MEETING AGENDA

PROJECT: Brampton LRT Alignment Decision Facilitation
PURPOSE: Facilitated Council Workshop 2
DATE & TIME: October 16, 2015 2:00pm – 5:00pm
LOCATION: Boardroom 2C & 2D West Tower
MGP FILE: 15-2425

PARTICIPANTS:
- Mayor Jeffrey
- Councillor Bowman
- Councillor Dhillon
- Councillor Fortini
- Councillor Gibson
- Councillor Miles
- Councillor Medeiros
- Councillor Moore
- Councillor Palleschi
- Councillor Sprovieri
- Councillor Whillans

INVITED:
- Metrolinx Representative
- City of Brampton Staff

Purpose:

- The purpose of the October 16th workshop is to continue the discussion (from October 5th) to clarify the alignment options and narrow the options being considered.

- A third facilitated workshop, tentatively scheduled for Wednesday October 21, 2015 at 9:00am (subject to Council Members schedules), will focus directly on the opportunities for consensus and a decision.

Format of the meeting:

- The meeting will be chaired by Lee Parsons, the Facilitator.

- This is not a final decision making meeting, and Councillors will not be expected to vote on the alignment of the LRT.

- While the public are welcome to attend the workshop, involvement from the public will be as spectators only. Members of the public will not be invited to participate or to give delegations.

- A representative from Metrolinx has been invited to provide an opportunity for Members of Council to ask additional questions of Metrolinx.

- Staff members have been invited to respond to questions and to provide factual information as required.
## Agenda – October 16th Workshop:

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<td>2:00 - 2:05</td>
<td>1. Opening remarks by Facilitator.</td>
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<td>2:15 - 2:45</td>
<td>3. Additional questions from Council Members to Metrolinx.</td>
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<tr>
<td>2:45 - 3:15</td>
<td>4. Additional questions to Staff.</td>
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<tr>
<td>3:15 - 3:30</td>
<td>Break</td>
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<tr>
<td>3:30 - 3:40</td>
<td>5. Long term vision, objectives, and structure of Brampton’s transit/transportation system.</td>
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<tr>
<td>3:40 - 4:10</td>
<td>6. Implications of alternative decision options on the long term transit and vision</td>
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<td>4:40 - 4:50</td>
<td>8. What additional information is required?</td>
</tr>
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<td>4:50 - 5:00</td>
<td>9. Closing remarks and next steps (Facilitator).</td>
</tr>
</tbody>
</table>
Thank you Lee.
I have the following questions for Metrolinx and transit staff.

#1, What is the present ridership on Main Street. What is the projected ridership by 2041 and where will the new riders be generated from if the LRT route will be as presently recommended by staff and Metrolinx.
Will the local bus service be maintained on Main St ones the LRT goes into service and how many riders will the local buses carry.

#2, How will the LRT function in the already congested Downtown, especially when switching lanes south of Queen and north of Queen St

#3, Identify where the re-development opportunities are in the downtown and how will the re-development be mitigated for the 1,000 year storm.

John.
3. Metrolinx will be invited to respond to any additional questions and attend the next workshop as required.
4. City staff will be invited respond to any additional questions and to attend the next workshop to provide any additional input as required.
5. I will circulate a draft agenda and will welcome comments prior to the meeting.
6. Peter Fay will confirm a date for the next workshop. The 16th had been set aside but this may not work for everybody.

Lee

Lee Parsons
MALONE GIVEN PARSONS LTD
L.parsons@mgp.ca
Office 1 905 513 0170 x 110
Mobile +1 416 618 7473
Fax 1 905 513 0177
www.mgp.ca

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www.brampton.ca/en/Info-Centre/Pages/Privacy-Statement.aspx
Lee,

We have consistently asked for the projected numbers for the Brampton portion of the alignment only and have been repeatedly denied the numbers.
I am once again asking for the numbers - north of Steeles only.
Metrolinx keep saying they are looking at the whole alignment and don’t break it down - the more they defend not giving us the numbers, the more I believe they are a critical in terms of us making a decision. They may not be relevant to them - they are to me and others.

Respectfully, I am once again asking for the breakdown. They had to have numbers for each segment to add up to their projection of 12,500 peak hour - so give us the ones for north of Steeles.

Mr. McCuaig said that if Brampton choses to stop at Steeles they would still consider the hmlrt a "success", so I would conclude that north of Steeles are not significant.

Thanks
Elaine
On Oct 7, 2015, at 9:09 PM, Sprovieri, John Councillor <John.Sprovieri@brampton.ca> wrote:

Thank you Lee.
I have the following questions for Metrolinx and transit staff.
#1, What is the present ridership on Main Street. What is the projected ridership by 2041 and where will the new riders be generated from if the LRT route will be as presently recommended by staff and Metrolinx.
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#3, Identify where the re-development opportunities are in the downtown and how will the re-development be mitigated for the 1,000 year storm.

John.

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From: Lee Parsons [mailto:LParsons@mgp.ca]
Sent: 2015/10/06 2:40 PM
To: MayorJeffrey <MayorJeffrey@brampton.ca>; Dhillon, Gurpreet - Councillor <Gurpreet.Dhillon@brampton.ca>; Fortini, Pat - Councillor <Pat.Fortini@brampton.ca>; Sprovieri, John Councillor <John.Sprovieri@brampton.ca>; Medeiros, Martin - Councillor <Martin.Medeiros@brampton.ca>; Moore, Elaine - Councillor <Elaine.Moore@brampton.ca>; Palleschi, Michael - Councillor <Michael.Palleschi@brampton.ca>; Bowman, Jeff - Councillor <Jeff.Bowman@brampton.ca>; Gibson, Grant - Councillor <Grant.Gibson@brampton.ca>; Whillans, Doug - Councillor <Doug.Whillans@brampton.ca>; Fay, Peter <Peter.Fay@brampton.ca>; Bruce McCuaig <Bruce.McCuaig@metrolinx.com>; Grainne Fahy <gfahy@mgp.ca>
Subject: Oct 5 LRT Workshop Next Steps

All,
I thought that our Oct 5 LRT workshop was very helpful toward reaching a common understanding of the decision space and defining the options. The discussion was both wide ranging and pointed.
However, as all agreed, there is still work to be done on a number of key issues that we haven't yet addressed or haven't addressed in sufficient detail.
It was unfortunate that we didn't have time to discuss in depth the material prepared by staff at my request - particularly related to the technical studies of the alternative alignments, the planning issues, and the potential economic opportunities.

Next steps are:
1. We agreed that another date be found for a continuation of the Oct 5 workshop with the object of clarifying the decision options and issues.
2. Councillors will forward additional questions to me and I will forward them to Metrolinx and City staff as required.
3. Metrolinx will be invited to respond to any additional questions and attend the next workshop as required.
4. City staff will be invited respond to any additional questions and to attend the next workshop to provide any additional input as required.
5. I will circulate a draft agenda and will welcome comments prior to the meeting.

6. Peter Fay will confirm a date for the next workshop. The 16th had been set aside but this may not work for everybody.

Lee

Lee

L. Lee Parsons
MALONE GIVEN PARSONS LTD
Lparsons@mgp.ca
Office 1 905 513 0170 x 110
Mobile +1 416 618 7473
Fax 1 905 513 0177
www.mgp.ca

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www.brampton.ca/en/Info-Centre/Pages/Privacy-Statement.aspx
Good afternoon Lee, I have a couple of questions that I would like answered.

How much has Metrolinx spent on advertising, promotion, hauling the train and pick up from City Hall, workers who manned the train, paying their lobby groups etc. for the purpose of pushing the LRT to Brampton residents.

What have the core and soil samples from various areas on the Brampton portion, especially the downtown core, of the route shown in terms of potential problems that will cause delays and increased costs?

Is the 388 million allocated to the Brampton portion of the track in 2014 dollar value or 2020 dollar values?

Thanks

Jeff

Jeff Bowman
City Councillor, Wards 3 & 4
City of Brampton, Council Office, 4th Floor
2 Wellington Street West, Brampton, ON L6Y 4R2
Direct: 905-874-2603  Fax: 905-874-2644
E-Mail: jeff.bowman@brampton.ca

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http://www.brampton.ca/EN/City-Hall/CouncilOffice/Pages/Subscribe-Ward-3-4.aspx

Sent from my BlackBerry 10 smartphone on the Rogers network.

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www.brampton.ca/en/Info-Centre/Pages/Privacy-Statement.aspx
Sorry Lee,
I asked the question the other day, but did not receive a response.
I asked for the specific federal program and the specifics of the program that was driving the need to make an end of the month decision.

I would like this responded to please.

Thanks
Elaine

Sent from my BlackBerry 10 smartphone.

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1A. What is the present ridership on Main Street?

A. City of Brampton staff to provide response.

1B. What is the projected ridership by 2041 and where will the new riders be generated from if the LRT route will be as presently recommended by staff and Metrolinx?

A. Drawing from the 2014 Benefits Business Case for the HMLRT, the 2031 projected Peak Hour ridership is as follows:

FIGURE 5.1 BRAMPTON - DOWNTOWN MISSISSAUGA - BRAMPTON LOAD PROFILE (2031 AM PEAK HOUR)

The pattern of HMLRT demand would be reversed in the PM peak, with minimal southbound boardings in downtown Brampton, but large volumes of northbound alighters given the PM Peak Hour loading is anticipated to be approximately 15% higher than the AM Peak Hour loading.

The project is forecasted to attract 34.5 million passengers per year by the year 2031. Of these, about 15-20% of these riders are forecasted to be new riders. This assessment is based on early Higher Order Transit model testing and empirical evidence. The new riders transfer from the car, from walking and cycling and some will come to the HMLRT as a result of changes in transit trip patterns – that is people who choose to live/work/play in places accessible by HMLRT, rather than elsewhere.

1C. Will the local bus service be maintained on Main St once the LRT goes into service and how many riders will the local buses carry?

A. City of Brampton staff to provide response.
2. How will the LRT function in the already congested Downtown, especially when switching lanes south of Queen and north of Queen St.?

A. Through the Main Street South area and Downtown Brampton, the LRT operator would adjust vehicle speeds in keeping with the established operating protocol as well as being governed by general traffic conditions. The traffic conditions in the Downtown Brampton segment include the presence of mixed traffic operation, the need to move from centre running to curb running, stopping at the downtown stops and turning into/out of the Brampton GO Station LRT terminus stop. Given these features, north of Nanwood, a maximum speed of 40kph is assumed, reducing to 30kph through the downtown, and 20kph on the turn in and out of the GO Station – as noted above however, the actual operating speed of HMLRT will depend on the prevailing traffic conditions and the judgement of the HMLRT driver within the established operating protocol.

From the section of Main Street from Wellington Road to Theatre Lane/Nelson Street West, the HMLRT will operate in a dedicated lane in each direction, allowing the HMLRT stops to be used without delay to general traffic movements. The centre lane in both directions allows traffic movements to continue to use Main Street, with the existing left-hand-turn restrictions still in place at the Queen Street intersection. To prevent right-turn general traffic movements from side streets conflicting with HMLRT through vehicles, these movements would be carried in separate traffic timings periods at the intersection. In addition, the LRT will have traffic signal priority at the Main Street and Wellington Street intersection enabling the LRT to make the northbound movement from the centre lanes to the curb lanes, and vice versa in the southbound direction, safely and efficiently.

The movement of LRVs into and out of the Brampton GO HMLRT terminal stop was arrived at through various design and operational studies. It is proposed that HMLRT movements at the Theatre Lane/Nelson Street West intersection through to the Brampton GO Station LRT terminus stop are controlled as a single move. This is to ensure that HMLRT vehicles do not have to wait in the section of Main Street between Theatre Lane/Nelson Street West and Nelson Street East/GO Station HMLRT entrance. The coordination of traffic signal control at the two intersections would minimize any general traffic queues in the section between the two intersections (in both northbound and southbound directions). For southbound HMLRT services leaving the Brampton GO station LRT terminus stop, it is intended that an indicator be provided at the stop, to inform the HMLRT driver of the optimal time to leave the stop so as to have minimal delay at the first intersection.

3A. Identify where the re-development opportunities are in the downtown?

A. City of Brampton staff to provide response.

3B. How will the re-development be mitigated for the 1,000 year storm?

A. City of Brampton staff to provide response.

4. How much has Metrolinx spent on advertising, promotion, hauling the train and pick up from City Hall, workers who manned the train, paying their lobby groups etc. for the purpose of pushing the LRT to Brampton residents?

A. Metrolinx has an obligation to ensure the public is informed about transit initiatives that are part of the regional transportation plan. The HMLRT is an important component in the development of a regional transit network. The ads recently placed in the Brampton Guardian were informational in nature and designed to convey the rationale for the LRT as well as the benefits the system could provide residents of Brampton. The seven ad placements in the Guardian cost $23,024.73.
As well, between June 16 and July 8, the Light Rail Vehicle (LRV) promotional mock-up was positioned outside of Brampton City Hall. The mock-up provides a ‘life size’ representation of the vehicle that would serve the Hurontario-Main corridor. It allows visitors to experience the future service and learn about Metrolinx in a unique way. The total cost for the 17 event days, and 131 events hours, was $19,500 ($13,468.50 in staffing costs, plus $6,000 for moving the vehicle in and out).

5. What have the core and soil samples from various areas on the Brampton portion, especially the downtown core, of the route shown in terms of potential problems that will cause delays and increased costs?

A. Information about the construction character of building foundations and structures in Downtown Brampton emerged through very preliminary assessments of existing conditions. Further detailed engineering studies will be undertaken in the next phase of implementation to mitigate the impacts of construction and operation of the LRT including:

- An assessment of structures and buildings potentially impacted by the LRT construction particularly those in very close proximity, as is the case in downtown Brampton.
- A geotechnical investigation for existing ground conditions, track bed design, structures, etc.
- Pre-construction condition surveys of structures and buildings to determine what measures are warranted.
- Construction monitoring including noise and vibration levels especially during periods of heavy construction.

As part of the preliminary engineering and TPAP analyses a Utilities Relocation Strategy was prepared. This report outlines the criteria to be used for identification of conflicts and guidelines for the relocation strategy. The planning for the protection/relocation of utilities is an iterative process. Once the major conflicts are identified and a new location is proposed, the configuration will be analyzed for any new conflicts at the new location. This will be done until all utilities and services in the corridor are appropriately accommodated.

During this process, the City of Mississauga, the City of Brampton and the Region of Peel will be consulted. Any concerns about the relocations will be addressed and appropriate changes to the strategy will be made. Subsequent planning and preparations for procurement will involve the updating of this strategy based on further input from the cities, the region, utility and service companies involved. At this stage, specific decisions related to the various types of utilities will be made.

6. Is the 388 million allocated to the Brampton portion of the track in 2014 dollar value or 2020 dollar values?

A. The capital funding commitment of $1.6 B for the HMLRT project is in 2014$.

7. We have consistently asked for the projected numbers for the Brampton portion of the alignment only and have been repeatedly denied the numbers. I am once again asking for the numbers - north of Steeles only. Metrolinx keep saying they are looking at the whole alignment and don’t break it down - the more they defend not giving us the numbers, the more I believe they are a critical in terms of us making a decision. They may not be relevant to them - they are to me and others. Respectfully, I am once again asking for the breakdown. They had to have numbers for each segment to add up to their projection of 12,500 peak hour - so give us the ones for north of Steeles.
A. Metrolinx sees the HMLRT as a single integrated project. We have studied and analyzed the initiative as one project, rather than looking at how individual segments perform. The overall program provides $1.20 in benefits for every dollar invested, a very positive result for projects of this nature. I am not in a position to provide you with information on how individual segments perform. However, when we look at ridership levels, the segment travelling north of Steeles Avenue to the Brampton GO station has strong forecasted ridership, which would suggest that it performs well.

The graphic cited in response to 1B above, extracted from the planning documents prepared in partnership with Brampton and Mississauga over the past number of years, and illustrates the forecasted ridership in the segment between downtown Brampton and downtown Mississauga (Square One) during the 2031 morning peak hour. As you will see from this material, travelling south from the Brampton GO station, loadings peak at the Gateway Terminal at Steeles Avenue. Between Queen Street and Britannia Road, the load profile of a two-car train would result in every seat being occupied, with some standees. This volume suggests that the corridor is ideally suited for light rail transit technology, with capacity available for growth through measures like moving to three car trains and increased frequency of service.

8. I asked for the specific federal program and the specifics of the program that was driving the need to make an end of the month decision.

A. Any further delay in confirming the project scope will adversely impact start of construction scheduled for 2018. A delay in start of construction will delay the in-service date of late 2022.

In addition, an immediate impact of a further delay in confirming the project scope is the doubt it casts over the Metrolinx application for funding from the Government of Canada. Over the next several weeks the Metrolinx application under Round 7 of the PPP Canada funding program must be finalized. Failure to do so will result in an exclusion from the Round 7 eligibility and there is uncertainty regarding the availability of future funding programs.

October 15, 2015
LRT Facilitator Package for October 16, 2015
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Tab #1 – Responses to questions from the October 5, 2015 Councillor Workshop from both City staff.

Tab #2 – Alternative George St. alignment

Tab #3 - Brampton Transportation Strategy slides (as requested by the facilitator)
TAB #1
(Staff responses to Councillor questions from Oct. 5 Workshop)
Date: October 15, 2015

To: Lee Parsons, Malone Given Parsons Ltd. (MGP)

From: Jayne Holmes, Director — Capital Works

Re: LRT Facilitation — Follow up Questions from the October 5, 2015 session

Mr. Parsons,

Please find attached the responses to questions received from Council following the October 5 workshop.

1A. What is the present ridership on Main Street?

A. Brampton Transit ridership for the Hurontario-Main corridor is shown in the table below. Note that the Hurontario-Main corridor ridership numbers are from Brampton Transit services only. They do not include ridership from Mississauga Transit in the corridor, so the current transit ridership along the Hurontario-Main corridor within Brampton is higher than shown in the table.

<table>
<thead>
<tr>
<th>Section</th>
<th>Weekday Ridership by Section</th>
<th>2015-Jul-08</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northbound</td>
<td>Total Weekday</td>
<td>Boardings</td>
</tr>
<tr>
<td>Mississauga Transit Terminal to Derry</td>
<td></td>
<td>2,457</td>
</tr>
<tr>
<td>Derry to Steeles</td>
<td></td>
<td>1,076</td>
</tr>
<tr>
<td>Steeles to Downtown</td>
<td></td>
<td>1,989</td>
</tr>
<tr>
<td>Downtown to Bovaird</td>
<td></td>
<td>1,090</td>
</tr>
<tr>
<td>Bovaird to Sandalwood</td>
<td></td>
<td>202</td>
</tr>
<tr>
<td>Northbound Total</td>
<td></td>
<td>6,814</td>
</tr>
<tr>
<td>Southbound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bovaird to Sandalwood</td>
<td></td>
<td>998</td>
</tr>
<tr>
<td>Downtown to Bovaird</td>
<td></td>
<td>2,235</td>
</tr>
<tr>
<td>Steeles to Downtown</td>
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<td>1,867</td>
</tr>
<tr>
<td>Derry to Steeles</td>
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<td>1,764</td>
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<tr>
<td>Mississauga Transit Terminal to Derry</td>
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<td>372</td>
</tr>
<tr>
<td>Southbound Total</td>
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<td>7,236</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>14,050</td>
</tr>
</tbody>
</table>
1B. What is the projected ridership by 2041 and where will the new riders be generated from if the LRT route will be as presently recommended by staff and Metrolinx?

A. Future transit ridership was forecast for the year 2031 using a travel demand forecasting model (EMME/2) hosted by the University of Toronto that takes into account future growth in population and employment in Brampton as well as in the Greater Toronto and Hamilton Area (GTHA). The need for LRT along the Hurontario-Main Street corridor was identified by qualified professional engineering firms using the forecasting model as input into the Hurontario-Main Street Corridor Master Plan (2010) and the Hurontario-Main LRT Environmental Project Report (2014). The following slide, as presented at the Committee of Council meeting of November 13, 2013, shows LRT ridership at approx. 2700 passengers north of Steeles Avenue in the northbound PM peak hour in 2031, exceeding the capacity of bus rapid transit (2,200 passengers per hour per direction (pphpd)).

LRT ridership will be generated from across Brampton and the adjacent municipalities as shown in the AM peak LRT trip origin and destination maps in Figures 7.9 and 7.10 on the following pages. (1 dot = 10 riders).
1C. Will the local bus service be maintained on Main St ones the LRT goes into service and how many riders will the local buses carry?

A. Brampton Transit will operate some local service on Main Street once the LRT is in service. It is not envisioned that there will be a single route that would parallel the entire corridor, but rather there would be individual routes that would serve a smaller portion of the corridor to meet a specific demand. Brampton Transit does not have ridership projections for this service, but it is anticipated that the demand for this type of service will be low, given the higher level of service provided by the LRT. Frequencies will likely be every 30-60 minutes depending on the demand.
2. How will the LRT function in the already congested Downtown, especially when switching lanes south of Queen and north of Queen St.?

A. Metrolinx has responded under separate cover.

3A. Identify where the re-development opportunities are in the downtown?

A. Staff responded to the earlier question of potential major development opportunities by providing the following for the October 1 Facilitator’s Package:

1. A list of development applications received within approximately the past 5 years, covering the downtown, the Central Area and other parts of the Hurontario Corridor (these were also shown on a map).

2. A list of other key reports on planning studies that identify redevelopment opportunities (these were conceptually shown on a map).

3. A list of ongoing policy and strategic initiatives that also inform redevelopment opportunities.

In addition to the information previously provided, Figure 1 depicts in a 3D model, many of these key applications in the heart of the Downtown. It also models the potential built form arising from various detailed planning studies. The massing shown on Figure 1 generally reflects the permissions arising from the Downtown Special Policy Area study, which entailed a redistribution of growth to minimize risk.

The City of Brampton and the TRCA are currently working together to identify a long term permanent solution to the downtown flooding, potentially containing the storm within a permanent landform feature adjacent to the Etobicoke Creek. With the elimination of flooding, additional development potential would be available.

(Refer to Figure 1 entitled Downtown Brampton Development Potential on next page)
FIGURE 1

LEGEND

- RECENTLY COMPLETED DEVELOPMENT
  1. Park Place Condominium, 27 Storey, 223 Residential Units
  2. Peel Region Rental Housing, 15 Storey, 200 Residential Units
  3. Southwest Quadrant West Tower, 9 Storey, 14611m² Office Building
  4. Alterra Condominium, 27 Storey, 301 Residential Units
  5. Landmarq Rental Building, 14 Storey, 257 Residential Units

- CURRENT MAJOR DEVELOPMENT APPLICATIONS
  1. Site Plan Application, 25 Storey & 29 Storey, 388 Residential Units
  2. Approved Rezoning Application, 17 Storey, 333 Residential Units with 2000m² Commercial/Office use

- POTENTIAL DEVELOPMENT ENVISIONED BY VARIOUS CITY INITIATED STUDIES

- EXISTING BUILDINGS

- DOWNTOWN BRAMPTON BOUNDARY

DOWNTOWN BRAMPTON DEVELOPMENT POTENTIAL
3B. How will the re-development be mitigated for the 1,000 year storm?

Parts of downtown Brampton are susceptible to flooding during the regulatory storm event (Hurricane Hazel intensity). The following flood mitigation measures can be employed to mitigate susceptibility to flooding or flood damage (these are contained in the Downtown Secondary Plan (SP7):

- New buildings must not be susceptible to flooding under a regional storm event. Floodproofing is required, which can take one of two forms:
  - Active Flood Proofing
    - Measures that require advance action, such as closing watertight doors
    - Active floodproofing was used at the Rose Theatre and Greenwood Retirement Communities development at BCCC (formerly Holiday Inn)
  - Passive Flood Proofing, such as:
    - Revised setbacks
    - Adjusted basement elevations
    - Enhanced structural strength of foundation walls
    - Placement of fill
    - Minimizing building openings
    - Installing back-water valves and sump pumps
    - Installing waterproof seals and structural joints
    - All to the satisfaction of the TRCA.
    - Passive floodproofing was used on the Alterra condominium on George Street

- Prohibition of new habitable residential living space below the regulatory flood elevation

- If it is technically impractical to flood proof a building to the regional storm, the minimum storm protection is the 1:350 year storm
  - Since the Etobicoke Creek Channel contains the 1:350 year storm, there may not be additional floodproofing requirements

- Major residential redevelopment plans have been shifted to the outer edges of the floodline where development can gain a second point of access land outside the floodplain, for emergency access (this was first done by Alterra on George Street).

- Lands which cannot gain a second access outside the floodplain are not allowed new residential uses but can have new commercial uses
• Additional ways to minimize risk have also been employed, including:

  o a Downtown Flood Response Plan for evacuation and notification
  o a requirement to prepare Building Safety Plans that address flooding
  o Direct notification to all affected businesses and multi-unit dwellings as to the boundaries of the Special Policy Area, and the details of the flood response plan

4 How much has Metrolinx spent on advertising, promotion, hauling the train and pick up from City Hall, workers who manned the train, paying their lobby groups etc. for the purpose of pushing the LRT to Brampton residents?

A. Metrolinx has responded under separate cover.

5 What have the core and soil samples from various areas on the Brampton portion, especially the downtown core, of the route shown in terms of potential problems that will cause delays and increased costs?

A. Metrolinx has responded under separate cover.

6 Is the 388 million allocated to the Brampton portion of the track in 2014 dollar value or 2020 dollar values?

A. Metrolinx has responded under separate cover.
TAB #2
(Staff response to question regarding an alternative to the George St. Loop)
Date: October 15, 2015

To: Jayne Holmes, Director – Capital Works

From: Chris Duyvestyn, Manager, Infrastructure Planning – Capital Works

Re: LRT Facilitation – Follow up Questions from the October 5, 2015 session

Further to the HMLRT workshop on Oct. 5 in which there was a question about reversing the Downtown loop, please find attached two sketches recently developed by staff showing a concept plan and cross-section for a one-way loop north on Main St into the Brampton GO station and south on George St for Council’s consideration. The concept plan is preliminary and will require further refinement if Council decides to pursue this option.

A few highlights of this loop are:

- One northbound dedicated LRT lane on Main St with one lane in each direction for vehicle traffic for a total of 3 lanes (existing is 4 lanes).
- New grade separation under the CN tracks required for access between north side of Brampton GO station and George St.
- LRT/vehicle traffic share the southbound lane on George St with one northbound lane for vehicle traffic and turn lanes at major intersections.
- Downtown northbound stop on Main St just north of Queen St (similar to TPAP route).
- Protection for 90 m stops maintained for the future.
- Southbound stop on George St cannot be accommodated; however, stop on Main St can service Downtown with the loop.
- With only 3 lanes used, there is an opportunity to increase the sidewalk width on Main St from approx. 3 m existing today to approx. 4.5 m (4th lane not being used is allocated to sidewalks) between Wellington St and Brampton GO/Nelson St.
- Impacts vehicle traffic on George St due to shared operations with LRT.
- Avoids impacts to Ken Whillans Square compared to Alternative 9 Loop option (Master Plan preferred option).
- Requires a slight realignment of Railroad St at George St.
- Brampton GO stop and track alignment appear to avoid or minimize impacts to recent improvement works on south platform by Metrolinx.
- Travel time will increase up to 2 min compared to TPAP surface route.
- Should be the same additional cost as Alternative 9 of $48 M.

Chris Duyvestyn
MAY REQUIRE A SMALL SHIFT OF THE ALIGNMENT FOR RAILROAD / GEORGE RRG.
TAB # 3

(Select slides from the Brampton Transportation Master Plan, requested by the facilitator)
Date: October 15, 2015

To: Jayne Holmes, Director — Capital Works

From: Henrik Zbogar, Manager, Long-Range Transportation Planning

Re: LRT Facilitation – Follow up Questions from the October 5, 2015 session

Further to follow up questions to the HMLRT workshop on Oct. 5, the following information is provided in regards to strategic planning for Transit, as outlined in the City’s Transportation Master Plan.

- The City’s Transportation Master Plan (TMP), since its inaugural version in 2004, has identified Hurontario/Main Street as a key spine – together with Steeles, Queen, and Bovaird – that make up the City’s transit system.
- As a connected network these key transit spines serve multiple purposes, including:
  - supporting growth of the Central Area and Downtown Urban Growth Centre
  - supporting transit supportive nodes
  - supporting increased density in the intensification corridors
  - providing connections between Mobility Hubs
  - providing connections with UGS’s outside of Brampton
  - connecting with GO transit services
  - supporting ridership demand
- The 2004 and 2009 TMPs had labelled these key transit spines “BRT Corridor”. They are also defined in terms of the planned transit service frequency of less than 5 minutes.
- Though called “BRT Corridors” in these TMPs, it is also clearly stated that more detailed studies would need to be completed in the future, to determine the appropriate service delivery technology, based on the projected demand, and the ability to maintain the <5min service frequency over the long term.
- Planning documents for Züm also indicated that BRT is an initial step to higher order transit service in the key spines, either BRT or LRT operating in its own segregated running way.
- Slides 23-25 from the 2015 Transportation Master Plan presentation delivered to Planning and Infrastructure Services Committee on June 22, 2015 show the transit network that is recommended by 2014, in order to accommodate projected growth, and to meet a transit mode split target of 20% from current 9% (Slide 32).
- The nomenclature for the key transit spines has been updated from “BRT Corridor” to “Higher Order Transit Corridor” and also reflects LRT on Hurontario-Main to the Brampton GO Station, consistent with the approved TPAP and the province’s Regional Transportation Plan.

HZ/
Attachment
TRANSIT
STRATEGIC PRINCIPLES

- Invest in and prioritize transit improvements and implementation
- Transit as a viable alternative to the automobile
- Comprehensive, regionally connected system
- Increased modal share from 9% to 20%
1. All routes running outside of the City of Brampton will be determined through additional detailed service planning on strategic corridors.

2. Transit services will be provided to new growth areas in Bram West, Northwest Brampton, and Northeast Brampton. Determination of corridor types will be established through the Secondary Planning Process. Connections to key future transit routes outside of Brampton should be provided as required.

3. “Higher Order Transit” are projects identified in the Big Move.
Work with the Province to expedite two-way all-day GO train service through Brampton.

Expand ZÜM network:
- Steeles West ZÜM
- Queen West ZÜM
- Airport ZÜM

Work towards implementation of the Hurontario-Main LRT.
<table>
<thead>
<tr>
<th>Indicator</th>
<th>Mode Share Today (PM Peak Period)</th>
<th>Mode Share by 2041** (PM Peak Period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit*</td>
<td>9%</td>
<td>20%</td>
</tr>
<tr>
<td>Walking and Cycling</td>
<td>3%</td>
<td>10%</td>
</tr>
<tr>
<td>Carpooling</td>
<td>18%</td>
<td>28%</td>
</tr>
</tbody>
</table>

* Transit includes Brampton Transit, ZÜM BRT, Hurontario-Main LRT, and GO

** City-wide averages. Corridors with higher order rapid transit, such as Hurontario-Main, Queen, Steeles, are expected to have higher mode splits.
Good afternoon. It’s a pleasure to be here. I appreciate the invitation and I have a few comments to begin.

There has been a lot of information going back and forth on the Hurontario-Main Light Rail Transit project. I hope to address some of the questions that have been raised and therefore help to advance the discussion.

First of all, I want to acknowledge the significant decision that lies before City Council. The decision to proceed with this project is important to the City and the region as a whole. My belief is that moving ahead with this project will support the transformation of the City and the region. This will provide more choices for how we move around our communities. It will link the principles related to our growth objectives, to our objectives to protect green spaces, to the plans to provide people with better transportation choices, to a real plan for action. A plan that will help achieve our planning, environmental and economic objectives.

The HMLRT is a project that has its genesis in the efforts of the cities of Brampton and Mississauga to design a future for their communities that included rapid transit. It was identified as an important initiative by the municipalities when work began on the regional transportation plan in 2006. The HMLRT became one of Metrolinx’s priority projects when the transportation plan was finalized and endorsed in 2009. Over the subsequent years, Metrolinx supported the efforts of Brampton and Mississauga to advance the project through planning, engineering and design processes. To connect it with land use planning activities. And to gather input from the public, stakeholders and other interested parties.
We believed that the project was important in providing a critical north-south spine of rapid transit in Peel Region, connecting the cities and residents to the regional transit system at the Port Credit, Cooksville and Brampton GO stations. Linking rapid transit with the rapidly growing urban development in Brampton and Mississauga, and reinforcing the roles of downtown Brampton, downtown Mississauga and Port Credit as mobility hubs. The project solidifies the role of these three centres as important places from a local and a regional perspective.

The numbers speak for themselves. The population in the corridor served by the HMLRT is forecasted to grow by 40%. The project is forecasted to attract 34.5 million passengers per year. Of these, about 15 to 20% of these riders are forecasted to be new riders. In the three-hour morning peak period, the line will carry about 12,500 customers between downtown Brampton and downtown Mississauga, and a higher number in the afternoon peak period. This kind of volume is exactly the kind of demand that LRT is designed for, while providing room for growth in the future. In other words, the project will meet the needs of your community now, and for decades in the future.

At the end of 2013, Metrolinx joined Brampton and Mississauga as a co-proponent to advance the project through additional public consultation and the environmental assessment process. As you know, this led to the notice to proceed with the project under what is known as the “Transit Project Assessment Process” on August 25, 2014.

City Council directed your staff to undertake additional review of alternatives. This was completed and reported back to Council earlier this year. City staff used SNC-Lavalin to undertake a comprehensive analysis of 11 options, and this analysis was independently reviewed by the firm of Hatch Mott MacDonald. The conclusion of the peer review was that methodology used was robust and provided conclusions that could be replicated. That the evaluation criteria were appropriate. And that the overall report findings were defensible and no additional alignments needed to be identified and evaluated. My point in including this information, which is taken directly from the
report, is that comprehensive, professional and objective analysis has been completed that is sufficient for decision-making purposes.

Metrolinx appreciates that the HMLRT was one of three of City Council’s transit priorities. The other two priorities are two-way, all-day service on the GO line serving Brampton, and rapid transit along Queen Street. These are Metrolinx’s priorities as well. We are actively working to move ahead with additional GO service, and I was pleased to join the Premier and Minister of Transportation on April 17th to announce the Regional Express Rail program, that includes 15-minute two-way, all-day electrified GO service between Bramalea and Union Station. That announcement also included 30-minute peak period service between Mount Pleasant and Union Station. Since then, the Minister of Transportation, MPPs, the Mayor and Councillors announced in August the new midday service between Mount Pleasant and Union Station that began on September 8th. We are working with CN to identify ways in which we can further increase service. More GO services is one of our key priorities.

Rapid transit along Queen Street is also a priority. It is an initiative that requires a significant amount of time and energy to develop the vision for this line, and Metrolinx is committed to work with Brampton and Vaughan to develop this concept over the coming years. But there should be no mistake. Getting the Queen Street initiative to the level of readiness that we have with the HMLRT will take years of work between the municipalities and Metrolinx. I am confident that it will advance, but it is not ready to progress to construction now.

Metrolinx is ready to work with Brampton on advancing the HMLRT. But we need Council’s decision by the end of October if we are to meet the objective of beginning construction in 2018 and opening service to customers in 2022. If Council has not made a decision, we will proceed with the project as far north as Steeles Avenue.

The Province and Metrolinx have been asked whether the funding is committed to Brampton no matter what route is chosen. The Minister has made it clear that he will respect Council’s decision, but the funding is tied to the environmental assessment-approved Main Street route. The funds that have been committed are not committed to Brampton, but to the specific project. If Council chooses not to
support the project, the funds will be returned to the Province’s Move Ontario Forward program for possible reallocation to other priority projects.

Metrolinx wants to work with Brampton as a real partner. We have been working with Brampton and Mississauga for many years now, and I look forward to building what I believe will be a critical part of our infrastructure for Brampton, Mississauga, and the region as a whole.

Thank you.
Hurontario-Main LRT  
Gateway Terminal (Steeles Ave) as Northern Terminus  
Benefit Cost Analysis (BCA) Sensitivity

BCA Sensitivity Evaluation Process and Assumptions

A High Order Transit (HOT) model run has been undertaken to estimate the benefits of terminating Hurontario-Main LRT (HMLRT) at Steeles. Along with estimates of capital and operating costs for the Phase 1 option, they form the inputs to the BCA assessment.

The HOT model run assumed the project terminated at the planned Gateway Terminal (Steeles Ave) HMLRT stop, with otherwise unchanged frequencies and run times for the project. This represents a reduction in the project length of 3.45km, or some 15% of the full project. North of the Gateway Terminal the transit and highway network are as per the Business As Usual (BAU), with the Brampton Transit routes 2/502 now terminating at Gateway Terminal, rather than at downtown Brampton as for the full HMLRT project, and the extension of the routes 53/54 (to cover local bus service under the full project) removed.

Capital and Operating Costs
Capital costs have been estimated by subtracting the costs for section 8 and 9 set out in the Preliminary Design Cost Estimate Report, dated October 22, 2013 from the Capital Cost Estimate DW 3 Revisions, dated 2014-06-13. The costs also reflect the smaller fleet size required (44 compared to 51 for the full project), as well as a pro-rata adjustment to the MSF cost. Price base and other adjustments have been made consistent with the methodology set out in the full HMLRT BCA report. The resultant capital and renewal costs are shown in Table 1.

Table 1: HMLRT Phase 1, Steeles Only Capital Costs ($m, 2012 prices)

<table>
<thead>
<tr>
<th>Cost</th>
<th>Steeles only</th>
<th>Full project</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital cost</td>
<td>1,194</td>
<td>1,402</td>
<td>-15%</td>
</tr>
<tr>
<td>Renewals (non-fleet)</td>
<td>394</td>
<td>468</td>
<td>-16%</td>
</tr>
<tr>
<td>Fleet renewal (year 30)</td>
<td>214</td>
<td>249</td>
<td>-14%</td>
</tr>
</tbody>
</table>

HMLRT operating costs and bus network operating cost savings have been calculated consistent with that for the full project.

<table>
<thead>
<tr>
<th>Cost</th>
<th>Steeles only</th>
<th>Full project</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRT operating cost</td>
<td>21.35</td>
<td>23.95</td>
<td>-11%</td>
</tr>
<tr>
<td>Bus operating cost saving (2031)</td>
<td>19.24</td>
<td>18.95</td>
<td>+2%</td>
</tr>
</tbody>
</table>

The changes across the cost elements are broadly consistent to the reduction in project route length (-15%). The exception to this is the bus cost savings which are very similar to those for the full project, since the additional cost of running the 2/502 to the Gateway Terminal is broadly balanced by not having to extend the
Although the 2/502 are more frequent than the 53/54, they are also faster, so consume fewer vehicle hours per trip.

Ridership Impacts

The forecast AM Peak HMLRT ridership is summarised in Table 3. The northern HMLRT route, between downtown Mississauga and Brampton, experiences a drop of some 14% in ridership. The southern HMLRT route (Downtown Mississauga - Port Credit) is unchanged, leading to an overall 7% drop in ridership. Annual demand falls from 34.5m to 32.0m.

<table>
<thead>
<tr>
<th>Route</th>
<th>2031 AM Peak Ridership</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mississauga-Brampton</td>
<td>10,717</td>
<td>-14%</td>
</tr>
<tr>
<td>Port Credit – Mississauga</td>
<td>11,823</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>22,540</td>
<td>-7%</td>
</tr>
<tr>
<td>Annual</td>
<td>32.0m</td>
<td></td>
</tr>
</tbody>
</table>

The resulting demand profile for the northern HMLRT route is shown in Figure 1. The level of boarding in Brampton is still considerable, but less than the full project overall, with the result that the peak line loading is comparable to the seating capacity, compared to 40% above in the full project (occurring south of the Gateway Terminal). The flow profile on the southern HMLRT (Downtown Mississauga-Port Credit) route is unchanged.

The impact on highway flows is modest, with some minor re-routing from competing corridors back to Main Street with the removal of HMLRT north of the Gateway Terminal.
Benefit:Cost (BCR) Analysis

The monetised benefits encompass changes in transit and highway user time, along with the transit revenue impacts to offset such costs. More modest benefits are also included around urban realm, health and emissions. All the benefits are derived from the forecast ridership impacts and associated changes in transit and car use, with the exception of urban realm – for this element, the original analysis was revisited and the benefits accruing from the section north of the Gateway Terminal removed.

The BCR is shown in Table 4. On the cost side, the capital and operating cost changes follow the pattern set out above, with the HMLRT costs falling by around 15% in line with the reduced project scope, while the bus operating costs savings are unchanged. Transit revenues fall 8% in total. Overall, costs fall 23%, exceeding the 15% reduction in project scope largely since bus operating cost savings are maintained. For benefits, transit benefits drop 18%, but the highway disbenefits are unchanged. The modelled highway flows through this section of HMLRT are modest, with the grid network allowing routing alternatives at negligible impact to overall travel times. Removing this section of HMLRT has no discernable impact on the highway impacts. This is also reflected in the auto operating cost savings, which are also unchanged, as the transfer from car to transit is comparable to the full HMLRT project. Overall, the benefits fall 16%. The resulting BCR for the Gateway Terminal is 1.24:1, a modest increase from the full project BCR of 1.14:1.

<table>
<thead>
<tr>
<th></th>
<th>Steeles</th>
<th>Full Project</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Costs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LRT Capital Costs</td>
<td>1,038</td>
<td>1,219</td>
<td>-15%</td>
</tr>
<tr>
<td>LRT Renewal Costs</td>
<td>184</td>
<td>217</td>
<td>-15%</td>
</tr>
<tr>
<td>LRT Operating Costs</td>
<td>496</td>
<td>556</td>
<td>-11%</td>
</tr>
<tr>
<td>Bus Capital Cost Savings</td>
<td>-96</td>
<td>-96</td>
<td>0%</td>
</tr>
<tr>
<td>Bus Operating Cost Savings</td>
<td>-428</td>
<td>-421</td>
<td>2%</td>
</tr>
<tr>
<td>Incremental Revenues - Local Transit</td>
<td>-154</td>
<td>-139</td>
<td>11%</td>
</tr>
<tr>
<td>Incremental Revenues - GO Rail</td>
<td>-104</td>
<td>-140</td>
<td>-26%</td>
</tr>
<tr>
<td>Healthcare and Productivity Savings</td>
<td>-51</td>
<td>-50</td>
<td>2%</td>
</tr>
<tr>
<td><strong>TOTAL COSTS (PVC)</strong></td>
<td>884</td>
<td>1,145</td>
<td>-23%</td>
</tr>
<tr>
<td><strong>Benefits</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transit User Time Savings</td>
<td>937</td>
<td>1,140</td>
<td>-18%</td>
</tr>
<tr>
<td>Auto User Time Savings</td>
<td>-137</td>
<td>-141</td>
<td>-2%</td>
</tr>
<tr>
<td>Safety Savings</td>
<td>21</td>
<td>21</td>
<td>-1%</td>
</tr>
<tr>
<td>Auto Operating Cost Savings</td>
<td>226</td>
<td>229</td>
<td>-1%</td>
</tr>
<tr>
<td>Emission Savings</td>
<td>4</td>
<td>4</td>
<td>-1%</td>
</tr>
<tr>
<td>Urban realm</td>
<td>41</td>
<td>51</td>
<td>-19%</td>
</tr>
<tr>
<td>Health - Quality of Life</td>
<td>4</td>
<td>4</td>
<td>2%</td>
</tr>
<tr>
<td><strong>TOTAL BENEFITS (PVB)</strong></td>
<td>1,096</td>
<td>1,308</td>
<td>-16%</td>
</tr>
<tr>
<td>Net Benefit (NPV)</td>
<td>212</td>
<td>163</td>
<td>30%</td>
</tr>
<tr>
<td><strong>BENEFIT: COST RATIO (BCR)</strong></td>
<td><strong>1.24:1</strong></td>
<td><strong>1.14:1</strong></td>
<td></td>
</tr>
</tbody>
</table>
Sensitivities
The analysis presented is subject to sensitivity around some of the variables.

1. MSF costs have been pro-rated to fleet size. If the full MSF were built at the outset (in anticipation of a later extension to Brampton going ahead), then the additional cost reduces the BCR marginally to 1.22:1.

2. Local transit revenue is forecast to increase with Steeles only. This may be the effect of model ‘noise’, rather than a true effect, and limiting the change to trips to and from Peel reduces the BCR marginally to 1.20:1.

The impact of the above on the BCR overall shows that at worst the case for Steeles is comparable to that for the full project and may be marginally better.

HMLRT Project Team
Rapid Transit
Capital Projects Group
Metrolinx