



**REGION OF WATERLOO**

**TRANSPORTATION AND ENVIRONMENTAL SERVICES  
Commissioner's Office**

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**TO:** Chair Ken Seiling and Members of Council

**DATE:** June 24, 2009

**FILE CODE:** D10-20/RT

**SUBJECT: RAPID TRANSIT ENVIRONMENTAL ASSESSMENT PHASE 2, STEP 3b –  
PREFERRED RAPID TRANSIT SYSTEM OPTION AND STAGING PLAN**

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**RECOMMENDATIONS:**

THAT the Regional Municipality of Waterloo take the following action regarding the Region's proposed Rapid Transit system:

- a) Approve Light Rail Transit (LRT) as the preferred technology for the Region of Waterloo's Rapid Transit system;
- b) Approve the Light Rail Transit route and stations shown in Appendix D in report E-09-073 and as follows:

- From Conestoga Mall in Waterloo, the route follows King Street to Northfield Drive and then Northfield Drive to the Region-owned rail spurline;
- Follows the Region-owned rail spurline from Northfield Drive to Uptown Waterloo;
- In Uptown Waterloo, it would split into a one-way system going north on King Street and south on Caroline Street, and along Allen Street to rejoin as a two-way system along King Street;
- In Downtown Kitchener, the route would split into a one-way system going north on Duke Street and south on Charles Street, and back to a two-way system on Charles Street at Frederick Street;
- From downtown Kitchener, the route would follow Charles Street, Ottawa Street, the CN rail right-of-way, Hayward Avenue, Courtland Boulevard and Fairway Road (or an adjacent Hydro corridor) to Fairview Park Mall; and
- From Fairview Park Mall the route then takes the CPR rail line, Eagle Street, Hespeler Road and Water Street into Downtown Cambridge to the Ainslie Street transit terminal.

- c) Recognizing that the Region's ultimate goal is to implement the full LRT system identified in (b), but also recognizing that the ridership, development potential and capital and operating costs vary along the route, Endorse implementing the project in stages as follows:

Stage 1 – Implementation of LRT north of Fairview Park Mall and adapted Bus Rapid Transit south of Fairview Park mall as described in E-09-073 including.

- LRT from Conestoga Mall in Waterloo to Fairview Park Mall in Kitchener;
- Adapted Bus Rapid Transit (aBRT) from Fairview Park Mall in Kitchener to Ainslie Street Terminal in downtown Cambridge
- Re-aligned Grand River Transit (GRT) bus service to provide an expanded level of service to the rapid transit stations along primary feeder corridors;
- Express bus service, modeled after the current iXpress service, to high ridership centres throughout the Region (i.e. Wilfrid Laurier, Conestoga College etc.); and

- Connections to intercity transit such as GO Bus, GO Train, Greyhound and VIA.

Stage 2 – Completion of a light rail transit system from Fairview Park Mall to the Ainslie Street transit terminal in downtown Cambridge. Commencement of Stage 2 to follow completion of Stage 1 as closely as possible.

- d) Direct staff to pursue funding from the Federal and Provincial Governments for the project as outlined in (a), (b) and (c).
- e) Direct staff to undertake measures to encourage transit supportive development, to enhance transit ridership, and to expedite the development of LRT in Cambridge, including (but not limited to) the following:
  - Develop Incentives for Transit Oriented Developments
  - Support and develop Transportation Demand Management strategies for new and existing business and residents.
- f) Approve an allocation of \$1,000,000 annually, for an initial 10-year period to implement Transit supportive strategies in Cambridge such as the ones noted above, subject to final approval during the 2010 budget process. Details of the program to be developed in conjunction with the City of Cambridge and to be presented to Regional Council for approval in a subsequent report by December 31, 2009.

#### **SUMMARY:**

The Region of Waterloo continues to plan for significant population and employment growth over the next two decades. The Provincial Growth Plan for the Greater Golden Horseshoe projects the Region's population will increase by 45 per cent to 729,000 people by 2031, and that employment will increase by 44 per cent to 366,000 by 2031.

A rapid transit system has the potential to encourage a more compact urban form, which will help prevent sprawl and protect sensitive environmental landscapes and farmlands from urban encroachment. Rapid transit also provides a sustainable transportation solution to meet our community's future transportation needs. The Rapid Transit system being considered in the Region has the dual goals of providing transportation choice and meeting future transportation needs and the goal of building a viable, vibrant and sustainable community.

The Region began the Rapid Transit Environmental Assessment (EA) in 2006 to find the best possible rapid transit system for Waterloo Region. The Rapid Transit Project Team recently completed three years of study and analysis with the conclusion of a Multiple Account Evaluation (MAE).

The MAE measured the benefits and costs of a Light Rail Transit (LRT) system and a Bus Rapid Transit System (BRT). Both systems would travel from St. Jacobs Farmers' Market in north Waterloo to the Ainslie Street Terminal in downtown Cambridge. Two route variations in Waterloo, where the system would follow either King Street, University Avenue and the Region-owned rail spurline from Conestoga Mall to Uptown Waterloo or take the rail spurline from Northfield Drive to Uptown Waterloo, were also considered.

The results of the MAE indicate that:

- LRT delivers the greatest transportation, environmental, land-use and economic development, and social and community benefits to the Region;
- LRT best supports the objectives of the Regional Growth Management Strategy;

- BRT is less expensive, but delivers significantly less benefits;
- The projected ridership and intensification potential along the route is significantly higher in the north (Conestoga Mall to Fairview Park Mall) than in the south (Fairview Park Mall to Ainslie Street);
- BRT would reach capacity around 2030 on the north portion of the route because of operational difficulties associated with high frequency buses;
- Ridership to St. Jacobs Farmers' Market by 2031 is not high enough to support rapid transit; and
- The construction costs for systems are almost evenly split between the north portion of the route and the south portion.

Based on these results, the Project Team concluded that a Light Rail Transit (LRT) system from Conestoga Mall in the City of Waterloo to the Ainslie Street Terminal in the City of Cambridge provides the best long-term, environmentally sustainable solution to help manage our community's future growth and transportation needs.

However, the Project Team also recognized that ridership, development potential and costs vary along the route and is recommending a staged approach to implementing a full LRT system that would allow the Region to most cost effectively match transit technology with current and projected ridership and development potential. The first stage would include:

- LRT from Conestoga Mall in Waterloo to Fairview Park Mall in Kitchener;
- Adapted Bus Rapid Transit (aBRT) from Fairview Park Mall in Kitchener to Ainslie Street Terminal in downtown Cambridge; aBRT would include some or all of the following:
  - Bus bypass shoulders on Hwy 8 and 401
  - HOV lanes on Hespeler Road
  - Queue jump lanes
  - Traffic signal priority
  - Additional/enhanced stations
  - Frequent rapid buses
  - Enhanced ticketing/passenger information
- Re-aligned Grand River Transit (GRT) bus service to provide an expanded level of service to the rapid transit stations along primary feeder corridors;
- Express bus service, modeled after the current iXpress service, to high ridership centres throughout the Region (i.e. Wilfrid Laurier, Conestoga College, etc); and
- Connections to intercity transit such as GO Bus, GO Train, Greyhound and VIA.

Stage 2 would include completion of a light rail transit system from Fairview Park Mall to the Ainslie Street transit terminal in downtown Cambridge. Commencement of Stage 2 would follow completion of Stage 1 as closely as possible

This report summarizes the work completed within the Rapid Transit Environmental Assessment, the complete methodology and results of the MAE and a discussion of the results that lead to the Preferred Rapid Transit System Option and Implementation Staging Plan.

Over the last month a number of Public Consultation events were held including three Public Consultation Centres, presentations to Cambridge, Kitchener, Waterloo and Woolwich Councils, a Public Meeting of Regional Councillors on June 10, 2009 and numerous online contacts. As a result of the presentations to local Councils three different route and/or staging options were suggested.

These options were:

- i) North Waterloo (Option A) Construct the King Street route alignment and, in addition, construct a short rail line along the spurline North from University Avenue to the Research and Technology Park.

- ii) North Waterloo (Option B) Construct the King Street route alignment to King Street and Weber Street and also construct a short rail line along the spurline North from University Avenue to the Research and Technology Park.
- iii) Cambridge – Construct a LRT system from Ainslie Street transit terminal to Hespeler Road/Eagle Street. Use aBRT from Hespeler Road/Eagle Street to Fairview Park Mall.

All three of the options were reviewed by staff and more detailed information is attached in Appendices C and E. The North Waterloo (Option A) resulted in additional costs due to the rail line to the Research and Technology Park, but no substantial increases in ridership or development potential. Operation of the system could be awkward with the very short run to the Research and Technology Park. This option does not improve on the Waterloo spurline option and is not recommended. North Waterloo (Option B) resulted in similar costs to the other route alignments. Ridership and development potential was similar to or less than the other options. This option does not improve on the Waterloo spurline option and is not recommended.

During the recent Public Consultation period comments concerning the Waterloo spurline and Waterloo King Street route alternative were also collect. Preference for either option was split 50-50. Through consultation with City of Waterloo staff and based on the higher rating that the Waterloo spurline option received through the MAE the Waterloo spurline is being recommended as the preferred route option in North Waterloo. City of Waterloo Council has also supported the Waterloo spurline option as the preferred option.

The construction of an LRT line from Ainslie Street transit terminal to Hespeler Road/Eagle Street would add approximately \$200M in capital cost. The option also adds an additional transfer at Hespeler Road and Eagle Street, which will substantially reduce ridership. Based on the review this option would not provide improvements beyond the LRT/aBRT option and is not recommended. It is recommended that the Region proceed to implementation of LRT South of Fairview Park Mall as soon as possible following Stage 1.

In addition it is recommended that the Region undertake measures to encourage transit supportive development, to enhance transit ridership and to expedite the development of LRT in Cambridge. An allocation of \$1,000,000 annually for an initial period of 10 years to implement transit supportive strategies in Cambridge is being recommended.

The property tax impact of the operating and maintenance costs of the recommended option is approximately 3.4%. The impact of the capital cost of the project is dependent on the amount of Federal and Provincial contributions. It is anticipated that the Region would be required to contribute a minimum of \$50M which is equal to a property tax increase of 1.1%. Once the amount of the Federal and Provincial contributions have been finalized a report detailing the complete financial aspects of this project will be prepared for Council's consideration.

## **REPORT:**

### **Background**

Waterloo Region is one of the fastest growing communities in Canada, with a population of more than 500,000, and expected growth to 729,000 within the next 25 years. The Regional Growth Management Strategy (RGMS), adopted by Region of Waterloo Council in 2003, sets out strong and innovative goals for managing growth in urban areas and townships of the region. It also identifies rapid transit as a key element that will help to shape the future growth of the community.

Rapid transit is also a significant part of the Province's Growth Plan for the Greater Golden Horseshoe. The Plan designates the core areas of the Cities of Cambridge, Kitchener and Waterloo as Urban Growth Centres (UGCs), where much of the anticipated future population and employment growth will

be directed. It also calls for the development of a rapid transit system to connect the UGCs to the larger provincial transportation network, and recommends that priority funding be given to infrastructure projects that support an integrated regional transportation system for the movement of people and goods throughout the Greater Golden Horseshoe.

### **Why Rapid Transit**

The Region continues to plan for significant population and employment growth over the next two decades. Both the Regional Growth Management Strategy and the Province's Growth Plan for the Greater Golden Horseshoe identify rapid transit as a key element to help meet future growth and transportation needs. With little opportunity to add or expand the road networks in our core areas, and an expected increase in population in the Central Transit Corridor alone of 100,000 people, Regional Council chose rapid transit as the most sustainable transportation solution to meet our community's future transportation needs.

Rapid transit also facilitates intensification, which makes it an important tool to help direct development to our urban areas where services like water, sewers, garbage collection and transit already exist. This will help protect our countryside and environmentally sensitive areas from future development.

Rapid transit also benefits the community by:

- Improving air quality by helping to reduce auto use, and therefore greenhouse gas emissions;
- Promoting economic development by attracting job growth and the talented people who contribute to our nationally significant economy;
- Improving public health through the development of more compact urban communities that reduce travel distances and promote pedestrian and cycling activity.

The Region is currently carrying out an Environmental Assessment to identify the best rapid transit system for Waterloo Region.

### **Environmental Assessment Process**

The Region of Waterloo Rapid Transit Environmental Assessment is a phased process that will help Regional Council and the community to select the rapid transit technology, routes and station locations that will best meet the RGMS goals, as well as the Region's future transportation needs and land-use objectives. A significant component of the Rapid Transit EA involves ongoing consultation with the public and stakeholders throughout each phase and step of the study.

The EA is being conducted in accordance with a Terms of Reference approved by the Ontario Minister of the Environment in July 2005:

*Phase 1:* Evaluation and selection of a preferred transportation system strategy

*Phase 2:* Evaluation of alternative route designs and technologies and the identification of a preferred rapid transit system including station and route locations

*Phase 3:* Preliminary design of the preferred rapid transit system

NOTE: Following completion of Phase 2, Step 3b, the Rapid Transit Initiative will transition into O.Reg 231/08, the new environmental assessment process for transit projects, and seek approval for the project from the Ministry of the Environment under this regulation.

## **Status of the Environmental Assessment Process**

### **Phase 1 – Completed July 2006**

Phase 1 of the EA determined that Rapid Transit is the preferred transportation strategy for Waterloo Region as compared to expanding the road network or improving conventional transit. Using 15 criteria based on the Regional Growth Management Strategy, the evaluation concluded that Rapid Transit:

- Best achieves the goals of the Regional Growth Management Strategy;
- Is consistent with the Provincial Policy Statement and conforms with the Provincial Places to Grow Growth Plan for the Greater Golden Horseshoe;
- Supports reurbanization objectives, downtown revitalization and innovative urban design;
- Increases transportation choice and transit ridership;
- Is the least expensive form of motorized transportation when considering personal transportation costs;
- Contributes to the Region's countryside protection goal by facilitating reurbanization and reducing the pressure to expand urban boundaries;
- Provides a safe mode of transportation and promotes an active and healthier lifestyle; and
- Utilizes the least amount of land and minimizes the impact on air quality and greenhouse gas emissions.

Two Public Consultation Centres were held on April 5 and 6, 2006, and were attended by 145 individuals. The public feedback from these sessions indicated that the majority who provided comment recognized the Rapid Transit Initiative as the most effective transportation strategy for meeting the Region's RGMS goals and future transportation needs.

Regional Council approved Rapid Transit as the Region's transportation strategy in July 2006.

### **Phase 2 – Steps 1, 2 and 3a**

#### **Step 1 – Completed February 2007:**

Phase 2, Step 1 began with a Public Information Session and Workshop on Sept. 21, 2006 to discuss potential rapid transit destinations, routes and station locations, as well as those characteristics of rapid transit the public feels are most important. More than 140 community members came together to provide ideas.

Using the EA Terms of Reference and the input from the Sept. 21 workshop, the Rapid Transit Project Team developed criteria to evaluate 10 rapid transit technologies and their associated route designs. Based on the results of the evaluation BRT and LRT operating on a mix of on/off road route designs were short-listed because they had the greatest potential to:

- Support the Region's redevelopment and intensification objectives
- Optimize the use of existing off-road routes and serve major destinations using on-road routes
- Be compatible with existing and planned built neighborhoods

The results of the evaluation, and the recommended short-list of rapid transit technologies and route designs, were presented to the public and stakeholder groups for input at a series of Public Consultation Centres (PCCs) and presentations throughout January 2007. More than 350 community members attended the PCCs and took the opportunity to review the information presented. The majority of those who provided comments agreed with the results of the evaluation and the proposed short list or stated a preference for BRT or LRT.

In February 2007, Regional Council approved BRT and LRT operating on a Mix of On/Off Road route designs as the short list for further evaluation.

### **Step 2 – Completed February 2008:**

The second step of Phase 2 began in March 2007 with a public workshop to help identify the list of route and station location alternatives that would be evaluated for both BRT and LRT that provide the greatest benefits (e.g. reurbanization potential, ridership, travel time savings, ability to serve concentrations of employment) and lowest impacts. More than 450 community members came together to provide ideas, with more than half identifying themselves as property owners along routes. Of those who commented, more than 60 per cent agreed with the proposed route and station locations.

In consultation with the Local Municipalities and the public, the Region finalized a list of 91 route, station location and technology alternatives in the seven segments of the Study Area and began an in-depth evaluation based on 21 different criteria approved in the Terms of Reference by the Ontario Minister of the Environment. These criteria were grouped in four different categories:

- Transportation;
- Social and Culture Environment;
- Natural Environment; and
- Economic Impact

The evaluation resulted in more than 5,000 individual pieces of data using different units of measurement (hectares, dollars, ridership, greenhouse gas emissions). The Project Team used the results to rank each alternative. The results of the ranking demonstrate how each route and technology alternative perform against the other alternatives in the same segment in each of the four broad categories. Those alternatives that provided the greatest benefits and the fewest impacts were ranked highest. For the complete results, please see Appendix A of Report P-08-006.

The rankings were then presented at a series of Public Consultation Centres in January 2008, which were attended by approximately 1,350 people. The majority of public comments received indicated general support for the top ranked route alternatives, a strong preference for light rail transit (LRT) technology over bus rapid transit (BRT) technology, and the importance of servicing core areas and areas of high employment, commercial, retail and institutional land-uses.

### **Step 3a – Completed August 2008**

The rankings of the route and technology options from Step 2, together with public input, were used as input to Step 3a to assemble a short list of complete BRT and LRT system alternatives for the entire study area.

Each system alternative also had a number of different route variations. A field review was conducted along each variation to identify engineering considerations that could pose obstacles to construction or implementation of a final system. The purpose of this review was to look for engineering challenges that could impact the feasibility of the rapid transit system alternatives. Those rapid transit route variations that had multiple challenges or severe constraints considered too great to reasonably overcome were eliminated from further consideration.

The Rapid Transit Project Team presented the details of the technical analysis and the short-listed LRT and BRT system alternatives at a series of three public consultation centres in June

2008. Approximately 880 people attended the public consultation centres. The majority of public comments received indicated support for the Rapid Transit Initiative and a strong preference for LRT over BRT. In August 2008, the final short list was presented to Regional Council, which included one BRT option and one LRT option. For a complete description of the evaluation results and the short-listed system alternatives, see Appendix A of Report E-08-054.

**Summary of Public Consultation During the EA Process (2006-2008):**

The Region has undertaken extensive consultation with and outreach to the public, agencies, community stakeholders, property owners, and the business community both within and outside of the EA process over the course of the past three years using a variety of formats. A summary of the current public consultation activities are detailed in the Public Consultation Activities: May-July 2009 section of this report, which begins on Page 14. Below is a summary of the public consultation process from 2006-2008:

- Rapid Transit newsletters were sent to more than 250,000 residential and business addresses on four different occasions;
- The Rapid Transit InfoLine (phone), the Rapid Transit InfoBox (e-mail [rtinfo@region.waterloo.on.ca](mailto:rtinfo@region.waterloo.on.ca)) and the Rapid Transit website are advertised widely on all rapid transit related communications and the public is encouraged to contact us with their questions and comments. The Rapid Transit website has an average of approximately 40 to 50 new visitors each day, and the InfoBox has received more than 2,000 e-mails;
- The Rapid Transit Facebook page has 190 Fans: 11 per cent are aged 13 to 17, 40 per cent are aged 18 to 24, and 25 per cent are aged 25 to 34, and 24 per cent are over 35;
- Rapid Transit videos appear on YouTube and the Waterloo Region Record's website;
- There have been 66 newspaper news stories, features, editorials and letters to the editor since the Environmental Assessment began in 2005;
- Approximately 3,500 people have attended 33 Public Consultation Centres (PCCs), Workshops and Focused Consultation events and provided 1,039 official formal comments;
- Information about the Rapid Transit Initiative has also been provided at an additional 63 different public outreach events such as community stakeholder meetings, public events, presentations to groups, and educational displays where attendance was not recorded.

In addition to the various points of public contact conducted within the EA process as described above, the Rapid Transit Project Team initiated a concurrent outreach program to groups who may be more directly impacted by the implementation of a rapid transit system, including the business community and property owners and tenants located along the proposed short-listed routes.

A Business Outreach Program was first carried out in July and August 2007 and again from May through August 2008, and consisted of personal door-to-door visits to all businesses directly along the proposed short-listed rapid transit routes, in addition to those businesses located within a 200-metre radius of proposed rapid transit stations. An effort was made to speak with the owner or manager of each business at each visit, and a comprehensive information package was left with employees if the owner or manager was not present. More than 2,500 businesses were contacted within Cambridge, Kitchener and Waterloo, and the Township of Woolwich.

In an effort to increase awareness of the Rapid Transit EA and facilitate participation in the consultation process on the part of property owners and tenants living and/or working directly adjacent to the short-listed rapid transit routes released in June 2008, staff conducted 12 Focused Public Consultation meetings during the weeks of September 15 and 22. Four sessions were held in each of Waterloo, Kitchener and Cambridge.

Sessions were offered in both the morning and evening, to better accommodate the schedules of local business owners. More than 9,500 invitations were mailed to 2,867 property owners

and 6,639 residential and business tenants.

### **Phase 2, Step 3b Identification of a Preferred Rapid Transit System**

The Region's Rapid Transit Project Team has recently completed the technical analysis and public consultation for Phase 2, Step 3b of the Rapid Transit Environmental Assessment and have identified a Preferred Rapid Transit System and Implementation Staging Plan.

As part of Phase 2, Step 3b, the Region's consultants completed a Multiple Account Evaluation (MAE) to evaluate the costs and benefits of the four (4) rapid transit systems short-listed in Step 3a. The purpose of this evaluation is to determine which rapid transit system would best meet the goals of the Regional Growth Management Strategy and provide the greatest transportation, environmental, land-use and economic development, and social and community benefits to the Region.

Maps showing the system options and routing variations can be seen in Appendix A and are described below:

- **Light Rail Transit Option:**
  - Beginning at St. Jacobs Farmers' Market, the route would follow King Street to Conestoga Mall. After the mall, the route would either follow the Region-owned rail spurline from Northfield Drive through the Research + Technology Park or follow King Street North, University Avenue and the rail spurline.
  - In Uptown Waterloo, it would split into a one-way system going north on King Street and south on Caroline Street, and along Allen Street to rejoin as a two-way system along King Street;
  - In Downtown Kitchener, the route would split into a one-way system going north on Duke Street and south on Charles Street, and back to a two-way system at Frederick Street;
  - From downtown, the route would follow Charles Street, Ottawa Street, the CN rail right of way, Hayward Avenue, Courtland Boulevard and Fairway Road (or an adjacent Hydro corridor) to the Fairview Park Mall.
  - The LRT option would then take the CPR rail line, Eagle Street, Hespeler Road and Water Street into Downtown Cambridge.
  
- **Bus Rapid Transit Option:**
  - The BRT Option would follow the same route as the LRT option to Fairview Park Mall.
  - From Fairview Park Mall, the BRT route would follow Highway 8 and 401, using bus by-pass shoulder lanes to avoid congestion, to Hespeler Road and Water Street into Downtown Cambridge.

### **MAE Methodology and Accounts**

The Multiple Account Evaluation process examines the economic costs and benefits of a transportation investment within a series of separate accounts. This type of evaluation considers a broader range of benefits, or metrics, than traditional cost-benefit analysis, and includes aspects of both a traditional cost-benefit analysis and the "triple bottom line" evaluation approach that considers environmental, economic and social drivers.

The Multiple Account Evaluation is currently the approach being used to evaluate transit projects in British Columbia and in the Greater Toronto Area, for projects associated with the Metrolinx Regional Transportation Plan. The Federal Government is also accepting MAE results as the basis for the business case that is required for project funding.

The MAE provides for flexibility in measuring benefits because:

- Quantitative measures of benefits are not restricted to monetized metrics only;
- Benefits that are difficult or impossible to translate into dollars can be considered;
- A relative assessment of the project's impacts on different aspects of the economy and society can be made; and
- A broader and more targeted representation of the project's benefits can be considered by decision makers.

Five accounts were selected for evaluation within the MAE to specifically reflect the objectives of the Regional Growth Management Strategy (RGMS). They are:

- **Direct Project and Transportation Account:** This account evaluated complete capital, and operating and maintenance costs; farebox revenue based on the ridership projections; net yearly operating costs.
- **Direct Transportation User Benefits Account:** This account evaluated travel time savings, vehicle operating cost savings, and accident avoidance savings.
- **Environmental Account:** The reduction of Greenhouse Gas Emissions (GhG) and Criteria Air Contaminants (CAC) were evaluated. GhG reductions are reported in tonnes per year for a given year and in terms of a monetary value using a per-tonne dollar value, while CAC emissions reductions are reported in tonnes per year for a given year and in terms of a monetary value using a per-tonne dollar value.
- **Land Use/Economic Development Account**  
This account evaluated:
  - Residential Development – measured as the number of new residents within 600 metres of a proposed rapid transit station
  - Non-Residential Development – measured as the number of new jobs within 600m of a proposed rapid transit station
  - Land Value Uplift – premium on property values resulting from the presence of transit
  - Support to Regional Land Use Objectives – a relative measure of the degree to which the options reflect the Regional Growth Management Strategy's land use objectives
  - Employment Generated – the number of Direct, Indirect, and Induced jobs, produced using an input-output analysis to calculate economic impact of construction for each of the project cases.
  - Taxes Generated – the amount of Federal, Provincial, and Municipal taxes generated by the capital spending associated with the option.
- **Social and Community Benefits Account:**  
This account evaluated
  - Public Health Benefits - Air Quality – reduced vehicle kilometres travelled (VKT) and the reduction in hospital admissions
  - Public Health Benefits - Active Transportation – increased use of active transportation
  - Community Liveability – the degree to which the system helps to create a more "liveable" urban environment by reducing noise, fumes, and increasing walkability
  - Construction Disruption – disruption to existing residences and businesses during construction

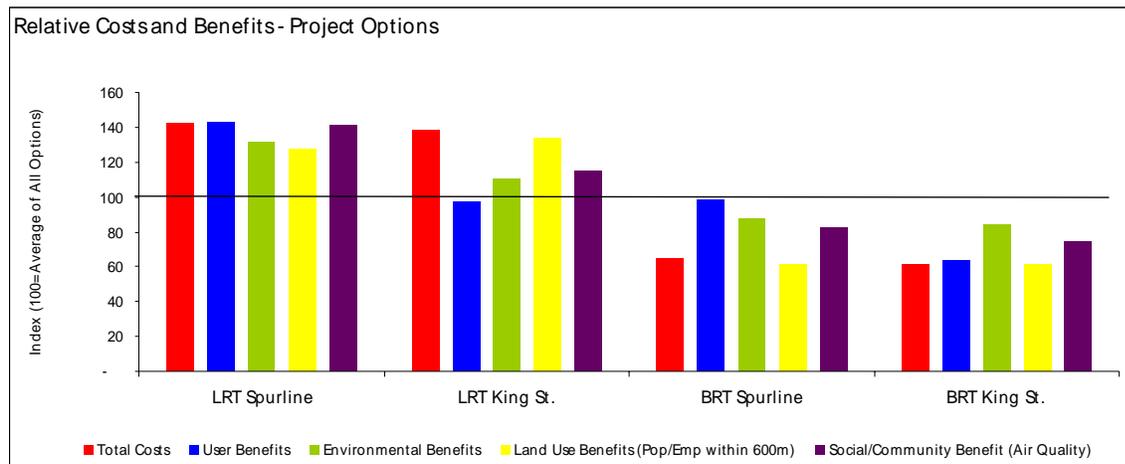
### **MAE Results**

Each rapid transit option was evaluated against a Base Case scenario, which assumed a gradual expansion of the existing iXpress bus system. The full results of the MAE evaluation are presented in Appendix B. Below is a summary of the results:

- The LRT option delivers the greatest benefits to the community, and best meets the goals of the Regional Growth Management Strategy;
  - Reduction in GhG emissions by up to 22,260 tonnes per year by 2031 compared to up to 12,210 tonnes per year for BRT
  - Up to 23,000 new jobs to station areas compared to just over 11,500 for BRT
  - Up to \$370 million in increased land-values, compared to up to \$75 million for BRT
  - \$523 million in transportation user benefits, compared to \$360 million for BRT
  
- 70 per cent of the projected ridership on a rapid transit system in Waterloo Region (between opening day and 2031) is between Conestoga and Fairview Park Malls;
  
- BRT between Conestoga and Fairview Park Malls would be at capacity by 2030 because of the operational difficulties that would result (especially north of downtown Kitchener) with articulated buses running every two to three minutes;
  
- 72 per cent of the projected development potential is between Conestoga and Fairview Park Malls;
  
- Ridership to the St. Jacobs Farmers' Market in 2031 would not be high enough for either BRT or LRT;
  
- The capital costs associated with each rapid transit system and the route variations in Waterloo are shown in detail in Table 1. In summary:
  - LRT: \$1.322 – 1.341billion
    - 52 per cent of this cost is for the north portion of the route, 48 per cent for the south
  - BRT: \$559-584 million
    - The cost range reflects the two Waterloo route variations

**Table 1. Cost and Revenue Estimates**

| <b>Project Costs<br/>(2009\$M)</b> |                   | <b>LRT Spurline</b> | <b>LRT King<br/>Street</b> | <b>BRT Spurline</b> | <b>BRT King<br/>Street</b> |
|------------------------------------|-------------------|---------------------|----------------------------|---------------------|----------------------------|
| Capital (2014)                     |                   | 1,340               | 1,320                      | 585                 | 560                        |
|                                    | Annual<br>O&M     | 23.5                | 23.0                       | 17.0                | 16.5                       |
| Operating (2014)                   | Annual<br>Revenue | 8.5                 | 8.5                        | 7.5                 | 7.5                        |
|                                    | Net<br>Operating  | 15.0                | 14.5                       | 9.5                 | 9.0                        |
|                                    | Annual<br>O&M     | 29.0                | 27.5                       | 22.5                | 21.0                       |
| Operating (2031)                   | Annual<br>Revenue | 18.0                | 17.0                       | 16.0                | 15.0                       |
|                                    | Net<br>Operating  | 11.0                | 10.5                       | 6.5                 | 6.0                        |

**Table 2. Summary of MAE Results**

### Discussion of MAE Results

The MAE analysis demonstrated that LRT has the highest capital and operating costs. However, LRT also deliver significantly higher community benefits compared to the BRT options. The LRT options also best support the objectives of the RGMS.

Given the dual goals of the Rapid Transit Initiative of providing greater transportation choice and efficiency, and promoting intensification in urban areas in order to manage future growth, **the conclusion of the MAE is that LRT provides the best long-term, environmentally sustainable solution to help manage our community's future growth and transportation needs.**

### Additional Route Considerations

Although the MAE results demonstrate that the LRT option using the routing variation on the rail spurline in Waterloo is the best performing system, there are other significant considerations associated with the two route variations in this portion of the system. These include:

- The Spurline option includes a station at University of Waterloo (UW) only, while the King Street option has stations at both UW and Wilfrid Laurier University (WLU)
- Expected development potential is slightly greater along King Street
- Ridership potential is greater for the Spurline option

Due to the fundamental nature of the trade-offs between the two options, a final selection was deferred to allow for the consideration of public and stakeholder input on the choice between the two route variations.

As requested by City of Waterloo Council, two (2) additional LRT routing options were developed and evaluated. The additional route options are described as follows:

#### ▪ **King St with Additional Spurline Branch**

- Following the King St. alignment with stations at University of Waterloo, Wilfrid Laurier University, King & Weber and Conestoga Mall,

- Spurline branch from University of Waterloo station with terminal station at R&T Park.
- **King St Branch with Spurline Branch**
  - King St. branch with stations at University of Waterloo, Wilfrid Laurier University, and terminal station at King & Weber,
  - Spurline branch from University of Waterloo station with terminal station at R&T Park.

A desktop exercise to evaluate the costs, benefits and pros and cons of each of these alternatives was completed (refer to Appendix C for details). In general, neither option performed as well as the Waterloo Spur LRT alignment, with stations at University of Waterloo, Research and Technology Park, Northfield and Conestoga Mall. The benefits associated with the Waterloo Spur LRT alignment, as measured in the MAE analysis, outperform other route alternatives, including King St., and a branch line concept on King St and Waterloo Spur. City of Waterloo Council also supported the Waterloo spurline alternative as the preferred route. **The Waterloo Spur LRT alignment is therefore recommended as the preferred rapid transit route.**

The MAE evaluation also revealed that ridership to the St. Jacobs stockyards was very low and that overall this section scored poorly. As a result this section is being removed from the initial two stages of rapid transit but may be reconsidered in the future.

A map showing the preferred rapid transit system can be seen in Appendix D of this report.

### **Implementation Staging Plan**

Reviewing the results from the MAE revealed that ridership, development potential and costs varied over the length of proposed Rapid Transit routes. Some areas have ridership and development potential that is supportive of Light Rail Transit while others are more suited to Bus Rapid Transit at this time. While the project team agreed that LRT should be implemented along the whole corridor it was also agreed that it was important to be efficient and effective in the short term and matching needs with the appropriate technology until full LRT can be implemented.

The Project Team also looked at two staging options for implementing the first phase of the Rapid Transit Initiative. The criteria for considering the implementation staging options looked to the option that would bring the greatest benefits to the community while providing the rapid transit technology that best meets the ridership potential in different sections of the route.

- Staging Option A - LRT from Conestoga Mall to Fairview Park Mall and BRT from Fairview Park Mall to Ainslie Street Terminal in Cambridge; and
- Staging Option B - LRT from Conestoga Mall to Fairview Park Mall and Adapted BRT (aBRT) from Fairview Park Mall to the Ainslie Street Terminal in Cambridge

Adapted BRT would operate in mixed traffic, but could include operational features typically used in bus rapid transit systems such as HOV or bus lanes, bus by-pass shoulders, queue jumping, signal priority, additional stations, RT buses, automated ticketing, real-time passenger information systems and associated urban design improvements at stations such as streetscaping, bicycle and pedestrian amenities, and connections to intercity transit.

In order to evaluate the performance of the staging options against the short-listed system options and each other, the MAE analysis was completed for each of the staging options. After comparing the benefits and costs of the staging options to the full LRT and BRT options, the Project Team concluded

that implementing the system in stages, starting with the LRT/Adapted BRT as the first stage, is the preferred option for the following reasons:

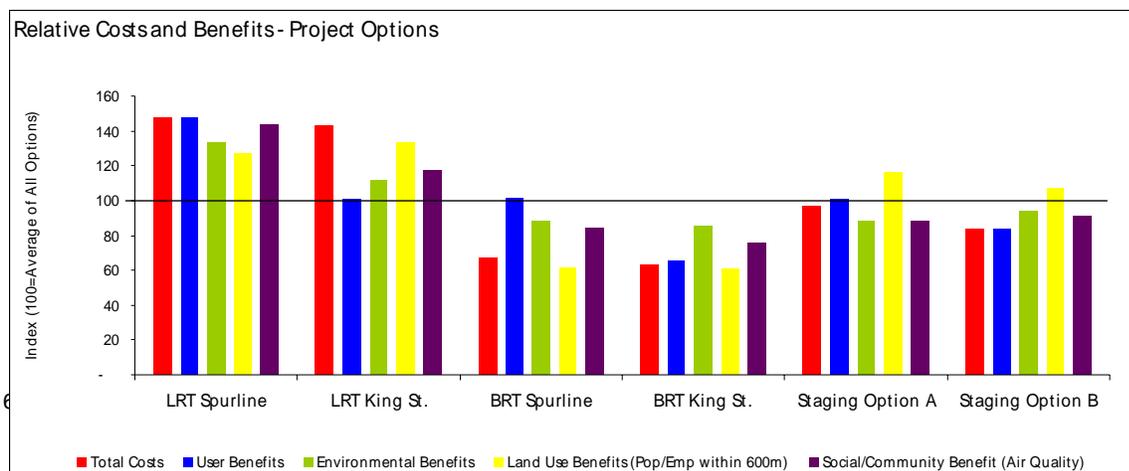
- Best matches the ridership potential with the rapid transit technology to meet future growth and transportation needs of the Region;
  - Provides most of the benefits of a full LRT system at about 60 per cent of the cost
- Provides the best value when considering benefits and costs (The costs and revenues for each staging option are summarized in Table 2 below)
  - Lower capital cost (approximately 11%) and lower annual operating costs (approximately 10%) than the LRT/full BRT staging option;
- Can be implemented faster than the LRT/full BRT option;
- Adapted BRT has the most flexibility to convert to a full LRT system in the future.

Rail based Rapid Transit systems are usually built in stages. The Calgary system started in 1981 with 11 km and has grown to 40 km today. Portland has increased the size of its LRT system from 24 km in 1986 to 71 km today and Edmonton from 7 km in 1978 to 13 km today.

**Table 3. Cost and Revenue Estimates**

| Project Costs (2009\$M) |                | Staging Option A. LRT/BRT | Staging Option B. LRT/aBRT |
|-------------------------|----------------|---------------------------|----------------------------|
| Capital (2014)          |                | 890                       | 790                        |
|                         | Annual O&M     | 20.3                      | 18.1                       |
| Operating (2014)        | Annual Revenue | 7.9                       | 7.7                        |
|                         | Net Operating  | 12.4                      | 10.5                       |
|                         | Annual O&M     | 23.3                      | 19.8                       |
| Operating (2031)        | Annual Revenue | 16.6                      | 16                         |
|                         | Net Operating  | 6.7                       | 3.8                        |

**Table 4. Summary of MAE Results including Staging Options**



### Additional Staging Considerations

As requested by the City of Cambridge, an additional implementation staging plan was developed and evaluated. The alternative staging plan is described as follows:

#### ▪ **LRT / aBRT / LRT**

- LRT from Ainslie St. Terminal to Hespeler and Pinebush/Eagle,
- aBRT from Hespeler and Pinebush/Eagle to Fairview Park Mall,
- LRT from Fairview Park Mall to Conestoga Mall.

A desktop exercise to evaluate the costs, benefits and pros and cons of this third alternative implementation staging plan was completed (refer to Appendix E for details). The alternative was reviewed considering the different accounts in the MAE. The main advantage of this alternative is that it provides LRT in Cambridge earlier. The additional cost to do this is approximately \$200M. Some additional intensification and development may occur as a result of using LRT rather than aBRT. If there is an increase it would be anticipated to be relatively small given that the intensification and development for the full LRT system is relatively small. The benefit of providing LRT earlier are counter acted by some negative impacts. The additional transfer from LRT to aBRT results in reduced ridership so that overall little, if any, ridership increase is anticipated above the LRT/aBRT alternative. In general, this staging option does not perform as well as Staging Option B at significantly higher cost. **Staging Option B is therefore recommended as the preferred implementation staging plan, and the first project to be implemented under the Rapid Transit Initiative.**

A map showing the preferred rapid transit implementation staging plan can be seen in Appendix F of this report.

To prepare for future stages of the preferred rapid transit system, the Region will also begin the process of buying the land needed to protect key transportation corridors for future LRT expansion, and investigate planning tools and incentives that will help attract the type of intensified development needed to build ridership in the area. The Region will review ridership and demand in the system at regular intervals to determine the best timing to undertake future stages, such as expanding LRT south from Fairview Park Mall.

There are a number of Transit supportive initiatives that could be used in Cambridge to increase Transit ridership and intensification. Transit ridership and intensification are both critical factors in determining when to transition from aBRT to LRT. Region staff are proposing that \$1,000,000 per year for an initial 10 year period be allocated in Cambridge to implement Transit supportive measures that will increase ridership and intensification. This will help expedite the construction of LRT South of Fairview Park Mall and is a significant commitment by the Region to ensuring that LRT is constructed South of Fairview Park Mall. The details of the program would be developed in collaboration with City of Cambridge staff and would be presented to Regional Council for approval by December 31, 2009.

### **Public Consultation Activities: May-July 2009**

The details of the preferred Rapid Transit System and Staged Implementation Plan were presented for public input at a series of three Public Consultation Centres (PCCs) on May 19, 21 and 26, 2009.

The PCCs were held from 2 to 8 p.m. in the following locations:

- May 19, 2009, St. Andrew's Presbyterian Church, Kitchener: **123 attendees**
- May 21, 2009, The United Kingdom Club, Cambridge: **47 attendees**
- May 26, 2009, First United Church, Waterloo: **350 attendees**

The PCC dates were widely advertised throughout our community in the Waterloo Region Record, Waterloo Chronicle and Cambridge Times newspapers, the Regional Rapid Transit website, e-mail and mail notices to all members of the rapid transit contact list, road signs and a newsletter sent via e-mail and mail to all households within the Region.

Staff also presented the results of the MAE to the Municipal Councils in the Cities of Cambridge, Kitchener, Waterloo and the Township of Woolwich.

In addition, the Rapid Transit website at [www.region.waterloo.on.ca/transitea](http://www.region.waterloo.on.ca/transitea) has been enhanced with a consultation portal that allows the public to:

- Participate in on-line discussions about the Rapid Transit Initiative and the latest study reports and results with other members of the public;
- Get updates on the project through videos;
- Participate in web-based surveys about rapid transit that will be used to stimulate discussion about upcoming recommendations on the preferred system

Region staff also provided rapid transit displays at the following community events:

- Uptown Public Square Opening Ceremony – May 30, 2009 at King Street and Willis Way, Waterloo
- Cambridge Riverfest – June 6, 2009 at Riverbluffs Park, George Street, Cambridge
- City of Waterloo Annual Open House – June 13, 2009 at the City of Waterloo Service Centre Yards,
- K-W Multicultural Festival – June 20 and 21, 2009, Victoria Park, Kitchener

In order to provide additional opportunities for business and property owners along the propose route to ask questions and provide comments, Regional staff is also hosting three “storefront” locations during the months of June and July at:

- 44 King St. S., Waterloo
- 150 King St. W., Kitchener
- 30 Main St., Cambridge

Regular office hours are posted at each location and advertised on the rapid transit website, and sidewalk signs are being used to encourage drop-in visitors. All input gathered at the storefronts will be included as part of the public consultation for the new environmental assessment process.

### **Summary of Public Comments (2009)**

- Registered attendance at the three Public Consultation Centres: **520**
- Delegations to June 10, 2009 Special Rapid Transit Council Meeting: **45**
- Activity on the online discussion boards on iEngage, the Region’s rapid transit consultation portal: **120 posts on 23 topics**
- Written public comments received (via comment sheet, letter and e-mail): **304**
- A summary of the public comments received (as of June 17, 2009) is attached as Appendix G, while a complete transcription of all comments received is attached as Appendix H. Below are some highlights from the Summary :

#### **1. Do you agree with the proposed rapid transit system?**

- Yes: 165
- No: 55

- Questioned part of the preferred system: 42
- Undecided: 12

**Some common reasons cited by those who agreed with the preferred rapid transit system:**

- Best meets future transportation/growth management needs
- Helps reduce traffic congestion
- Protects the environment
- Attracts jobs and redevelopment in our urban cores
- Provides transportation choice/encourages transit use
- Effective route with well connected stations
- Curbs urban sprawl
- Great alternative for people who do not own cars
- LRT is most cost effective
- Easier to take this opportunity now when it is financially/structurally feasible

**Some common reasons cited by those who questioned part of the preferred rapid transit system:**

- Want to see LRT extended to Cambridge; aBRT is not an adequate system for Cambridge
- Better to build full system now when costs are less
- Rural areas should be serviced too
- Route alignment (i.e. one-way systems in downtowns, cuts through Waterloo Park)
- Should first build a better bus system, then transition to LRT
- Stops too frequently (or not frequently enough)
- Competes too much with traffic, loss of traffic lanes
- Should extend rail to Sportsworld in first phase instead of stopping at Fairview
- Property tax increases for home owners near route
- Concerns it will fragment street space and make it dangerous for cyclists and pedestrians
- WLU should be included
- LRT should follow a more direct route than what is being proposed
- Concerns about timeliness and convenience of system
- Too many controlled intersections involved.
- Not enough focus on surrounding suburbs
- Need a system that connects region to Toronto
- Overhead wires unattractive
- Rather see east to west transit first
- Noise concerns
- Might interfere with social or cultural uses (e.g. Busker Fest)

**Some common reasons cited by those who said they did not agree with the preferred rapid transit system:**

- Feels the decision has 'already been made'
- Too costly (may limit other future opportunities e.g. healthcare services, energy conservation incentives, social programs)/tax increases
- Prefer BRT for entire route/improve express buses instead

- Region lacks population size to sustain system
- The iXpress service is adequate
- Loss of business on King St.
- Limited access points
- LRT not appropriate at this time of high unemployment, job loss, and present debt
- Ridership will not materialize as projected
- Will be seen as a 'white elephant'
- An expanded bus system would achieve immediate results
- Eliminates parking
- Winter maintenance
- Lack of development potential
- System is too inflexible in event of emergencies
- Prefers comfort and convenience of driving a car

**2. Which northern Waterloo route option do you prefer and think will best serve the community between the University of Waterloo and Conestoga Mall?**

- King Street/University Avenue: 96
- Rail Spurline: 102
- Undecided: 9

**Those who chose the University/King option most commonly cited these reasons:**

- Better serves university students, who are significant users of transit
- Better reurbanization and intensification potential
- People who work at R+T Park are less likely to take transit
- Goes through areas of higher residential densities
- More potential riders
- Better to develop now, as future possibilities may diminish over time
- Spurline can be adapted later more easily

**Those who chose the Spurline option most commonly cited these reasons:**

- Serves large employment area and technology sector
- Faster travel time and less congested
- Easier to build
- Avoids interference with roads
- Provides public transit access to the R+T Park
- University students are seasonal riders

The Rapid Transit Team has completed a Response to Comment document to address both specific and general questions and comments raised during the public consultation process. The Response to Comment document is attached as Appendix G.

**Expert Panel Review**

The Rapid Transit Project Team engaged a panel of third party experts in the fields of transportation planning and urban planning and policy development to conduct a review of the assumptions, methodology and conclusions of the technical work completed as input to the Multiple Account Evaluation (MAE) and the MAE itself. The panelists included:

- **Dr. Jeff Casello:** Assistant Professor at the University of Waterloo, specializing in urban transportation systems, transportation modeling, and transportation and land use impacts,

and a member of the Region's Public Advisory Committee for the Regional Growth Management Strategy and Rapid Transit Initiative;

- **George Dark:** A partner at Urban Strategies Inc., a Toronto-based full-service planning and urban design firm, with an expertise in urban designer and landscape architecture;
- **Melanie Hare:** A partner at Urban Strategies Inc., a Toronto-based full-service planning and urban design firm, with an expertise in sustainable urban planning and transit-oriented development;
- **Dr. Eric Miller:** Professor at the University of Toronto, Director of the Urban Transportation Research and Advancement Centre, Director of the University of Toronto Cities Centre and Chair of the International Association for Travel Behaviour Research;
- **Glenn Miller:** Director of Education and Research at Canadian Urban Institute, a Toronto-based non-profit organization dedicated to providing solutions to important issues that have an impact on the quality of life in cities, such as land use, growth management, transportation, economic development and sustainable buildings; and
- **Glen Murray:** Former Mayor of Winnipeg and chair of the Canadian National Round Table on the Environment and the Economy, currently President of the Canadian Urban Institute.

The panelists conducted a one-day workshop in Waterloo Region on March 31, 2009 to discuss the Region's preferred Rapid Transit option. In advance of the meeting, the panel reviewed the results of the studies completed during the Environmental Assessment, including the latest results from the Multiple Account Evaluation.

Panel members were unanimous in their endorsement of Light Rail Transit from Waterloo to Cambridge, as an innovative transportation and urban planning solution that will help Waterloo Region achieve its growth management goals. The panel noted that the Region may have, in fact, underestimated the benefits of LRT:

*"The ability for LRT to catalyze change and focus city-building initiatives over the long term far outweighs the cost difference. LRT should be a long-view project constructed both to take immediate advantage but also as a pre-investment to force positive urban change and economic investment."*

The Panel encouraged the Region and its residents to think of an investment in rapid transit as:

*"a significant first step in the creation of a robust regional and intercity transit system that will extend to, and connect with, Guelph, Hamilton, Pearson Airport, the GTA and beyond."*

The panel commended the Region for the significant amount of solid technical review and analysis completed within the Rapid Transit EA, and noted:

*"This creates a strong foundation to understand the feasibility, range of alternatives and implications of this significant investment in rapid transit for Waterloo Region."*

The Panel concluded that the MAE provided a valid, if not conservative, evaluation of the options considered. The Panel report provides numerous suggestions and recommendations which can be grouped as follows. Specific reference to relevant sections of the Panel Report are shown in brackets:

- A. Fine tuning of technical data and assumptions and future considerations (4d, 5j, 5k, 5l, 5m, 5n, 5o, 5p),

- B. Phasing alternatives to fast-track the implementation of rail technology south of Fairview Park Mall (4e, 4f),
- C. Alignment decisions in a broad sense (eg Waterloo Spur vs King Street and Hespeler Rd vs Coronation Blvd) and in specific locations (eg urban cores) (4f, 4g, 4h, 4i).

#### A. Fine Tuning of Technical Data and Future Considerations

##### Staff Response

These recommendations will be addressed during the implementation phases of the Rapid Transit Initiative, including during Station Area Planning and during Operational Planning. Many of the broad recommendations could also be incorporated into policies and objectives of the governance model for the Rapid Transit System, including the on-going role of a Public Advisory Committee.

#### B. Phasing Alternatives to Fast-Track Rail Technology South of Fairview Park Mall

The Panel has recommended that the Region explore options outside of those considered in the Individual EA and Multiple Account Evaluation to fast-track the implementation of rail-based technology in Cambridge to most fully capture the potential of rail rapid transit to connect and strengthen an integrated Region. In a subsequent recommendation, the Panel notes that the preferred RT alignment along Hespeler Road may not represent the strongest reurbanization/intensification corridor in Cambridge.

##### Staff Response

As part of the Multiple Account Evaluation analysis, forecasts of projected ridership, intensification potential, capital cost and net operating costs were calculated across the study area. As described in this report, the first phase of implementation of Light Rail Transit in the Region is proposed for those parts of the study area where ridership is within the accepted threshold to support LRT, where the net operating costs are deemed to be fiscally manageable, and where the greatest degree of benefits (including ridership, intensification potential etc.) accrue.

Funding to encourage ridership growth and Transit Oriented Development is also being recommended.

#### C. Alignment Decisions

##### Staff Response

As discussed above, staff will work with the City of Cambridge to reevaluate the reurbanization strengths, and technical and financial constraints of alternate alignments as recommended by the Panel (i.e. Hespeler Rd. vs. Coronation Blvd. in Cambridge).

With respect to the expressed preference to utilize the Hydro Corridor instead of Fairway Road, staff has begun a dialogue with Hydro One to explore options for joint use of the Hydro right-of-way, or for purchase of surplus right-of-way.

The decision to utilize one-way pairs (ie service in one direction only on a given corridor and service in the opposing direction on a nearby parallel corridor) in both Uptown Waterloo and Downtown Kitchener was arrived at following intensive consultation and coordination with area municipal staff, with a view to striking a balance between the technical feasibility of routing a dedicated two-way rail right-of-way through the narrow, built-up and constrained downtown cores, lessening the impact of removing a lane of auto traffic and on-street parking, and maximizing the

reurbanization potential of the adjacent station areas.

In both Uptown Waterloo and Downtown Kitchener, the one-way pairs are sufficiently close together that the resulting overlapping station areas likely increase the intensification potential by capturing a larger area than would be the case for a single station.

Notwithstanding the decision to move ahead with one-way pairs in the first phase of implementation for the reasons described above, the opportunity exists to consider the Panel's recommendations in the context of examining the feasibility of a streetcar or trolley based system to provide future rail-based local transit service, operating in mixed traffic at key reurbanization nodes such as along King Street in Downtown Kitchener.

### **Integration of Rapid Transit with Grand River Transit and Intercity Transit**

A key feature of a Regional rapid transit system will be its connectivity to both Grand River Transit (GRT) and Intercity Transit.

As the implementation of the rapid transit system proceeds, work to redesign and expand the capacity, travel time and connectivity of the GRT network will continue. An update on the progress of this work was the subject of report P-09-039, on May 12, 2009.

The Rapid Transit system will form the backbone for transit within the Region, with GRT operating on a modified grid system with cross-town routes connecting Rapid Transit stations with existing and new satellite transit terminals. Once the rapid transit system is operational, a re-aligned and expanded GRT system will be in place to provide circulation outside of the rapid transit alignment and direct frequent connections to rapid transit stations. It is also envisioned that an expanded express bus network, modeled after the current iXpress service, will operate along prime parallel corridors.

To date, a concept plan for a future high-demand network of GRT routes has been developed. The concept plan, shown on the map in Appendix D, includes key cross-town routes including Main St., Eagle St., Ottawa St., Victoria St., Erb St. and University Ave. that would connect with rapid transit stations, and key high-frequency routes that would parallel the Rapid Transit system. Parallel routes are proposed on Fischer-Hallman Road, Bridge St., Lancaster St., River Road, Coronation Blvd., and Franklin Blvd.

In addition, the Region is also working with GO Transit, VIA Rail, Ministry of Transportation Ontario, Transport Canada, Metrolinx and all local Members of Parliament and Members of Provincial Parliament to ensure Waterloo Region is also adequately served by intercity transit. Regional staff is involved in or providing input to the following initiatives:

- Cambridge to Greater Toronto Area Rail Passenger Feasibility Study
- GO Transit Georgetown to Waterloo Region Extension Environmental Assessment:
  - Bus service is being reviewed to Waterloo Region with possible implementation in 2009
  - Rail Passenger service to Cambridge and Kitchener is also being reviewed
- VIA Rail infrastructure study along the North Mainline to consider additional service in this corridor and is considering investment in the infrastructure in 2009/2010
- The Greater Toronto and Hamilton Area Regional Transportation Plan, which illustrates "possible" Regional Rail extensions to Cambridge and Kitchener/Waterloo
- High Speed Rail study to review the potential for high speed rail in the Windsor to Quebec City corridor

A multi-modal transportation facility is being considered in the area of Victoria Street and King Street in

Kitchener. This facility would link the Rapid Transit system, Grand River Transit, VIA, potentially GO and Intercity Bus Transit. This facility is not part of the current Rapid Transit initiative. Operational and financial details of a multi-modal transportation facility will be further developed as the inter-city transit initiatives identified above continue to evolve.

### **Transition to O.Reg. 231/08 Transit Project Assessment Process**

Ontario Regulation 231/08 for a new expedited Transit Project Assessment Process was approved in June 2008. In August 2008, the Region notified the Ministry of the Environment (MOE) to advise that the Region would transition the Rapid Transit Initiative from the Individual EA to the expedited process at the appropriate time, in order to take advantage of the significant time savings afforded to proponents from commencement of the new process to approval. The process established by the new regulation is intended to allow a proponent to obtain approval for a transit project from the MOE in as little as six months according to the following timelines:

- consultation and completion of documentation and project report – four months,
- final public and agency review and submission of objections – one month,
- MOE decision-making (if necessary) – 35 days.

Details of the accelerated Transit Project Assessment Process are summarized in Report E-08-070.

With the approval of the recommended preferred Rapid Transit System and Implementation Staging Plan, the Region is in a position to identify a Rapid Transit project as defined by the new regulation. Staging Option B, as the preferred implementation staging plan, will be identified as the first project in the implementation of the Rapid Transit Initiative and approval will be sought under O.Reg 231/08.

The Transit Project Assessment Process involves the following steps, shown together with anticipated milestone dates.

- |  |                  |
|--|------------------|
| ▪ Notice of Commencement   | July 2009        |
| ▪ Identification of Provincially Significant Impacts and Mitigation Measures | Summer 2009      |
| ▪ Consultation   | Summer-Fall 2009 |
| ▪ Preparation of an Environmental Project Report                             | Summer-Fall 2009 |
| ▪ Notice of Completion   | Dec 2009         |

Region staff will work closely with the MOE to ensure compliance with the new regulation and to continue to foster a strong working relationship with MOE staff. This is particularly important as the Region will be among the first proponents in Ontario to enter in to the new process.

The Functional Design for the rapid transit system, completed in 2008-2009, will be utilized as the basis for impact definition and development of mitigative measures. Stakeholder consultation will continue throughout the expedited approval process. Opportunities will exist to explore and resolve minor routing details and/or station locations in order to improve the integration of the rapid transit system into the streetscape and improve performance.

### **Next Steps**

If the recommendations in this report are approved by Council it is staff's intention to start the accelerated EA process in July 2009.

Following the immediate next steps the project schedule is as follows:

- Negotiate funding agreement with Provincial and Federal Governments in 2009
- Completion of Accelerated Transit EA & MOE Approval December 2009

- Start implementation of aBRT – 2011
- Design 2010
- Procurement 2010-2011
- Contract Award late 2011
- Construction 2012-2014
- Opening 2014

### **Area Municipal Consultation/Coordination**

The Rapid Transit Project Team includes representation from the Cities of Cambridge, Kitchener, Waterloo and Township of Woolwich. Consultation with Area Municipal staff and other Stakeholder Groups continues to be a priority at each step of the EA.

### **CORPORATE STRATEGIC PLAN**

The report supports several objectives of Council's Strategic Focus. These include:

Focus Area 1: Environmental Sustainability: Protect and Enhance the Environment.

Focus Area 2: Growth Management: Manage and shape growth to ensure a livable, healthy, thriving and sustainable Waterloo Region.

Focus Area 5: Infrastructure: Provide high quality infrastructure and asset management to meet current needs and future growth.

### **FINANCIAL IMPLICATIONS:**

The capital cost of the alternatives being considered range from \$560 million to \$1.3 billion and net operating costs range from \$9 million to \$15 million per year. Both the Federal and Provincial governments have indicated support for the capital cost of a rapid transit project in Waterloo Region. Although supportive, both Governments have indicated that a strong business case will be needed in order to secure funding for this project. More specifically the Province has said:

- June 2007: Move Ontario 2020
  - "The Government of Ontario will fund up to two-thirds of the project costs for Kitchener-Waterloo's rapid transit plan."
- Budget 2008
  - "Waterloo Region is one of Ontario's fastest growing and most innovative communities. The Government is committed to working with its municipal, regional and federal partners to complete technical studies and the environmental assessment for a new rapid transit system and to supporting up to two-thirds of the project costs."

The Federal government has said:

- July 2008: Building Canada Framework Agreement Announcement
  - "The Governments of Canada and Ontario also identified...rapid transit in Kitchener-Waterloo as initial priorities that the two governments will work together on under Building Canada."

Region staff has initiated discussions with the Federal and Provincial Governments concerning funding of the capital cost of the Rapid Transit project. Staff will be continuing these discussions and making an application under the Building Canada Fund during Summer/Fall 2009. Securing both Federal and Provincial funding is essential for the Rapid Transit Project to be constructed. As a minimum, the Region will be responsible for paying for ineligible costs (land purchase, internal staff time etc).

A detailed report of property tax impacts and implementation will be presented to Council for approval once Provincial and Federal funding is finalized. Funding for the Rapid Transit system is proposed to be area rated to the cities of Cambridge, Kitchener and Waterloo in the same manner as current GRT costs. The property tax impacts of the Rapid Transit project would include the net operating and maintenance costs and any Regional share of the capital costs.

The estimated net operating and maintenance costs for staging option B are approximately \$10.5 million/year starting in 2014. This would equate to a Regional tax rate increase of approximately 3.4%.

Any Regional contribution to the capital costs would likely be debentured. To illustrate the potential property tax impacts of Regional capital contributions, it is estimated that \$50 million in debenturing would require approximately a 1.1% tax rate increase. It is likely that the Region will be required to contribute at least \$50 million to fund costs that would be ineligible for Federal and Provincial funding. Therefore, it is estimated that the minimum tax rate increase would be 4.5% by 2014. Staff would propose funding this through incremental tax rate increases over several years (e.g. 1% per year for four years starting in 2011). Any additional Regional contributions to the capital cost would result in additional tax rate increases. The proposed \$1,000,000 funding for Transit supportive initiatives in Cambridge would also require a property tax rate increase of approximately 0.3%.

#### **OTHER DEPARTMENT CONSULTATIONS/CONCURRENCE:**

The Rapid Transit Project Team and Steering Committee 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.

#### **ATTACHMENTS:**

Attachment #1 – Appendix A: Maps of Rapid Transit Short-listed System Options  
Attachment #2 – Appendix B: Multiple Account Evaluation (MAE) Results  
Attachment #3 – Appendix C: Desktop Evaluation of City of Waterloo Routing Alternatives  
Attachment #4 – Appendix D: Map of Preferred Rapid Transit System  
Attachment #5 – Appendix E: Desktop Evaluation of City of Cambridge Implementation Staging Alternative  
Attachment #6 – Appendix F: Map of Preferred Implementation Staging Plan  
Attachment #7 – Appendix G: Summary of Public Comments  
Attachment #8 – Appendix H: Complete Transcript of Public Comments  
Attachment #9 – Appendix I: Responses to Public Comments

**PREPARED BY:** *Thomas Schmidt*, Commissioner of Transportation and Environmental Services

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