportsworld stops will not be included in the aBRT tender process. The Fairview Park Mall stop also serves as the LRT component of ION and is therefore included in the LRT Design-Build-Finance-Operation-Maintain procurement process (Attachment B). The Sportsworld stop was recently built by the Ministry of Transportation (MTO) with a park n’ ride facility and will accommodate the aBRT stop (Attachment C).

3. ION aBRT Stop Design

The design of ION stops is key to the success of the Region’s rapid transit service. Stops are the first point of contact for users of the system. Therefore, it is important that they reflect the identity of the community, while also ensuring durability, comfort, and ease of use. The aBRT stops will include the following features:
• Solid anchor wall shelter
• Glass canopy shelter
• Benches
• Bike racks
• Light bollards
• Garbage receptacles
• Landscaping
• Passenger information displays
• System map
• Advertising panels
• Space for ticket vending machines and validators
• Branding
• Accessible platform edge and tactile way finding

However, the Ainslie Street Terminal stop will not include the solid anchor wall shelter, light bollards, or landscaping in order to integrate with the existing Ainslie Street Terminal Facility. A separate project for the redesign of the Ainslie Street Terminal is currently underway as part of the Cambridge Transit Supportive Strategy.

In preparing the stop designs (Attachment D), staff worked with the City of Cambridge to determine the products/treatments that will be used for the anchor walls, benches, bike racks, garbage receptacles, and landscaping. Comments received from the City at various meetings are summarized in Attachments E, F and G.

In general, the “Arriscraft Natural Stone” was chosen for the anchor wall treatment because it is in keeping with the architecture and heritage of downtown Cambridge. It is also the same material used on Cambridge City Hall. “Maglin” street furnishings were chosen because they are a local manufacturer and are in keeping with the current City of Cambridge design standards. Additionally, it was recommended that the street furnishings for the Ainslie Street Terminal be consistent with the streetscape standards currently used in Downtown Cambridge, which differ slightly from the furnishings for the Hespeler Road Stops.

4. ION aBRT Queue Jumps

A key feature of aBRT is to ensure that buses can avoid congestion along the Hespeler Road and Ainslie Street corridor. Therefore, queue jumps will be provided along this corridor in order to optimize aBRT operations and ensure a reliable and quick service for users. A queue jump is a right turn and bus only lane that will allow, with the aid of traffic signals, buses to bypass traffic queued at busy intersections.
A detailed traffic analysis was undertaken using Synchro and SimTraffic traffic simulation to determine where queue jumps would be most beneficial. It was determined that intersection approaches with traffic operating at level of service (LOS) D and above (E & F) were problematic areas (with average delays of 35 seconds or more per vehicle) and were identified as candidates for improvements. The majority of intersections along the corridor operate at acceptable levels of service providing a LOS of C or better (average delay per vehicle is 35 seconds or less). The following intersections, however, have congestion that requires queue jumps:

- Hespeler Road at Pinebush Road/Eagle Street
- Hespeler Road at Munch Avenue
- Hespeler Road at Coronation Boulevard/Dundas Street

The design of these queue jumps will be included in the aBRT tender package.

5. ION aBRT Signal Priority

In early 2014 staff will continue to evaluate where Transit Signal Priority (TSP) can be accommodated and what technology and/or techniques are the most appropriate. The TSP technologies/techniques that will be evaluated may include:

- Detection of buses only during the red light phase.
- Modify current software to add a lane monitoring feature.
- Install in-ground detection technology that will only detect buses equipped with a device.
- Install a transponder at each queue jump, detecting buses or vehicles with a pairing device.
- A fixed video camera detection calibrated to detect buses in the queue jump.

To date, staff have been working to ensure that all of the necessary civil requirements for signal upgrades and TSP are included in the aBRT tender package.

6. Consultation

Public Consultation Centres (PCCs) on the ION stop designs were held on:

- Wednesday, June 19, 2013 (Drop-in from 4 to 8 p.m.)
  - Location: Region of Waterloo Administrative Headquarters
  - Address: 150 Frederick Street, Kitchener, Ontario
- Thursday, June 20, 2013 (Drop-in from 4 to 8 p.m.)
  - Location: Cambridge Chamber of Commerce
  - Address: 750 Hespeler Road, Cambridge, Ontario
• Tuesday, June 25, 2013 (Drop-in from 4 to 8 p.m.)
  o Location: Knox Presbyterian Church
  o Address: 50 Erb Street West, Waterloo, Ontario

On June 7, 2013, letters were sent to residents and businesses along the corridor, inviting them to participate in the PCCs. Newspaper advertisements were placed in the Waterloo Chronicle (June 12 and 19, 2013), the Record (June 14, 2013), the Cambridge Times (June 14, 2013), and the Kitchener Post (June 14, 2013). Road signs advertising the PCCs were posted between June 12 and 26, 2013. The PCCs were also advertised on the rapid transit website and through social media.

Presentations on the stop design concepts were also given to local organizations such as the BIAs.

Feedback, opinions and input received at the PCCs and presentations were considered by staff in the final preparation of the aBRT stop designs.

A full summary of comments for both the aBRT and LRT stop concepts can be viewed in Attachment H. Key comments received included:

• Ensuring accessibility standards are met or exceeded.
  o Response: The aBRT stops will be compliant with the Accessibility for Ontarians with Disabilities Act (AODA).

• Ensure good connectivity (pedestrian, active transportation, Grand River Transit (GRT)) between the stops and major destinations (i.e. Cambridge Centre Mall, Conestoga College).
  o Response: Regional staff have been, and will continue working with property owners, City Staff, and other key stakeholders to ensure a seamless system.

• Ensure stops are safe and secure.
  o Response: aBRT stops have been designed to incorporate Crime Prevention Through Environmental Design (CPTED) principles.

• Better wind and weather protection.
  o Response: aBRT stops have an added front glass panel on the solid shelter component to provide additional wind and weather protection.

• Add additional amenities such as water fountains or washrooms.
  o Response: Due to space, public health, operations and maintenance, and cost considerations, water fountains and washrooms will not be provided at stops.
• A general preference for simple and clean design of the stops and the ability to make each stop unique with the addition of the anchor wall. However, some comments that the design is too simple.
  o Response: The clean and modern design of the aBRT stops is both aesthetically pleasing and durable. They are given features to make each stop unique while also ensuring the ease of use for ION users.

• Limit advertising.
  o Response: Only one advertising panel per aBRT stop will be provided as a potential revenue generating source.

• Incorporate public art where possible.
  o Response: ION staff will continue to work with the appropriate groups (i.e. the Public Art Advisory Committee) to incorporate public art at ION stops where appropriate.

• The aBRT and LRT stops to be recognized as one rapid transit service.
  o Response: The Request for Proposals (RFP) for the LRT component of the ION project states that LRT stop designs need to compliment the design of aBRT stops.

• There should be more seating.
  o Response: Seating has been provided wherever feasible while also ensuring pedestrian flow to, from and through the stops.

• There should be ticket vending machines.
  o Response: Ticket vending machines will be provided. The selection of the technology is currently being considered by Region staff.

7. Property Acquisition

In order to accommodate the aBRT stops and queue jumps, several partial property takes are required. Property owners have been contacted and staff continue to work with them. It is anticipated that the land acquisitions will be completed by mid/late 2014. As a result, the implementation of all aBRT stops and queue jumps is expected by late 2014 / early 2015.

8. Procurement Process

Unlike the LRT component of ION, which is being implementation through a Design-Build-Finance-Operate-Maintain procurement model, the implementation of aBRT will be completed by the Region through a tender process. The estimated timelines for this process are:

• Release of Tender: Late January 2014
Bids Submitted: Late February 2014
Bid Review: March 2014
Recommendation to Council: April 2014
Construction Begins: May 2014
Construction Complete: Late 2014 / Early 2015
aBRT Operations Begin: Early 2015

9. Bus Bypass Shoulders

In addition to the tender package for the aBRT stops and queue jumps, the Ministry of Transportation (MTO) will be implementing bus bypass shoulders on Highway 401.

Bus bypass shoulders are paved shoulders on the highway that only buses are permitted to use to bypass other traffic during times of heavy congestion. Construction of the bus bypass shoulders is expected to begin in 2015 with the MTO widening of Highway 401. Previously, the Region collaborated with MTO to accommodate bus bypass shoulders on Highway 7/8. Cost sharing for the bus bypass shoulders on Highway 401 will follow the same process as that of Highway 7/8 (Report P-08-075).

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

In June 2011, Council approved the implementation of the RT project, including 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 costs associated with the aBRT tender are contained within the $818 million project budget.

Other Department Consultations/Concurrence:

Transportation Planning, Planning Housing and Community Services
Transit Services, Transportation and Environmental Services
Transportation Operations, Transportation and Environmental Services
Attachments

Attachment A – aBRT System Map
Attachment B – Fairview Park Mall LRT / aBRT Stop Concept
Attachment C – Sportsworld Stop Design Concept
Attachment D – aBRT Stop Design Concept
Attachment E – City Comments and Responses for the Station Stop Sessions
Attachment F – City of Cambridge Response to Stop Design Concepts
Attachment G – City of Cambridge Letter on aBRT Stop Finishes and Products
Attachment H – Public Comments on aBRT and LRT Stop Design Concepts

Prepared By: Danielle Tobey, Planner, Rapid Transit

Approved By: Thomas Schmidt, Commissioner, Transportation and Environmental Services
Attachment A – aBRT System Map
Attachment B – Fairview Park Mall LRT / aBRT Stop Concept
Attachment C – Sportsworld Stop Design
Attachment D – aBRT Stop Design Concept
Attachment E – City Comments and Responses for the Station Stop Sessions

Suggestions Included

- **Stop furniture**: The inclusion of stop furniture was stated as a high priority. Bench seating and garbage receptacles will be provided at all RT stops by Project Co. If space permits, bike racks will be provided at all RT stops.

- **LED Lighting**: The inclusion of LED lighting was stated as a medium to high priority. LED lighting will be designed, provided by, and maintained by Project Co. and will take into consideration the appropriate lighting guidelines for RT stops.

- **Canopies**: A combination of transparent and solid canopies was stated as a high priority. This has been included in the RFP and concepts to ensure microclimate, accessibility, and CPTED principles are addressed.

- **Landscaping**: The inclusion of landscaping was stated as a high priority. The provision of landscaping has been included in the RFP at specific stop locations. Further consultation on landscaping may be undertaken with other Regional Staff, area municipalities and community groups as deemed appropriate.

- **Anchor Wall**: The ability for each area municipality to customize the aesthetics of the anchor wall was stated as a high priority. This has been included in the RFP concepts and will require further consultation with other Regional staff, area municipalities, and community groups as deemed appropriate.

- **Public Art**: The inclusion of public art at RT stops was stated as a medium to high priority. The provision for space for public art has been included in the RFP. Further consultation on public art will be undertaken with other Regional staff, area municipalities, and community groups as deemed appropriate.

- **Active Transportation**: Connections to active transportation were stated as a high priority. Therefore, some connections, where appropriate, have been included in the appropriate stop concepts.

- **Splashguards**: The splashguards previously shown in the aBRT stop concepts have been removed as they may impede circulation on and off the buses.

- **Water connection**: Provisions for hose bibs have been included in the RFP. These are for maintenance purposes and are not available for any public uses.

- **Electrical outlets**: Provisions for electrical outlets have been included in the RFP. These are for maintenance purposes and are not available for any public uses.

- **Security Camera**: Provisions for security cameras have been included in the RFP.

- **Emergency phones**: Provisions for emergency intercoms have been included in the RFP.
- **Wayfinding**: Provisions for wayfinding have been included in the RFP.
- **Digital Display panels**: Provisions for digital display panels will be included in the RFP.
- **Heating**: Provisions for heating at specific stop locations have been included in the RFP.
- **Ticket Vending and Validation Machines**: Provisions to accommodate TVMs (electrical, communications, etc.) have been included in the RFP.

**Suggestions Requiring Further Review**

- **WiFi**: Provisions for WiFi are still being explored.

**Suggestions Not Included**

- **Stop furniture**: It was suggested that RT stop furniture, including bike racks, garbage receptacles, and bench seating, should utilize the existing standards of each area municipality. However, due to economies of scale, long-term maintenance, and the desire to have uniformity across the entire RT corridor, it has been stated in the RFP that stop furniture should be designed, provided by, and maintained by Project Co. as part of the DBFOM contract. If area municipalities wish to use their standardized furniture at certain stops, it is possible to include this requirement as a “betterment” which would be funded (both capital and O&M) by the area municipality.

- **Performance Art**: The inclusion of space for performance art was stated as a low priority. Therefore, this has not been included in the RFP.

- **Neighbourhood Plaque**: The inclusion of space for a neighbourhood plaque was stated as a low priority. Therefore, this has not been included in the RFP. However, this is a feature that could be included in the future or through alternative forms.

- **Solar Panels**: Due to cost and operations considerations solar panels will not be provided at RT stops.

- **Water fountains**: Due to space, public health, operations and maintenance, as well as cost considerations, water fountains will not be provided at RT stops.

- **Washrooms**: Due to space, operations and maintenance, low average wait times, as well as cost considerations, washrooms will not be provided at RT stops. Additionally, at the terminal and Hub stops, washrooms are located in other facilities within walking distance.

- **Defibrillator**: The provision of a defibrillator would require trained persons to be present at the stop. Therefore a defibrillator will not be provided at RT stops. Access to a defibrillator is not typical for LRT and aBRT stops.
- **LEED Silver Certification**: The RT stops are open air shelters and therefore LEED standards do not apply. The RFP specifies that LEED standards will be applied to buildings greater than 500 m\(^2\).

- **Newspaper boxes**: Due to low average wait times and low demand for this service, newspaper boxes will not be provided at RT stops.
Attachment F – City of Cambridge Response to Stop Design Concepts

Danielle Tobey

From: Paul Smithson [SmithsonP@cambridge.ca]  
Sent: April 30, 2013 4:07 PM  
To: Danielle Tobey  
Cc: Elaine Brunn Shaw; Shannon Noonan; James Horan; Christian Lee; Jason Leach; Kealy Dedman; Janet Babcock; Gwen Stott  
Subject: Draft Major Transit Station Design

Danielle,

The draft designs for the Major Transit Stops have been circulated to City of Cambridge staff. The following represents a compilation of the comments received.

1. The draft designs showed a variety of materials being used depending on the Station, as indicated below. In the past there had been some discussion regarding a common design element for all stations in Cambridge as an identity feature. The discussions as I recall recommended the use of stone to reflect the heritage of Cambridge. Based on this could the Hespeler / Eagle station be changed to use fieldstone veneer rather than the channel glass as an identity feature?

2. There are questions about the feasibility and maintenance costs associated with an outdoor living wall, especially during the winter months? Based on this and the suggestion regarding a common theme for all Cambridge major transit stops consideration should be given to the fieldstone veneer treatment for all major transit stops.

3. It is appreciated that the Ainslie Street Terminal is somewhat different than the other stops in terms of size and function. However, would it be possible to include some fieldstone veneer rather than all glass for the waiting areas to incorporate the unifying theme material.

4. The proposed lighting, security measures and signage complements the design well.

5. Are there any details as to how public art could be incorporated into the design?

<table>
<thead>
<tr>
<th>Station</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hespeler / Eagle – N. bound</td>
<td>Profilite Channel glass</td>
</tr>
<tr>
<td>Hespeler / Eagle – S. bound</td>
<td>Profilite Channel glass</td>
</tr>
<tr>
<td>Cambridge Centre – N. bound</td>
<td>Fieldstone veneer/ Living Wall</td>
</tr>
<tr>
<td>Cambridge Centre – S. bound</td>
<td>Fieldstone veneer / Living wall</td>
</tr>
<tr>
<td>Can-Amera / Hespeler N. bound</td>
<td>Fieldstone veneer</td>
</tr>
<tr>
<td>Can-Amera / Hespeler S. bound</td>
<td>Fieldstone veneer</td>
</tr>
<tr>
<td>Delta – N. bound</td>
<td>Fieldstone veneer / Living wall</td>
</tr>
<tr>
<td>Delta – S. bound</td>
<td>Fieldstone veneer / Living wall</td>
</tr>
<tr>
<td>Ainslie St. Terminal</td>
<td>Glass canopy</td>
</tr>
</tbody>
</table>

Hope these comments help.

Paul Smithson, Senior Planner  
City of Cambridge 50 Dickson Street, 3rd Floor  
PO Box 869  
Cambridge ON N1R 5W8  
Tel: 519-740-4650 ext. 4575  
Fax: 519-622-6184
Mr. Darshpreet Bhatti  
Director of Rapid Transit  
Region of Waterloo  
50 Queen St. N, Suite 830  
Kitchener, ON  
N2H 6P4  

Mr. Bhatti,  

Re: City of Cambridge aBRT Stop Design Elements  

City of Cambridge staff has reviewed the information provided by the Region regarding the possible choice of materials that can be used in the aBRT (“ION”) transit stops along Hespeler Road. Based on this staff review we recommend the following for your consideration:  

1. Anchor Wall Treatment:  
   • Arisscraft Natural Stone - Sepia  

2. Benches:  
   • Maglin MLB870-M with Black seats with brushed aluminum sides. With a centre armrest.  

3. Garbage Containers:  
   • Maglin MLWR1400-32  
     o HDPE Plastic (MLWR1400-32-P) – Grey  
     o Steel side and door panels (MLWR1400-32-M) – Black  

4. Bicycle Racks:  
   • Maglin MBR100 in black  

5. Landscaping Materials:  
   • Little blue stem (all season)  
   • Wild geranium (spring flowers)  
   • Succulents e.g. sedum (all season)  
   • Black Eyed Susan (fall flowers)  
   • Smooth Wild Rose (summer flowers)
We agree with the Region’s approach of different materials and design for the Ainslie Street Terminal in Downtown Cambridge, namely a tempered glass canopy to complement the existing stone terminal building. We also recommend that the street furnishings for the Ainslie Street Terminal should be consistent with the streetscape standards used in Downtown Cambridge which are as follows:

Benches:
- Landscapeforms (“Scarborough -72”) backed with centre armrest, woven seat style in black

Garbage Containers:
- Maglin MLWR200-32 in black

Bicycle Rack:
- Maglin MBR100 in black

Thank you for this opportunity to provide input on the design details for the proposed “ION” stations in Cambridge. We look forward to continued participation in this project as design and construction details become available.

Yours truly,

George Elliott, P. Eng.
Commissioner of Transportation and Public Works

Elaine Brunn Shaw
Director of Development Planning
Danielle Tobey

From: Paul Smithson [SmithsonP@cambridge.ca]
Sent: November 28, 2013 11:18 AM
To: Danielle Tobey
Cc: George Elliott; Kealy Dedman; Shannon Noonan; Deanne Friess
Subject: aBRT Cambridge stops furniture colours

Danielle,
Cambridge staff previously provided their preferences for benches, garbage containers, bike racks, anchor wall material and landscaping materials regarding the aBRT stops in Cambridge in a letter to Mr. Bhatti, dated Nov. 14/13.

Cambridge staff have had an opportunity to meet with the Maglin sales representative and view the actual powder coating colours. As a result we would suggest the following modifications to the final specifications, which indicate the specific colours available from Maglin Manufacturing:

**Benches**: Maglin ML8870-M with “Black Fine Tex” finish (flat black) seat and the centre arm be offset to allow for 3 persons to sit comfortably but prevent people from sleeping on these benches and provide an extra arm rest to increase accessibility for those with mobility issues. It is suggested that the side supports be finished in “Gun Metal” powder coating.

**Garbage Containers**: Maglin MLWR1400-32 with the steel body panels finished in “Black Fine Tex” (flat black) and framing in “Gun Metal”.

**Bicycle Racks**: Maglin MBR100 in “Black Fine Tex” (flat black).

Has Regional staff selected a final colour for the aluminum/steel framing to be used for the aBRT stop shelters in Cambridge? It has been suggested by members of the Cambridge staff group that a “Gun Metal” finish on the structural aluminum/steel structure would be appropriate to coordinate with the colours selected for the benches and garbage containers. If the structural components are a much lighter colour then the bench side supports and garbage container framing could use the “Pearl Silver” finish available from Maglin in order to achieve greater colour coordination.

Hope this extra detail helps.

Thanks,
Paul Smithson
## Attachment H – Public Comments on aBRT and LRT Stop Design Concepts

<table>
<thead>
<tr>
<th>City</th>
<th>Comment</th>
</tr>
</thead>
</table>
| Unknown  | - Elevator facility - lift to platform  
           - Relocate driver facility to be incorporated (Conestoga Mall)  
           - When two car train configuration the walk is long from end of platform to access  
           - Need closer GRT transfers                                                                                                                                                                                                                                                                 |
| Unknown  | I understand from speaking to the staff that there is insufficient space within the right of way to accommodate the three tracks and two platforms (track - platform - track - platform - track) that would be required to have the tourist train stop south of Northfield.  

  Lookint at aerial photos of the area and the GIS Locator, it seems the land immediately East of the right of way and south of Northfield is mainly grass with a few trees, one shed-like building, and only one property parcel and therefore property owner. Further South it appears the right of way widens and the land East of the right of way is the maintenance and storage facility.  

  I think an effort should be made to determine just how expensive it would be to buy a strip of land enough to widen the right of way to allow a second platform to be inserted between the LRT tracks and the other track by moving all of the proposed LRT installation slightly to the East (essentially, by the width of the platform for the tourist train).  

  Obviously, if this came out to be too expensive, it wouldn't make sense, since the tourist train is not a major high-volume transportation route. But connecting to the train cross-platform from the LRT would be much more attractive than having to cross Northfield Drive on foot so I think it's worth at least finding out just how hard it would be to obtain the extra few feet needed.  |
<table>
<thead>
<tr>
<th>City</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>I notice that at this location there is a substantial grade difference between the existing bus bays and the proposed LRT platform. Is there no way to reduce the grade difference? I notice that there is some length of track between the King St. sidewalk and the actual stop. Can this be sloped slightly downward (levelling off within the stop, or course)? Even if this just reduces the number of steps it would be helpful.</td>
</tr>
<tr>
<td></td>
<td>Similarly, if the more northerly of the two sets of steps shown were replaced by a ramp, it seems that it would reach the lower level near the bottom of the other set of steps where the pedestrian crossing is. This would provide a more natural barrier-free route than the switchback ramp shown on the plan. The existing switchback ramp could just continue straight on, reaching its lower end close to the CIBC and thereby providing a more direct route to that building. Overall, this design is closer to the mall and better than I was expecting, but it feels like there is an opportunity to reduce (not eliminate) the impact of the grade changes in the area in detailed design.</td>
</tr>
<tr>
<td>Unknown</td>
<td>Overall, I was happy with the stop designs to date. The main issue which concerns me is the level of shelter provided by the stop design, which I don't find to be well covered by the list of amenities on the comment form. My ideal LRT system would include a much higher level of shelter from the elements in the stop design. Having said that, I understand that this can quickly lead to significantly higher construction costs, so I am not going to suggest that every stop be fully enclosed or anything like that. Nevertheless, there is one location where I think due consideration of our climate leads inevitably to a requirement not met by the design presented in the presentation: At the Transit Hub, it should be possible to move between the LRT, the Transit Hub building, and the GO/Via rail platforms, without getting snowed/rained on. I understand that the Transit Hub team envisions a public square as the link between the LRT and the Hub. A public square at the Hub will be very nice. But, it does not by itself provide appropriate connectivity between elements of the transit system. Note that the LRT actually passes under the rail line, and if I am reading the Transit Hub preliminary design correctly, the rail platform actually extends across King St. at this point. So, why not stop the LRT vehicles under the bridge, and include stairs/elevators directly to the rail platform? If necessary, a visually lightweight (glass?) structure</td>
</tr>
<tr>
<td>City</td>
<td>Comment</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td></td>
<td>can extend beyond the bridge to provide cover for all doors of the LRT vehicles. This does not need to preclude the presence of an attractive public square at this location which may also provide an alternate fair-weather route between transit modes.</td>
</tr>
<tr>
<td></td>
<td>This is an issue that the LRT team and the Transit Hub team must work together closely on. What is required is really a single integrated design, not an LRT design with normal stop design that just happens to be right in front of the Transit Hub building.</td>
</tr>
<tr>
<td>Unknown</td>
<td>For the R&amp;T Park Rapid Transit Station, are you planning on having a pedestrian access route directly East towards Phillip St.? Looking at Google Maps, I'm guessing you would have to get land from either Blackberry or Valley Blades Ltd. I hope you do. I work on Phillip!</td>
</tr>
<tr>
<td>Unknown</td>
<td>I was unable to attend the recent Light Rail Stop Design Concept open houses, but looking over the display material, I wanted to submit a few comments/concerns, mostly regarding the Uptown Square stop. Please pass these comments on appropriately. In the renderings, the space between the re-routed rail line, and the Northbound LRT line is depicted as a landscaped strip, running nearly all the way from King St to Caroline. &quot;Pedestrian crossings&quot; are depicted only at the ends of this green strip, at the King St sidewalk, and at a motor vehicle crossing to access the parking lot, these being 150m apart. Additional crossings will be required in this stretch, as there is heavy pedestrian traffic across the rail line to access the Uptown Square, the Mall, and the Atrium. If these additional crossings are not properly planned for in advance, it will lead to high volumes of people forging dirt paths through the landscaping along the most direct paths, resulting in a less than desirable situation.</td>
</tr>
<tr>
<td>Unknown</td>
<td>In summary *) One wide crossing directly in front of the mall entrance, accommodating bi-directional traffic leaving and entering the mall. *) One narrow crossing on the west end of the LRT platform, to give shortest-path access to The Atrium. This crossing, if present, will provide a preferred path for Atrium-bound people, who otherwise might walk directly north across the LRT tracks in the middle of the platform itself. *) A crossing on the east side of the platform, connecting with the existing sidewalk on the north side (the rear of The Running Room). This crossing maintains direct paths from the Uptown Square to and from the parking lot and Atrium. These crossing locations would be amenable to future intensification in Uptown as well.</td>
</tr>
<tr>
<td>City</td>
<td>Comment</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Unknown</td>
<td>Here’s a hypothetical future build-out of the parking lot, replaced by mid-rise buildings over an underground garage. Development could have rail-facing retail and service shops. The crossing in front of the mall entrance could continue out into a small promenade, linking the mall and the Duke of Wellington together by the new development. The central crossing would service LRT users bound for the new development. The eastern crossing would still be the preferred link between the new development (and new parking) and Uptown Square. Please consider these while laying out the finer details of the Uptown stop environment. Uptown is a pedestrian-friendly environment, and measures should be made to make the crossing of the tracks easy, safe, and convenient. The best way to make crossings safe is to make sure that they are used, and to make sure they are used, they must be in the most convenient locations.</td>
</tr>
<tr>
<td>Waterloo</td>
<td>Many amenities are also important for trains</td>
</tr>
<tr>
<td>Unknown</td>
<td>The LED colour lighting that changes in colour saturation is a neat idea</td>
</tr>
<tr>
<td>Unknown</td>
<td>Make sure shelters are suitable for our climate (3 sided) and are vandal resistant</td>
</tr>
<tr>
<td>Unknown</td>
<td>Incorporating local history at each stop. St Clair Av West in Toronto does a great job. Vandalism prevention must be a priority. Spadina Av. In Toronto is a great example of great vandalism at station stops</td>
</tr>
<tr>
<td>Kitchener</td>
<td>Advertising should be strictly limited, such as public service ads only or BIAs. Garbage receptacles must include full division (paper, other recyclables, compost). CarShare should be fully integrated, to support multimodal travel and &quot;LRT-pis-CarShare&quot; trip completions. At stations where sufficient property is controlled by the project, this should include carsharing vehicle stationing. At all stations, adaptable wayfindnig should be provided for nearby CarShare stations</td>
</tr>
<tr>
<td>City</td>
<td>Comment</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Unknown   | Yeah ION! Lovely idea - however would the green anchor wall be risky in that it would require a lot of care? I like the channel glass anchor wall (nowhere for teens or others to "hide")  
Detest 1) washington DCBRT (too busy, will look dated) 2) zum 3) seattle BRT swift  
Like clean simplicity from BRT Portland & York                                                                                     |
| Waterloo  | 1) Overhead views not shown  
2) Very long and unnecessary access  
3) Ped ramps not shown as 1/10  
4) Visitility of stop poor - see "zum" in Brantford  
5) several stops only one lane traffic with local bus shown in some  
6) no left turn lanes shown for example @ Allen St. will be back ups most of the day  
7) Duplicate re access distance e.g. Allen St  
**Diagram drawn on commen form**  
Why not direct access across stop @ allen and King. Would also help traffic capacity @ Allen as fewer peds. Also both malls, tech park, block line very poor, also real reason for it?? Why??  
8) Very minimal design - Not as indicated in record case for example mineapolis bus way                                                                 |
| Unknown   | Looks good so far, I like the simple approach                                                                                                                                                           |
| Kitchener | Is there no cycling infrastructure on King near the Hub?  
Northfield needs a pedestrian crossing.  
Seagram - how will Laurel Train cyclists cross the tracks?  
Block Line - why a detour for pedestrian access?  
Should put GRT and Go platforms together at sportsworld instead of isolating them with parking.  
Need space/provision for food/coffee carts                                                                                             |
<p>| Unknown   | Love the green wall! Would love to see an anchor wall inspired by the Region of Waterloo museus (colourblock wall)                                                                                   |
| Kitchener | Please ensure bike racks are of a design like Toronto’s or U-shaped as these allow use of U-locks with the frame and rear wheel. The time-to-arrival LED colour saturation is a great idea as it lets people approaching the station know if they have to hurry. Not a fan of the brick-style anchor wall. Keep up the good attention to detail! |
| Kitchener | Design lighting to also indicate train direction. Rather than just using the intensity to indicate time, consider colour and movement to signal train direction |</p>
<table>
<thead>
<tr>
<th>City</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterloo</td>
<td>Love an app for checking arrival times</td>
</tr>
<tr>
<td>Unknown</td>
<td>Want to see future expansion possibilities to college and Cambridge, maybe even to Guelph</td>
</tr>
<tr>
<td>Unknown</td>
<td>What year will it be ready?</td>
</tr>
<tr>
<td></td>
<td>1) Advertising: Neutral. Advertising negatively impacts image and visual cleanliness, however it may be necessary to provide extra revenue to make the transit system more affordable for users (i.e. lower fares)</td>
</tr>
<tr>
<td></td>
<td>2) Anchor Wall: Agree that it is important to visually connect system and differentiate from other local bus stops. similar stops in Brampton make a good impression. It is important to have the stops not feel too heavy; the channel glass or similar option may help here</td>
</tr>
<tr>
<td></td>
<td>3) Bike racks and pedestrian connectivity are very important in order to make the system accessible and convenient, and to encourage non-vehicular options locally</td>
</tr>
<tr>
<td></td>
<td>4) Garbage/recycling receptacles require maintenance, but are a required and expected feature that should aid in keeping stops clean. Must be regularly emptied/cleaned</td>
</tr>
<tr>
<td></td>
<td>5) Glass canopy may help the shelters from feeling too &quot;heavy&quot;</td>
</tr>
<tr>
<td></td>
<td>6) Heating would not be expected, will not be efficient in open structures. If implemented, glass/transparent doors should be added!</td>
</tr>
<tr>
<td></td>
<td>7) Hems that provide newcomers with information are crucial, such as route maps. Wayfinding will make the system much more visitor friendly</td>
</tr>
<tr>
<td></td>
<td>8) Lighting is an important safety consideration. It will also make the stop more visible/easy to find in darker hours.</td>
</tr>
<tr>
<td></td>
<td>9) Public art will allow the community to develop a greater connection to the system, encourage civic pride and may deter graffiti. If graffiti occurs, it may be more difficult to restore/clean</td>
</tr>
<tr>
<td></td>
<td>10) Seating is a key accessibility feature for elderly, infirm, etc, and are beneficial for everyone</td>
</tr>
<tr>
<td></td>
<td>11) Security cameras are expensive, not necessarily effective, and must be monitored/accessed to be useful. While graffiti is a real problem, our society has enough surveillance as it is. If a particular location has greater issues with crime, etc. they could be considered for just that location</td>
</tr>
<tr>
<td></td>
<td>12) Ticket vending - users should be able to start at any access point without visiting a different location for payment</td>
</tr>
<tr>
<td></td>
<td>13) Wifi is interesting, but many people have data plans on cell phones. Will it be pay for use? Free? Protected sufficiently to avoid hacking damage/misuse? Filtered so inappropriate content is not accessed? Encrypted to protect any users from exposing data?</td>
</tr>
<tr>
<td>City</td>
<td>Comment</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Cambridge</td>
<td>An app that allows for wayfinding/route planning...i.e. I want to go here, app shows what bus to take. Mobile recharging station ~ convenience (esp. For long duration riders), and are becoming popular (i.e. Toronto Zoo, Wonderland, Malls (I can't remember which)</td>
</tr>
</tbody>
</table>
| Waterloo    | - There should be a constant sound signal to direct blind people to the exact boarding location  
- There should be auditory traffic signals at crossings to platforms  
- Directions to bus routes would be useful both graphic and audial  
- Check with mobility plus on whether drop-offs might be required at stops                                                                 |
| Unknown     | Specifically related to the Grand River Hospital Stop:  
1) Given the length of the platform it will be important to have more then one emergency intercom. This is essential to ensure the safety of the hospital's staff, volunteers, patients and visitor who opt to use LRT, especially given the 24/7 operations  
2) Guardrails need to be substantial enough to deter J-walking. For the Grand River Hospital stop platform access should only be permitted at the pedestrian crossing. The other end should have guardrails  
3) Will the security cameras be monitored in real time (preference) or will the images go to video to be reviewed as required during the investigation of incidents. All areas of the platform should also be monitored (i.e. no blind spots)  
4) Smoking should not be prohibited on the entire platform  
5) There should be adequate seating to accommodate the frail and elderly population using this location. There should also be adequate space to accommodate wheelchairs  
6) Timing of lights at pedestrian crossings and the length of time LRT vehicle doors remain open needs to be sufficient enough to accommodate those with mobility challenges  
7) Construction of the platforms and selection of material should consider ease of regular cleaning and grafitti resistant options  
8) The aBRT platforms appear to offer enhanced protection from the elements (i.e. wind barrier). This should be incorporated into the LRT stops. This could be accomplished while still maintaining visibility. |
<p>| Waterloo    | It would be really cool if there was a plan for cyclists. Do they bring bikes on the train? Attach them to the front? |</p>
<table>
<thead>
<tr>
<th>City</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitchener</td>
<td>Station placement at seagram and UW: Here are a few reasons why the current placement won't work: - buses will need to detour for interchange/transfers - UW wants buses off ring rd - catchment areas are reduced Solution: move UW station north of Columbia benefits include: - easy transfers to bus routes along Columbia including 201 - better coverage of Blackberry offices UW north campus move seagram station north of University - easy transfers to bus routes along University including new 202 - closer to Laurier - better/more central location with more coverage of residential/commercial areas along university (diagram included) Rationale - reduced transit operation cost! - increased passenger convenience and satisfaction! - reduced transfer time! - same station spacing between stops! - a stop at Waterloo Park is not really necessary and does not serve regular transit riders!</td>
</tr>
<tr>
<td>Waterloo</td>
<td>Note that the current design along Caroline St orphans several parking spaces - those were stalls, but are being converted to 5 parallel parking spaces - as these will be between the sidewalk (ironhorse trail) and the LRT track - NOT AN ESPECIALLY SAFE SITUATION better filled with grass (diagram included)</td>
</tr>
<tr>
<td>Waterloo</td>
<td>1) the design looks fresh and clean 2) I would prefer that advertising be limited and tasteful 3) the noise created by the ion needs to be as little as possible</td>
</tr>
<tr>
<td>Cambridge</td>
<td>I couldn't really differentiate between glass/solid canopy as glass is a solid. But I'd go w/ glass - it would make stop feel less dark, improve sense of safety. I'm excited to see this project be completed and hope it encourages increased transit use.</td>
</tr>
<tr>
<td>City</td>
<td>Comment</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Unknown    | - Please provide a solid cover over bike racks to protect from elements  
|            | - Different anchor walls for every stop - different colours and materials, including preserving bricks from historic condemned buildings  
|            | - More station lighting, including indicators of when the next train is approaching                                                                                                                   |
| Waterloo   | - Fairview stop design needs to be redone. Lack of sidewalks, existing bus terminal unsafe, distance from the mall entrance  
|            | - One side of the transit hub stop should be adjacent to the Kaufman Lofts  
|            | - Route map should include the rapid transit map (maybe with the iXpress routes) + full GRT map  
|            | - Interactive passenger information should show stuff such as weather, breaking news, local ads or attractions along the LRT corridor in addition to next train (next 2-3 trains?) |
| Unknown    | Water, drinking ftns, place to refill btls  
|            | Stops as shown in pictures will be BOILING HOT and impossible to stand in from June till Sept. Especially Grand R Hospital + Fairview Mall. Must provide a closed AIR CONDITIONED SPACE at these stops. |
| Cambridge  | An anchor wall with historic pictures would be great!                                                                                                                                                    |
| Waterloo   | Related to use, acceptance + success is how well integrated the bus and LRT services are and the "wait-time" 30 minutes between trains at non-peak hours in problematic. A major discouragement when I take the bus now is the wait-time at transfers, especially on the trip back home where my leaving time cannot be as well coordinated as when I started from home. For success, ION must leave people waiting as little as possible. |
| Kitchener  | - Consider relocation (temporarily) of NB Victoria Stop to in front of Kaufman Lofts to get rid of temporary retaining wall + pub political pressure on funding + completion of the Hub (yes, I know it’s substandard, but if it saves $)  
|            | - Extend pedestrian access of the frederick stop to crossing at Duke St  
|            | - What is meant by interactive passenger information? Mapped in? Google Maps - Driven? Please DO NOT try to modify easygo for this purpose.  
|            | - See: Brampton for good examples in Brampton, Toronto  
|            | - Move Fairview bus loop to LRT platform + put in heated shelters  
<p>|            | - Places where there are transfers/layovers convince retailers to put |</p>
<table>
<thead>
<tr>
<th>City</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>up a coffee shop (e.x. Starbucks at Sq. One) better yet, buy adjacent land and see who wants in.</td>
</tr>
<tr>
<td></td>
<td>- Put in stairs at Victoria + Rail Line in advance of Hub construction, particularly in front of UW Pharmacy school</td>
</tr>
<tr>
<td>Kitchener</td>
<td>Cycling generally</td>
</tr>
<tr>
<td></td>
<td>- it's crucial to invest in concrete/pavement pigment at build to reduce glare/heat</td>
</tr>
<tr>
<td></td>
<td>- I'm concerned that some of the lighting mockups look bad for light pollution. Please take a look at light pollution guidelines/research and</td>
</tr>
<tr>
<td></td>
<td>make sure that reducing it is part of the DBFOM incentives.</td>
</tr>
<tr>
<td>Waterloo</td>
<td>You'd better use the idea about changing colour LEDs to indicate a train's immanence. It's awesome.</td>
</tr>
<tr>
<td></td>
<td>I think that an important addition to the bus stops is something to make waiting less boring. Add a display panel offering trivia, news, or other</td>
</tr>
<tr>
<td></td>
<td>things that could be used as conversation starters w/ other commuters.</td>
</tr>
<tr>
<td></td>
<td>Make seating comfortable. Put some in that's obviously individual, and some in that would accommodate a group.</td>
</tr>
<tr>
<td></td>
<td>Riding public transit on a cold, windy day is the worst. Make sure there are places at every stop to retreat from the wind, no matter which</td>
</tr>
<tr>
<td></td>
<td>direction it's coming from.</td>
</tr>
<tr>
<td></td>
<td>I would like to know, as ahead of time as possible, if a bus is going to be late, or if it's going to be full. Not sure how you would do this, but</td>
</tr>
<tr>
<td></td>
<td>standing at a bus stop for 10 min, only to have the bus pull away without you on it should never happen to anyone! :( (Probably won't happen with trains :)</td>
</tr>
<tr>
<td></td>
<td>Remember that many people will be tempted to jaywalk to catch a train they're late for. Make it so that this isn't necessary.</td>
</tr>
<tr>
<td>City</td>
<td>Comment</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Waterloo | - Consider mirrors at the shelters - they help reduce the wait time at elevators when people can "check themselves out".  
- I like the integrated ticket purchase and validation machines - that will speed up loading  
- It would be good to provide public washrooms at some key stops.  
Drinking fountains as well. If not provided, wayfinding to nearest public facilities would be helpful.  
- Rather than LED's that change colour as LRT nears, how about flashing lights - visible from a greater distance - that help riders see where the stop is, and indicate how quickly they must run to get to it.  
"Where's the bus stop?" is an ongoing problem - but with the larger scale of the stations, that may not be as big a problem.  
- Hold off from advertising - I'm not persuaded that the revenue justifies the visual clutter. Public service announcements & historical information are a different matter. |
| Unknown  | The people that make the posters make a very interesting as they are so clear that is so interesting it make you excited about seeing what is going to be next. Keep up the good work as we will there to see you through OK |
| Waterloo | The proposed shelters are far too minimal. Platforms should be fully covered. This will save money in the long run due to reduced snow removal costs and avoidance of salt damage to structures and LRT vehicles. Heated sidewalks should be used at platforms so salt is not needed in winter. The proposed designs strike me as very bare-bones. This is not the image "ION" needs. To be successful, the system must have a strong visual presence. Stations should have high class architecture such as the photos of Los Angeles illustrate. Houston, TX would also be a good example to follow. The houston stations are architecturally outstanding and related to the station vicinity. Good design will pay off with greater ridership (back-issues of rice design institute's "cite" magazine might be available on-line).  
Since it gets rather cold here, and "ION" headways will be greater than 5 minutes, enclosed, heated, waiting areas are essential to keep rain and snow off, the ENTIRE STATION AREA should be covered (diagram included)  
Safety issues: designing stations to minimize collisions: great care needs to be taken in automobile-transit interaction. Houston had MANY serious collisions in the first year of operation, most caused by people who "didn't see" the light rail vehicle, despite strobe lights, etc. Texas A&M university's transportation institute studied the system and recommended banning turns at intersections when a light rail vehicle was in the vicinity. This reduced the accident rate which started out as
<table>
<thead>
<tr>
<th>City</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>City</td>
<td>daily. It would probably be best to ban left turns near centre-curb-running stations. I strongly suggest obtaining a copy of the Texas A&amp;M university study of the Houston Metro Light Rail system.</td>
</tr>
<tr>
<td>Waterloo</td>
<td>If the LRT is too quiet blind people will have trouble knowing when the train arrives.</td>
</tr>
<tr>
<td>Waterloo</td>
<td>The route map is very important and it should be a detailed map of the WHOLE city - not just the roads adjacent to the LRT route. Also include bike paths and bus routes on the map! This makes it easier to plan a route.</td>
</tr>
<tr>
<td>Waterloo</td>
<td>Architectural structures of all stations should offer clean &amp; modern look. I see too much use of &quot;stone&quot; wall finishes that look dated already. Also stops architecture (canopies and ceiling support structure offer minimal aesthetic value and over time will look a little too industrial. Not enough of character and unique identity with K-W regional culture and heritage. Current design concepts are too safe and &quot;universal&quot;, probably suitable to any place/city. I think we have an opportunity to design something unique, particularly that there is no pre-existing infrastructure to blend into.</td>
</tr>
<tr>
<td>Waterloo</td>
<td>Since our winters here can be harsh at times, could we have some stations structures with more enclosed spaces giving better protection against rain, snow and wind.</td>
</tr>
<tr>
<td>Waterloo</td>
<td>Some LED based enhancements are cool but we need to think also about daytime features during highest ridership and traffic.</td>
</tr>
<tr>
<td>Waterloo</td>
<td>Educational elements about the area is an important part of LRT riding experience either waiting at the sides or time spent on board gives plenty of opportunities to provide local culture, landmarks, events and other region's unique features. Not much is offered within these preliminary concepts.</td>
</tr>
<tr>
<td>Waterloo</td>
<td>Xpdart can help write many aspects of transit environment and it's impact and opportunities for years to come.</td>
</tr>
<tr>
<td>Waterloo</td>
<td>We are local too</td>
</tr>
<tr>
<td>City</td>
<td>Comment</td>
</tr>
<tr>
<td>----------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Waterloo</td>
<td>Station design is important, as a way of distinguishing stops along the route, especially for those who don't speak/read English well. Place-making/design should be representation of the neighbourhood particularly for areas without a specific landmark. My main concern is the timely/easy/seamless connection of the bus routes into the stops. In order to convince &quot;suburbia&quot; to get out of their cars, LRT should be a quicker/safer option than driving their own vehicle. In addition, the needs of an aging population needs to be considered in terms of signage &amp; announcements</td>
</tr>
<tr>
<td>Waterloo</td>
<td>The design of each station should have visual and meaning reference to it's surroundings - context - genius loci. The Anchor Walls should mirror the building materials around them. E.g. Willis Way is in front of Seagram Lofts, 2 huge buff brick buildings. Field stone is nice and is found in Waterloo Region but not near any stops. The same goes for the structure of stops - there should not be steel + glass everywhere if there is no reference in view. The overall design might have common features but each one should have unique details. There is a huge opportunity in the station design to create and reinforce the sense of place in the region. Please don't blow it.</td>
</tr>
<tr>
<td>Unknown</td>
<td>Great design and presentation</td>
</tr>
<tr>
<td>Unknown</td>
<td>Excellent presentation. This will be great for the city and a benchmark for the future</td>
</tr>
<tr>
<td>City</td>
<td>Comment</td>
</tr>
<tr>
<td>-----------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Kitchener</td>
<td>I think it is crucial to test out the overall feel of the design either on a physical mock-up (preferable) or a 3-D walkthrough with a focus group. This needs to be done at an early stage to catch issues of the feeling of the space, affordances of the design, etc. It's difficult to judge the user experience with an image and this way identify good improvement opportunities, and same on design iteration. Every station should have transit maps that clearly answer not only &quot;what is the system?&quot; but also &quot;where am I and where can I get from here?&quot;. In London, these are called epid maps, and they're fantastically helpful. Please don't degrade the experience of this system with advertising. If possible prevent the ability to put ads on the station by not having any suitable surfaces - assuming it's possible for ads to be added in later. Generally the designs seem reasonable and cover the bases. I do worry that the barriers will be claustrophobic and negatively affect pedestrian connectivity. How about consideration of a tall canopy/overhang over the whole platform (+ train)? I think that would be more inviting and better convey visually that the station is protected from the elements as well as actually protecting better from rain. I think generally, good, usable long-term design should be preferred over something flashy, that will look dated in ten years or just tacky, or for that matter, over something that will physically break down easily.</td>
</tr>
<tr>
<td>Unknown</td>
<td>No places where birds will roost, nest or perch AND then poop on things.</td>
</tr>
<tr>
<td>Waterloo</td>
<td>Needed is details of streets running off Caroline such as Fullerton and Norman. What exactly are the intersections with Caroline? Will these be dead-ended?</td>
</tr>
<tr>
<td>Unknown</td>
<td>R&amp;T Park stop is a curious option considering low demand for ridership. However, by McCormick there is extreme demand for ridership and yet no stop. GRT Route 9 is not anywhere sufficient to meet this demand even if the buses run at 15 minute intervals. Why is there no plan being made publicly to address this concern? If a stop is not being constructed there, is there plans to run a bus route from the current Ixpress stop on McCormick to the LRT stop at R&amp;T Park?</td>
</tr>
<tr>
<td>City</td>
<td>Comment</td>
</tr>
<tr>
<td>------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Waterloo</td>
<td>It is extremely important to get public input and have public engagement in each stop. If people have input and can feel they are engaged with LRT, they will be more likely to use LRT and talk positively about it. Engagement = interest = commitment = use!</td>
</tr>
<tr>
<td></td>
<td>Design of the LRT stops: Should be modern leading edge world class; design should get Waterloo Region talked about all over the world.</td>
</tr>
<tr>
<td></td>
<td>Public Art: essential. again excellence should be key. Visionary, exciting, talked about, fabulous public art should be our goal. How cool would that be? Very!</td>
</tr>
<tr>
<td>Unknown</td>
<td>Worried about safety of families using Waterloo Park. Tracks are very close to walking path. Park is divided and need safe access to each side (diagram provided)</td>
</tr>
<tr>
<td>Unknown</td>
<td>Great Job! Looking forward to the future</td>
</tr>
<tr>
<td>Unknown</td>
<td>Poor spot for display panel. Some parties dominated discussion of experts! Staff should use diagram. I am in support</td>
</tr>
<tr>
<td>Kitchener</td>
<td>Frequency of service is very important to make taking transit viable. Missing a bus that runs every 30 minutes has ruined my day</td>
</tr>
<tr>
<td>Unknown</td>
<td>When the bus stops, need to have the bus number announced to direction. Important for the independence of the visually impaired</td>
</tr>
<tr>
<td>Kitchener</td>
<td>Keep up the great work! :)</td>
</tr>
<tr>
<td>Unknown</td>
<td>Hurrah to Waterloo region for going ahead with LRT. Now WR is really a world Region!</td>
</tr>
<tr>
<td>Unknown</td>
<td>Many people need seats - disabled people; pregnant people; people with children etc. Why waste money for people to stand? Add many more seats please.</td>
</tr>
<tr>
<td>Kitchener</td>
<td>I like the green &quot;anchor wall&quot; but am concerned about upkeep in our climate. How about a &quot;cool misting&quot; station on some steps for increasingly hot summers?</td>
</tr>
<tr>
<td>Unknown</td>
<td>Still think it should be overhead - less costly!</td>
</tr>
<tr>
<td>Unknown</td>
<td>Thanks for all the work you've done on behalf of all citizens! Please be vigilant that the stops and trains themselves don't become billboards. We don't want a commercialized, kitschy public transit system. Thanks again</td>
</tr>
<tr>
<td>City</td>
<td>Comment</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Unknown</td>
<td>There is no provision for suitcases on the cars. How about one spot on the last car. Why take Ion to the train station if suitcases are a hassle to take on Ion cars??</td>
</tr>
<tr>
<td>Unknown</td>
<td>LARGE PRINT! Please</td>
</tr>
<tr>
<td>Unknown</td>
<td>TVM ticket validators to be in the same place on all platforms</td>
</tr>
<tr>
<td>Unknown</td>
<td>I am proud to be part of a community that is so forward thinking! But please, spend wisely</td>
</tr>
<tr>
<td>Unknown</td>
<td>Great Everything Ha</td>
</tr>
</tbody>
</table>
| Unknown  | 1) Seats - model seems to have plywood covered with cloth. Much too uncomfortable to sit on  
2) Some seats are so high off the floor a short adult's feet do not touch floor  
3) For standees, the metal bar to hang onto is too high for arm comfort for any distance  
4) Ticket for entry on Ion integrated with GRT buses: if honour system does that mean buying a pass for a definite time period? because with tickets they are given to bus so they can't be used again |
Region of Waterloo

Transportation And Environmental Services

Rapid Transit

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

Date: January 7, 2014  File Code: A02-30/PW

Subject: Stage 1 Light Rail Project – Infrastructure Cost Sharing with Area Municipalities

Recommendation:

That the Regional Municipality of Waterloo enter into separate formal agreements with the City of Waterloo and the City of Kitchener with respect to the cost sharing for utilities, betterments and any corridor streetscape priorities relating to the Stage 1 Light Rail Project as identified and agreed to by both local municipalities respectively and as described in Report E-14-003/F-14-001, subject to the agreements being satisfactory to the Commissioner of Transportation and Environmental Services, the Chief Financial Officer and Regional Solicitor.

Summary: Nil

Report:

On June 15, 2011 Regional Council approved light rail transit ("LRT") as the preferred technology from Conestoga Mall in the City of Waterloo to the Ainslie Street Terminal in the City of Cambridge. The approved Stage 1 of the project will include LRT from Conestoga Mall in Waterloo to Fairview Park Mall in Kitchener and is slated for construction in 2014 with completion in 2017.

Construction of Stage 1 will have an impact on the existing municipal utilities which are currently located within the proposed rapid transit corridors in the City of Kitchener and the City of Waterloo. Because of the highly disruptive nature of any future utility work, this infrastructure is being relocated to mitigate both the future capital and future operational impacts.
In the fall of 2011, Region of Waterloo staff met with staff from the area municipalities to provide guiding principles of separation between existing municipal infrastructure and the proposed LRT rapidway. At the time, it was agreed that a Memorandum of Understanding ("MOU") be created to outline the general principles for cost sharing for the accommodation or relocation of municipal utilities as it relates to the LRT project.

To capture the context of the cost sharing discussion and decisions, staff developed a MOU between the Region and the Cities of Waterloo and Kitchener. The agreed to guiding principles for cost sharing were presented to Regional Council under Report E-12-057 dated May 8, 2012, and is referenced under Appendix “A”.

Over the past year, Regional and City staff have been working collaboratively to establish a cost sharing agreement regarding underground infrastructure improvements, betterments and any requisite streetscape design along the ION corridor. This effort has culminated in Final Cost Allocations that have been shared with both municipalities and are based on the guiding principles for cost sharing which were presented to Regional Council under Report E-12-057 dated May 8, 2012. The Final Cost Allocations will be formalized in a legal agreement subject to Region Council approval.

The Final Cost Allocations addresses the following:

1. General principles of cost sharing for relocation of municipal utilities;
2. Betterment projects identified by the Cities for inclusion in the LRT project;
3. Streetscape opportunities identified by the Cities for inclusion in the LRT project; and,
4. Respective cost sharing apportionment between the Region and the Cities.

City of Waterloo and the City of Kitchener staff have reviewed the LRT functional plans, and using the guiding principles developed between the Region and the area municipalities, a determination of which infrastructure will need to be relocated has been made. By applying the principles summarized under Report E-12-057, estimates have been established for each of the parties.

The Region has provided the Cities with Class C+/B- cost estimates (reflects +15%/-25% accuracy) of the City share of the RT costs associated with the relocation of the municipal services and betterments. Given the nature of the design-build contract (e.g. a lump sum contract), the Region will not be providing a next level of estimates once an LRT proponent is retained by Region. The respective shares of the costs are presented under Sections (1) and (2).

1) City of Kitchener

A. Cost of City Infrastructure Relocations

The proposed costs for the City of Kitchener (based on age of the infrastructure) for the relocation of the City’s watermains, sanitary, and storm sewers to be affected by the LRT project, have been included in the cost sharing proposal and summarized in Table 1.1 below:
### Table 1.1: Cost of City of Kitchener Utility Relocations

<table>
<thead>
<tr>
<th></th>
<th>City Share of Existing Utilities</th>
<th>Region Share of Existing Utilities</th>
<th>Total Cost of Existing Utilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>$1,018,600</td>
<td>$5,551,500</td>
<td>$6,570,100</td>
</tr>
<tr>
<td>Storm</td>
<td>$1,037,900</td>
<td>$3,347,000</td>
<td>$4,384,900</td>
</tr>
<tr>
<td>Sanitary</td>
<td>$1,067,000</td>
<td>$1,593,000</td>
<td>$2,660,000</td>
</tr>
<tr>
<td>Surface Works</td>
<td>$1,468,000</td>
<td>$1,468,000</td>
<td>$1,468,000</td>
</tr>
<tr>
<td></td>
<td><strong>$4,591,500</strong></td>
<td><strong>$10,491,500</strong></td>
<td><strong>$15,083,000</strong></td>
</tr>
</tbody>
</table>

Region and the City of Kitchener staff have agreed to the updated unit costs and cost estimates for the municipal services as set out in Table 1.1.

b. **Cost of City Betterments**

The City of Kitchener has requested a number of infrastructure-related betterments. These betterments refer to any work elements requested by the City of Kitchener to be included in the LRT scope of work for the sole benefit and cost of the City (i.e. increase in size of infrastructure).

The list of betterments the City of Kitchener has requested to be incorporated into the LRT project and which are to be fully funded by the City, are listed in Table 1.2 below:

### Table 1.2: Cost of City of Kitchener Betterments

<table>
<thead>
<tr>
<th>Location</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>King St. West</td>
<td>• Upsize sanitary to 300mm diameter</td>
</tr>
<tr>
<td></td>
<td>• Upsize watermain to 300mm diameter</td>
</tr>
<tr>
<td>Duke St. - College St. to Queen St.</td>
<td>• Full road reconstruction</td>
</tr>
<tr>
<td></td>
<td>• Sanitary Sewer Replacement</td>
</tr>
<tr>
<td></td>
<td>• Watermain Replacement</td>
</tr>
<tr>
<td>Duke St. - Queen St. to Frederick St.</td>
<td>• Sanitary Sewer Replacement</td>
</tr>
<tr>
<td></td>
<td>• Watermain Replacement</td>
</tr>
<tr>
<td>Charles St. – Cedar St. to Borden Ave.</td>
<td>• New 300mm watermain required due removal of servicing from Regional</td>
</tr>
<tr>
<td>Location</td>
<td>Scope</td>
</tr>
<tr>
<td>---------------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ottawa St. – Charles St. to Mill St.</td>
<td>• Replace 150mm watermain with 300mm watermain including 300 mm stubs at intersections</td>
</tr>
<tr>
<td>Mill St. – Ottawa St. to Huron Spur</td>
<td>• Replace Watermain</td>
</tr>
<tr>
<td>Hayward Ave. – Schneider Creek to CN Tracks</td>
<td>• Surface Reconstruction</td>
</tr>
<tr>
<td></td>
<td>• Watermain Replacement</td>
</tr>
<tr>
<td>Courtland Ave.</td>
<td>• Combine 750mm and 1200mm into a single pipe crossing</td>
</tr>
<tr>
<td>Borden Ave. – Courtland Ave. to Grenville Ave.</td>
<td>• Replacement of 100mm watermain with 150mm watermain</td>
</tr>
</tbody>
</table>

The proposed cost sharing arrangement between the City and the Region for any betterment works to be included as part of the LRT project has been summarized in Table 1.3 below:

**Table 1.3: Cost of City of Kitchener Betterments**

<table>
<thead>
<tr>
<th>City of Kitchener Betterments</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>$1,526,400</td>
</tr>
<tr>
<td>Storm</td>
<td>$0</td>
</tr>
<tr>
<td>Sanitary</td>
<td>$98,000</td>
</tr>
<tr>
<td>Surface works</td>
<td>$250,000</td>
</tr>
<tr>
<td>Streetscaping</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>$1,874,400</td>
</tr>
</tbody>
</table>

The Region and the City of Kitchener have agreed on the cost estimates for the betterments.

c. **Cost of City Streetscape Priority Betterments**

Based on discussion with the Region and understanding the scope, City staff has informed the Region staff that the City is satisfied with the “like-for-like” replacement
(i.e. any existing streetscape elements to be replaced to a comparable condition) as identified in the LRT functional design plans shared with them.

**Total Cost for City of Kitchener**

The total City of Kitchener’s component of the project cost is $6,465,900 and is comprised of the costs of the City infrastructure relocations and City betterments. The Region and the City have agreed on the updated unit costs and cost estimates for the municipal services and betterments. The total cost constitutes the final amount payable by the City of Kitchener to the Region based on the current negotiated schedule of work and is considered to be non-refundable.

**Table 1.4: Summary of Costs for the City of Kitchener**

<table>
<thead>
<tr>
<th>City Share of Existing Utilities</th>
<th>City of Kitchener Betterments</th>
<th>Total Cost to the City of Kitchener</th>
<th>Region Share of Existing Utilities</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>$1,018,600</td>
<td>$1,526,400</td>
<td>$2,545,000</td>
<td>$5,551,500</td>
</tr>
<tr>
<td>Storm</td>
<td>$2,037,900</td>
<td>$398,000</td>
<td>$5,435,000</td>
<td>$7,929,000</td>
</tr>
<tr>
<td>Sanitary</td>
<td>$1,067,000</td>
<td>$250,000</td>
<td>$2,817,000</td>
<td>$4,067,000</td>
</tr>
<tr>
<td>Surface Works</td>
<td>$1,468,000</td>
<td>$0</td>
<td>$1,468,000</td>
<td>$1,468,000</td>
</tr>
<tr>
<td>Streetscaping</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$4,591,500</strong></td>
<td><strong>$1,874,400</strong></td>
<td><strong>$6,465,900</strong></td>
<td><strong>$10,491,500</strong></td>
</tr>
</tbody>
</table>

(2) **City of Waterloo**

**a. Cost of City Infrastructure Relocations**

The proposed costs for the City of Waterloo (based on age of the infrastructure) for the relocation of the City’s watermains, sanitary, and storm sewers to be affected by the LRT project, have been included in the cost sharing proposal and summarized in Table 2.1 below:

**Table 2.1: Cost of City of Waterloo Utility Relocations**

<table>
<thead>
<tr>
<th>City Share of Existing Utilities</th>
<th>Region Share of Existing Utilities</th>
<th>Total Cost of Existing Utilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>$564,400</td>
<td>$391,500</td>
</tr>
<tr>
<td>Storm</td>
<td>$773,800</td>
<td>$1,673,800</td>
</tr>
<tr>
<td>Sanitary</td>
<td>$410,900</td>
<td>$926,400</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,749,100</strong></td>
<td><strong>$2,991,700</strong></td>
</tr>
</tbody>
</table>

Region and the City of Waterloo staff have agreed on the updated unit costs and cost estimates for the municipal services.

**b. Cost of City of Waterloo Betterments**

The City of Waterloo has requested a number of infrastructure-related betterments. These betterments refer to any work elements requested by the City of Waterloo to be included in the LRT scope of work for the sole benefit and cost of the City (i.e. increase in size of infrastructure).
The list of betterments, the City of Waterloo has requested to be incorporated into the LRT project and which are to be fully funded by the City, are listed in Table 2.2 below:

### Table 2.2: List of City of Waterloo Betterments

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Location</th>
<th>Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>Betterment</td>
<td>Box culvert (south of Northfield Drive LRT stop on Waterloo Spur)</td>
<td>• Stormwater box culvert</td>
</tr>
<tr>
<td>776</td>
<td>Watermain on Erb St. (Caroline St. to Limit of work on Erb St.) +/- 150 m</td>
<td>• Watermain works added</td>
</tr>
<tr>
<td>Betterment</td>
<td>Watermain on King St. – Waterloo Town Square to Erb St. Intersection</td>
<td>• Watermain works added</td>
</tr>
<tr>
<td>Betterment</td>
<td>Sanitary Sewer Siphon Removal</td>
<td>• Sanitary redirection</td>
</tr>
<tr>
<td>Betterment</td>
<td>Alexandra Ave. Watermain Upsize</td>
<td>• Watermain works added</td>
</tr>
<tr>
<td>764</td>
<td>Willis Way at Regina St. and Caroline St. Sanitary sewer upsizing</td>
<td>• Sanitary sewer upsizing</td>
</tr>
<tr>
<td>770, 794 &amp; 795</td>
<td>Water, Storm, Streetscape on Caroline St. (Erb St. to William St.)</td>
<td>• Water and Storm Replacement</td>
</tr>
<tr>
<td>Betterment</td>
<td>John St. Upsize 100mm watermain to 150mm watermain</td>
<td>• Watermain works added</td>
</tr>
<tr>
<td>Betterment</td>
<td>Union St. Upsize 100mm watermain to 150mm</td>
<td>• Watermain works added</td>
</tr>
<tr>
<td>831</td>
<td>Union St. (King St. to Bowman St.)</td>
<td>• Full road reconstruction</td>
</tr>
</tbody>
</table>

The proposed cost sharing arrangement between the City and the Region for any betterment works to be included as part of the LRT project has been summarized in Table 2.3 below:

### Table 2.3: Cost of City of Waterloo Betterments

<table>
<thead>
<tr>
<th>City of Waterloo Betterments</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>$163,800</td>
</tr>
<tr>
<td>Storm</td>
<td>$24,400</td>
</tr>
<tr>
<td>Sanitary</td>
<td>$221,500</td>
</tr>
<tr>
<td>Surface works</td>
<td>$98,700</td>
</tr>
<tr>
<td>Streetscaping</td>
<td>$1,580,200</td>
</tr>
<tr>
<td>Total</td>
<td>$2,088,600</td>
</tr>
</tbody>
</table>
The Region and the City of Waterloo have agreed on the cost estimates for the betterments.

c. Cost of City Streetscape Priority Betterments

Streetscape opportunities requested by the City to be incorporated into the LRT project were: (i) proposed light standards locations/treatments or possible alternatives that do not prevent future opportunities for incorporation, (ii) location and extent of sidewalk banding; and, (iii) landscaping.

Based on a comprehensive review of the baseline design already included as part of the LRT project, the Region has calculated the incremental cost for the streetscape opportunities that are considered above and beyond the scope of LRT works. These incremental costs shall be funded by the City of Waterloo based on the preferred scenario identified by the City.

The preferred streetscaping opportunities to be included in the LRT project scope have been identified in the cost sharing proposal and the reimbursable costs from the City of Waterloo total: $1,580,200.

Total Cost for City of Waterloo

The total cost to the City of Waterloo will be $3,837,700 and is comprised of the costs of the City Infrastructure relocations, City betterments and streetscape priority betterments. Region and the City staff have agreed on the updated unit costs and cost estimates for the municipal services, betterments and streetscape opportunities. The total cost constitutes the final amount payable by the City of Waterloo to the Region based on the current negotiated schedule of work and is considered to be non-refundable.

Table 1.4: Summary of Costs for the City of Waterloo

<table>
<thead>
<tr>
<th></th>
<th>City Required Cost Sharing of Existing Utilities</th>
<th>City of Waterloo Betterments</th>
<th>Total Cost to the City of Waterloo</th>
<th>Region Required Cost Sharing of Existing Utilities</th>
<th>Total Costs of Existing Utilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>$564,400</td>
<td>$163,800</td>
<td>$728,200</td>
<td>$391,500</td>
<td>$1,119,700</td>
</tr>
<tr>
<td>Storm</td>
<td>$773,800</td>
<td>$24,400</td>
<td>$798,200</td>
<td>$1,673,800</td>
<td>$2,472,000</td>
</tr>
<tr>
<td>Sanitary</td>
<td>$410,900</td>
<td>$221,500</td>
<td>$632,400</td>
<td>$926,400</td>
<td>$1,558,800</td>
</tr>
<tr>
<td>Surface Works</td>
<td>$0</td>
<td>$98,700</td>
<td>$98,700</td>
<td>$0</td>
<td>$98,700</td>
</tr>
<tr>
<td>Streetscaping</td>
<td>$0</td>
<td>$1,580,200</td>
<td>$1,580,200</td>
<td></td>
<td>$1,580,200</td>
</tr>
<tr>
<td></td>
<td>$1,749,100</td>
<td>$2,088,600</td>
<td>$3,837,700</td>
<td>$2,991,700</td>
<td>$4,740,800</td>
</tr>
</tbody>
</table>

(3) Region and Area Municipality Commitments

Other commitments agreed in principle with the Region and local municipalities as related to design, parking, lighting, other treatments, road conveyance, handling of contamination encountered during construction, payment schedule and other matters, will be articulated in formal separate agreements.

Staff from both Cities have approached their respective Councils to advise of the status of the municipal utility relocation and other LRT-related discussions with the Region and have received approval to work with the Region to enter into separate formal
agreements to be executed by all parties. City of Waterloo Council has requested that the agreement(s) include provisions with respect to cost-sharing and other agreed upon matters.

**Next Steps**

Staff anticipates that the next steps will include:

January - February 2014: Staff including Legal Counsel prepare formal agreement between the Region and Cities.

March 2014: Signing of legal agreements (subject to final approval of Commissioner of Transportation and Environmental Service, CFO, and Legal Services).

**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:**

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.

<table>
<thead>
<tr>
<th></th>
<th>Total City Of Kitchener Costs</th>
<th>Total City Of Waterloo Costs</th>
<th>Region Share of Existing Utilities</th>
<th>Total Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>$2,545,000</td>
<td>$728,200</td>
<td>$5,943,000</td>
<td>$9,216,200</td>
</tr>
<tr>
<td>Storm</td>
<td>$1,135,900</td>
<td>$798,200</td>
<td>$5,020,800</td>
<td>$6,954,900</td>
</tr>
<tr>
<td>Sanitary</td>
<td>$1,317,000</td>
<td>$632,400</td>
<td>$2,519,400</td>
<td>$4,468,800</td>
</tr>
<tr>
<td>Surface works</td>
<td>$1,468,000</td>
<td>$98,700</td>
<td>$0</td>
<td>$1,566,700</td>
</tr>
<tr>
<td>Streetscaping</td>
<td>$0</td>
<td>$1,580,200</td>
<td>$0</td>
<td>$1,580,200</td>
</tr>
<tr>
<td></td>
<td><strong>$6,465,900</strong></td>
<td><strong>$3,837,700</strong></td>
<td><strong>$13,483,200</strong></td>
<td><strong>$23,786,800</strong></td>
</tr>
</tbody>
</table>

Total costs of $23.8 million have been incorporated into the LRT project as part of the work that the successful proponent will carry out as part of the DBFOM contract.

**Other Department Consultations/Concurrence:**

This report was prepared with input from Transportation and Environmental Services and Finance.

**Attachments:**

DOCS1527989

Prepared By:  Samer Inchasi, Manager, RT Coordination, Rapid Transit  
Darshpreet Bhatti, Director, Rapid Transit  
Calvin Barrett, Director, Financial Services and Development Financing

Approved By:  Thomas Schmidt, Commissioner of Transportation and Environmental Services  
Craig Dyer, Chief Financial Officer
APPENDIX “A”

Report E-12-057: Municipal Utility Relocation – Cost Sharing for Rapid Transit
REGION OF WATERLOO
TRANSPORTATION AND ENVIRONMENTAL SERVICES
Rapid Transit

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

DATE: May 8, 2012

FILE CODE: A02-30/PW

SUBJECT: MUNICIPAL UTILITY RELOCATION – COST SHARING FOR RAPID TRANSIT

RECOMMENDATION:
For information only

SUMMARY:
On June 15, 2011 Regional Council approved light rail transit (“LRT”) as the preferred technology from Conestoga Mall in the City of Waterloo to the Ainslie Street Terminal in the City of Cambridge. The approved Stage 1 of the project will include LRT from Conestoga Mall in Waterloo to Fairview Park Mall in Kitchener and is slated for construction in 2014 with completion in 2017. Stage 2 of the project is from Fairview Park Mall in Kitchener to the Ainslie Street Terminal in Cambridge. Although the construction timing of Stage 2 is unknown, the Environmental Process is slated to commence in 2014.

Construction of Stage 1 will warrant relocation or replacement of some of the existing municipal utilities which are located within the proposed rapid transit corridors in Kitchener and Waterloo, while Stage 2 will warrant relocation or replacement of some of the existing municipal utilities which are currently located within the proposed rapid transit corridors in the south part of Kitchener and in Cambridge. A map of the Stage 1 and Stage 2 corridors is attached hereto and marked as Schedule “A”.

DOCS1527989
Over the last several months staff from each of the City of Waterloo, the City of Kitchener, the City of Cambridge and the Region of Waterloo have collaborated with one another on the general principles for when relocation or replacement of existing municipal infrastructure is required. Some of the existing infrastructure along the rapid transit corridors is nearing or exceeding its anticipated life expectancy and is already budgeted by the local municipality for replacement due to its age/condition, while some infrastructure needed to be relocated due to the construction and operation of the rapid transit system.

Along with this, cost sharing principles for the accommodation or relocation of municipal utilities as it relates to the construction and operation of the LRT project were investigated. To capture the context of the cost sharing discussion and decisions staff is proposing to develop a Memorandum of Understanding (“MOU”) between the Region and the Cities of Waterloo and Kitchener as they both have a significant amount of existing buried infrastructure which will warrant relocation or replacement during Stage 1 of the LRT. Although City of Cambridge staff have been involved in discussions with the Region of Waterloo and the Cities of Waterloo and Kitchener, and their comments have been integral to the decisions made to date, it has been agreed by staff from the Region of Waterloo and the City of Cambridge that a MOU for the cost sharing for the accommodation or relocation of municipal utilities in Cambridge will be pursued closer to the time when construction of Stage 2 LRT, which goes to the Ainslie Street Terminal in Cambridge, is to occur.

REPORT:

Background

Throughout 2011 and 2012, Regional staff has been meeting with staff from local area municipalities for discussion about the construction and operation of the proposed rapid transit system and its influence on existing municipal infrastructure. Although the initial discussions which took place were based on “functional level” details which were provided through the drawings generated by the Transit Project Assessment (“TPA”), additional details about location, age and in some cases the known condition of existing buried infrastructure within the rapid transit corridors was provided. At this early stage, it was apparent that some of the existing infrastructure would require replacement due to its age/condition, while some infrastructure needed to be relocated due to the construction and operation of the rapid transit system. Although some of the existing infrastructure along the rapid transit corridors, which warrants relocation or replacement, is nearing or exceeding its anticipated life expectancy local municipalities had already budgeted and proposed replacement of the aged infrastructure within their capital programs.

Guiding principles relating to separation between the LRT rapidway and existing/proposed/relocated watermains and sanitary sewers have been developed between the Region of Waterloo and the area municipalities. In general, the guiding principles identify that existing watermains and sanitary sewers need to be relocated out from under the proposed rapidway to a horizontal location of at least 2.5 metres from the rapidway. It is felt that if these separations can be achieved, then operations and maintenance staff can safely work on the buried infrastructure while minimizing disruption to the operation of the LRT.
During the summer and fall of 2011, a detailed topographic survey of the Stage 1 LRT corridors, which is from Conestoga Mall in Waterloo to Fairview Park Mall in Kitchener, was completed. Included in the topographic survey was a comprehensive field locate of all existing underground municipal and private infrastructure. Once completed, the rapid transit functional design was overlaid such that a more accurate assessment of whether relocation or replacement of existing municipal and private infrastructure could be completed. This information was provided to staff of the cities as well as all other private utilities which are tenant to the rapid transit corridors.

In the fall of 2011, Region of Waterloo staff met again with staff from the area municipalities to reach agreement on guiding principals of separation between existing municipal infrastructure and the proposed LRT rapidway. At this time it was also agreed that a Memorandum of Understanding (MOU) be created to outline the general principles for cost sharing for the accommodation or relocation of municipal utilities as it relates to the LRT project.

If it is determined that existing water and/or sanitary infrastructure needs to be relocated to accommodate the construction and/or operation of the LRT project, the following table applies:

<table>
<thead>
<tr>
<th>Age (from 2014)</th>
<th>Years of Construction</th>
<th>Proposed Cost Sharing</th>
</tr>
</thead>
</table>
| 1-40           | 1974 to 2013          | • Region of Waterloo pays 100% to relocate, rehabilitate, replace, and/or reinforce, in kind, except where monies are currently allocated in the municipal 10 year program.  
• Where monies are currently allocated, replacement is to be 100% funded from these monies. Region of Waterloo would only fund the additional costs related to relocation.  
• Area Municipality pays 100% for any upgrade in size and addition or change of appurtenances. |
| 41-80          | 1973 to 1934          | • Region of Waterloo shares 50% of the cost with the area municipality to relocate, rehabilitate, replace, and/or reinforce, in kind, except where monies are currently allocated in the municipal 10 year capital program.  
• Where monies are currently allocated, replacement is to be 100% funded from these monies. Region of Waterloo would only fund the additional costs related to relocation.  
• Area Municipality pays 100% for any upgrade in size and addition or change of appurtenances. |
Over 80 years | Prior to 1934
---|---
- Area Municipality pays 100%. Area Municipality pays 100% for any upgrade in size and addition or change of appurtenances.

The City of Waterloo and the City of Kitchener have reviewed the detailed topographic survey drawings, and using the guiding principles developed between the Region and the area municipalities, a determination of which infrastructure will need to be relocated has been made. By applying the principles found in the table above, the City of Waterloo and the City of Kitchener have estimated both their share and the Region’s share for relocation of their infrastructure. Staffs from both cities have recently approached their Councils to advise of the status of the municipal utility relocation discussions with the Region and to seek approval to work with the Region in the pursuit of a MOU.

**Next Steps**

Staff anticipates that the next steps will include:

- May-Aug 2012: refine the functional design to confirm utility relocation needs;
- June 2012: finalize terms of MOU with City of Waterloo and City of Kitchener;
- July-September 2012: discussion with Cities relating to timing/responsibilities for work identified; and
- October 2012: prepare final agreement for Council approval.

**CORPORATE STRATEGIC PLAN:**

The 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:**

The Region of Waterloo rapid transit budget includes $130 million for its share of costs to relocate existing municipal and private utility infrastructure associated with Stage 1 of the LRT. It is anticipated that the Region’s share of all municipal and private utility relocation costs associated with Stage 1 of the LRT will not exceed the stated budget.

**OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:**

The rapid transit project team includes representatives from Regional Council, the CAO’s office, Communications, Community Planning, Finance, Legal, Public Health, Social Services, Transit Development, Transportation and Environmental Services, Transportation Planning and Transit Services. Consultation has taken place with staff from Transportation Division as well as Design and Construction Division.
ATTACHMENTS

Appendix A – Region of Waterloo LRT Key Plan

PREPARED BY:  Greg Proctor, Project Manager, Rapid Transit

APPROVED BY:  Thomas Schmidt, Commissioner, Transportation and Environmental Services
Region of Waterloo

TRANSPORTATION AND ENVIRONMENTAL SERVICES

Rapid Transit

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

Date: January 7, 2014

File Code: A02-30/PW

Subject: Hydro One Transmission Line Relocation for LRT Project Courtland Avenue to Fairview Park Mall

Recommendation:

That the Regional Municipality of Waterloo enter into a Transmission Line Relocation Agreement with Hydro One Networks Inc. (HONI) to bury the existing 115 kV transmission line on the Hydro corridor between Courtland Avenue and Fairview Park Mall, in form and content satisfactory to the Commissioner of Transportation and Environmental Services, the Regional Solicitor and the Chief Financial Officer at an estimated cost of $25,011,000.

This relocation will allow for the construction of the Region’s LRT system on the HONI corridor between Courtland Avenue and the Fairview Park Mall RT station.

Summary:

Nil

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, LRT construction is planned to commence in 2014 with system operations beginning in 2017. Adherence to the project schedule is critical because delays have the potential to result in scope creep and increased costs. One of the key project activities involves removing the existing Hydro One 115 kV
overhead transmission conductors and towers, and replacing them with buried infrastructure on the northern half of their corridor, between Courtland Avenue and Fairview Park Mall. This will allow the Region to install a portion of its LRT system on the southern half of the corridor. The general area is shown in Appendix A.

In May 2013 Council approved Report E-13-062 authorizing staff to enter into an agreement with HONI to finalize their design, prepare tender documents, manage the tendering process and provide a Class A cost estimate to the Region for the total cost of the HONI relocation work.

In September 2013 HONI issued a tender for the construction of concrete encased duct banks, manholes, supply and installation of 115 kV cables. The tender closed in October of 2013. They received a total of five tenders and are recommending the award to the contractor with the highest technical evaluation and the lowest tendered price.

The Class ‘A’ Estimate (+/- 10%) provided by HONI for the relocation is as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Management</td>
<td>$690,000</td>
</tr>
<tr>
<td>Contractor lump sum price</td>
<td>$18,087,000</td>
</tr>
<tr>
<td>Hydro One Costs*</td>
<td>$6,234,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$25,011,000</td>
</tr>
</tbody>
</table>

*includes supply and installation of transition structures, tower line removal, commissioning of new underground infrastructure, contingency and overheads.

In early 2012 HONI had provided a Class ‘B’ Estimate (+/- 25%) of $20,729,000 for the relocation. The difference in these cost estimates is due to increased scope of HONI work, which consists of an additional duct structure and manholes to provide for future supply circuits to the KW area, larger transition structures at the Courtland end, some additional directional drilling to minimize disruption due to open trenching in the Wilson Avenue area, as well as tower reinforcement at the termination tower at Fairview Park Mall.

The requirement for the additional duct structure and manholes for future circuits was not identified or anticipated at the time of the Class ‘B’ Estimate, and represents a significant increase in scope. In order to address this change in scope, Region staff met with the Province and senior management at HONI to consider options that would allow deferring this additional requirement to some future date. Based on these discussions, it was agreed that it would be more cost effective to perform the additional work as part of the current contract.

In addition, letting a separate tender in the future would lead to additional mobilization and demobilization costs for the contractor, increased costs due to inflation and more importantly the possibility that the LRT might have to be taken out of service for an extended period of time to facilitate the construction of the second duct structure.

HONI is now ready to proceed with the relocation work, which consists of a combination of contacted and self performed work. The contractor will install the duct banks and
manholes, supply and install the cables and accessories. HONI crews will commission the new infrastructure, install the termination structures to connect the cables to the overhead lines and then remove four transmission towers and associated overhead wires.

HONI staff has informed the Region that they are required to present the relocation project to their board meeting for approval in February, 2014. In order for the HONI board to approve the project, Region approval for the cost of the relocation and a signed Transmission Line Relocation Agreement must be in place prior to the February board meeting.

Subject to Council approval, the relocation work is expected to start in early 2014 and be completed in mid to late 2015, which will allow LRT construction to commence on the Hydro corridor between Courtland Avenue and the Fairview Park Mall RT station stop. HONI currently has provided a completion date of September 2015, which needs to be improved to meet the LRT schedule. HONI has agreed to work with the Region’s timeline; however obtaining transmission line outages between June and September can be problematic, due to weather related transmission and generation constraints on the Provincial grid. Timely approval of the relocation project is essential so as not to negatively impact the LRT construction schedule.

Staff recommend that Council approve the cost of the relocation project and enter into a Transmission Line Relocation Agreement with HONI so that the relocation work can commence in a timely manner to meet the overall project schedule.

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

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.

The estimated total cost to relocate the Hydro One towers is $25,011,000 and was included in the early works estimate previously presented to Council. The overall costs will be funded from the approved Rapid Transit project budget.

Other Department Consultations/Concurrence:

This report was prepared with input from Transportation and Environmental Services and Finance.
Prepared By: Derick Finn, Manager Rapid Transit Engineering

Approved By: Thomas Schmidt, Commissioner Transportation and Environmental Services

Attachments: Appendix A – Study Area
Region of Waterloo

Transportation and Environmental Services

Water Services

To: Chair Jim Wideman Members of the Planning and Works Committee
Date: January 7, 2014
File Code: E13-20
Subject: Additional Information - Biosolids Handling Contract for the Waterloo Wastewater Treatment Plant Construction Project

Recommendation: For Information

Summary: Nil

Report:

Waterloo WWTP Upgrade Project Background

At the December 3, 2013 Planning and Works Committee meeting a request was made to provide additional information regarding contract extensions to Contract 2009-155 titled Dewatering, Haulage and Disposal of Biosolids from the Waterloo Wastewater Treatment Plant (WWTP).

The Region’s approved Wastewater Master Plan 2007 and Biosolids Master Plan 2011 recommended upgrades to the Waterloo WWTP to enhance effluent quality, ensure efficient effluent disinfection, comply with federal and provincial requirements for non-acutely toxic effluent, and improve biosolids handling. All these improvements will improve the quality of the treated wastewater being discharged to the Grand River.

In 2008, AECOM was retained by the Region to provide final design, contract administration and site inspection services for the Waterloo WWTP Upgrade project. The upgrades related to this $118 million wastewater project were scheduled to be implemented through four separate general construction contracts namely:
• Contract 1 – Administration Building
• Contract 2 – UV and Blower Buildings
• Contract 3 – Headworks and Biosolids Building
• Contract 4 – Secondary Treatment and Digestion

The work for this project had to be completed while maintaining daily plant operations with minimal disruptions. In order to comply with this requirement, the contracts were scheduled to allow construction contracts to be completed concurrently to reduce the duration of the project’s overall construction phase. Based on this 2008 construction contract staging strategy, the expected completion date for all upgrades at the plant was scheduled for December 31, 2013.

Because of the construction and scheduling complexity of the four construction contracts, prequalification of general contractors was undertaken in advance of tendering for all four contracts.

Construction work under Contracts 1 and 2 commenced in January 2010 and work on these two contracts has now been completed. Construction work under Contracts 3 and 4 commenced in April 2011 and February 2012 respectively. Construction work on both these contracts is currently on-going.

**Additional Work and Construction Schedule Extension**

Contracts 2 and 4 are on the project’s critical path. Therefore, any extension or delay to the work on either of these two contracts would result in an extension to the project’s overall construction period.

Contract 2 was originally scheduled to be completed in September 2011. Because the scoping of the various construction contracts required commencement of Contract 4 to follow the completion of Contract 2, Contract 4 was scheduled to commence in September 2011. Adverse weather conditions and additional construction work delayed the completion of Contract 2 by three months, thus causing a three month delay to the earliest possible construction start date for Contract 4.

The start of construction on Contract 4 suffered an additional three month delay to March 2012 as a result of an extremely long Ministry of Environment (MOE) review and approval period for the Certificate of Approval (Sewage) (CofA) application. As reported in Committee Report E-12-085, the overall impact of these two delay factors was a six month extension to the project’s overall construction period. Once construction work on the digester complex part of Contract 4 commenced, the contractor encountered several unforeseeable existing site conditions that caused a number of extra work items under the contract some of which are described as follows:
a) Mineral deposits had formed within the digester and had to be removed prior to retrofitting the digester.

b) There was no detailed as-built information related to the ballast ring within the secondary digester and it was found to be a continuous ring, as opposed to the standard which is one of segmented sections. Therefore extra work was required to separate the ring into sections so it could be removed.

c) The ballast ring required support while being separated into sections.

The overall effect of this additional work along with other extra work items is that the construction completion of Contract 4 will extend beyond the original contract completion date of January 2, 2014.

The contractor for Contract 4 has submitted claims for contract time extensions associated with the extra work items. Region staff and the project consultant are in the midst of assessing these time extension requests. Although a firm completion date for Contract 4 cannot yet be determined, staff estimates the contract completion date could be as early as spring 2014, or as late as fall 2014, depending on the conclusion of the contract critical path analysis.

The contractor for Contract 3 has also submitted claims for contract time extensions. Region staff and the project consultant are in the midst of assessing these time extension requests. Although a firm completion date for Contract 3 cannot yet be determined, staff estimates the contract completion date could be as late as March 2014, depending on the conclusion of the contract critical path analysis.

**Biosolids Management**

To facilitate continuous operations at the plant, the Region issued a tender T2009-155 titled Dewatering, Haulage and Disposal of Biosolids from the Waterloo Wastewater Treatment Plant (WWTP) following the approach approved under the Biosolids Management Strategy Report (Report E-07-082.1). American Process Group (Canada) Inc., now known as Tervita Corp, was the successful bidder of the tender (Report F-09-058). The terms and conditions of the contractual agreement with Tervita currently remain valid.

On December 11, 2013, Council approved an extension to Tervita’s contract to May 31, 2014 at an estimated cost of $1,268,408.

Tervita’s contract for the temporary biosolids handling does not have to run until Contracts 3 and 4 are entirely completed. After Contract 3 completes its construction
and commissioning of the dewatering equipment, now expected to be by February 28, 2014, and Contract 4 completes its construction and commissioning of the digester equipment, now expected by March 31, 2014, the Region can terminate the Tervita contract at that time without penalty. Because it is currently envisioned that the extra biosolids handling costs under Tervita’s contract will conclude in advance of the likely extended contract completion dates for Contract 3 and Contract 4, staff will not be seeking compensation from either the Contract 3 contractor or the Contract 4 contractor for the extra temporary biosolids handling costs (i.e. extra Tervita contract costs) for this project.

**Corporate Strategic Plan:**

Interim dewatering of biosolids at the Waterloo WWTP contributes to Strategic Focus Area 1: Protect the quality and quantity of our water sources

**Financial Implications:**

Finance Report F-09-058, approved by Council in June 2009, outlined that the original Tervita contract was for a two year term and included a provision to extend the contract by an additional one year term. The original Tervita contract included terms for extensions as the timing of the new biosolids facility commissioning at the plant was unknown at the time of tender for the Tervita contract. An initial 18 month extension for Tervita’s contract to January 31, 2014, was approved by Council in September 2012 (Report E-12-083) (estimated value of $3.75 million) based on construction schedule information provided at that time by the contractor for Contract 3 and the contractor for Contract 4. This revised end date of Tervita’s extended contract was established to coincide with the commissioning of the new biosolids facility being constructed at the Waterloo WWTP under Contracts 3 and 4.

At the December 3, 2013 meeting of Planning and Works Committee, Report E-13-124 recommended a four month time extension to Tervita’s biosolids handling contract from January 31, 2014 to May 31, 2014 (estimated value of $1,268,408). Although Council’s support of this recommendation formally extends Tervita’s contract up to May 31, 2014, current scheduling information from the Contract 3 and 4 contractors indicates Tervita’s biosolids contract is likely to end in late March 2014. Terms of Tervita’s contract allow the Region to terminate this contract before the new May 31, 2014 extended contract date without penalty to the Region.

It should be noted that the cost of biosolids handling under Tervita’s contract should not be considered all as “extra” costs to the Region. If there were no construction activity at the Waterloo WWTP, normal plant operation involves a cost for handling biosolids produced at the plant.
Under normal operating conditions, staff estimates that the Region’s baseline costs to manage biosolids at the Waterloo WWTP represent approximately 45% of Tervita’s contract costs. Therefore, while construction is occurring at the plant and until the new digester equipment is commissioned and fully operational, the Region is paying 55% of Tervita’s contract as an amount above and beyond what it would normally cost to the Region to process and manage the biosolids at the Waterloo WWTP.

Because extra work for the capital construction project at the plant is driving the need to extend Tervita’s contract beyond the contract completion date of January 31, 2014, the entire estimated cost of this extension in the amount of $1,268,408 is being funded from the project capital budget.

A recent review of the $118 million budget for this project now forecasts that upon project completion there will be a projected expenditure under run of $1,500,000 of which $1,268,408 is available to fund these additional biosolids handling costs.

**Other Department Consultations/Concurrence:** Nil

**Attachments:** Nil

**Prepared By:** Trevor Brown, Sr. Project Engineer, Engineering and Wastewater Programs

**Jeff Medd,** Project Manager, Design and Construction

**Approved By:** Thomas Schmidt, Commissioner, Transportation and Environmental Services
<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>05-Jun-13</td>
<td>G. Lorentz</td>
<td>Staff to review signage on Trussler Road/Ira Needles Boulevard</td>
<td>Transportation and Environmental Services</td>
<td></td>
</tr>
<tr>
<td>18-Jun-13</td>
<td>Council</td>
<td>Operation of Raised Crosswalks Study</td>
<td>Transportation and Environmental Services</td>
<td>Mid 2014</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>