



METROLINX

Hamilton King-Main Rapid Transit Benefits Case Analysis (BCA)

**Metrolinx Board of Directors Meeting
February 19, 2010**

What is the Metrolinx BCA?

- A project evaluation collaboration between Metrolinx, municipal and transit agency partners
- Assessment of project options within a proposed rapid transit corridor
- 30-year forecast outlook
- Based on the “Multiple Account Evaluation” framework, including:
 - Transportation user benefits
 - Financial impacts
 - Economic development impacts
 - Environmental impacts
 - Socio-community impacts
- Applied consistently across all Metrolinx “Top 15” priority projects to inform project funding decision-making



BCA Workplan Update

- In late 2008, the former Metrolinx Board directed staff to complete BCA's for all unfunded *Big Move* Top 15 projects
- Hamilton King-Main is part of a staggered multi-BCA rollout plan [see right]
- Metrolinx Top 15 includes:
 - 11 BCA's [right] plus three project commitments that pre-date Metrolinx: Airport Rail Link, Mississauga Transitway and Spadina Subway Extension
 - For BCA evaluation purposes, the Sheppard-Finch projects were consolidated into a single continuous corridor concept
 - The bundle of GO Rail expansion projects includes the Barrie, Bowmanville Extension, Milton, Richmond Hill and Stouffville corridors

BCA Metrolinx Board Presentation	2008	2009	Feb 19, 2010	2010 TBD
York Viva				
Scarborough RT				
Sheppard-Finch				
GO Lakeshore*				
Yonge North*				
Eglinton				
Hamilton King-Main				
Other GO Rail Expansion				
Durham Highway 2				
Halton-Peel Dundas				
Peel Hurontario				

* Interim BCA completed; final BCA subject to additional network planning and analysis



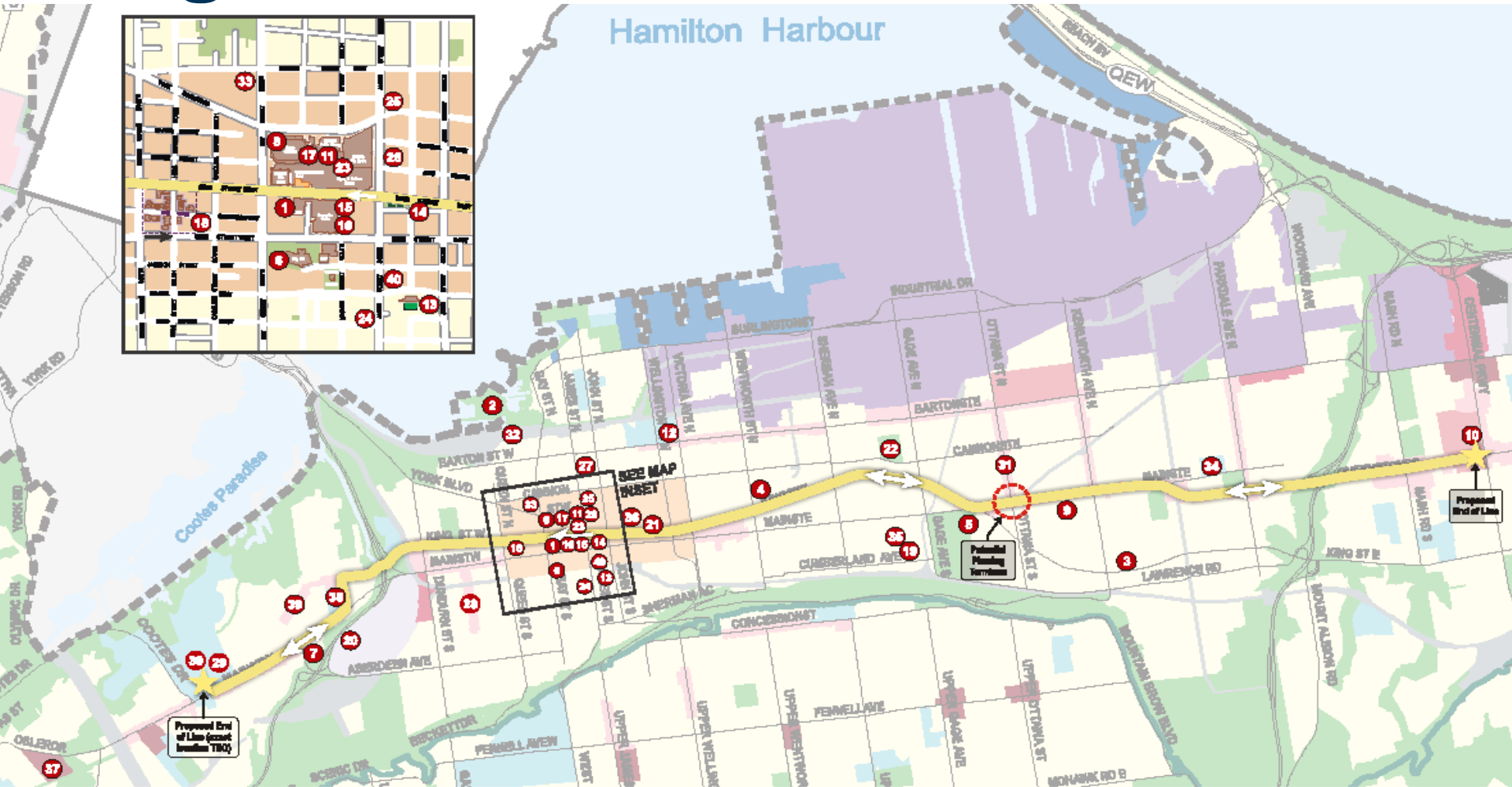
Hamilton-Metrolinx Overview



- Hamilton is prominently featured in Metrolinx network plans
- King-Main “B-Line” [19 above] is a *Big Move* Top 15 project
- James-Upper James “A-Line” [18] is in the Metrolinx 15-Year plan
- Premier’s \$3M commitment (2009) is funding:
 - Planning, design and engineering (PDE) work for B-Line
 - Feasibility work for A-Line
- Potential future GO Transit rail improvements [3] include:
 - All-day, two-way service to Toronto
 - A new Hamilton GO train station on James Street (LIUNA)
 - GO Lakeshore rail electrification
 - GO Transit rail extension to Niagara Region



King-Main "B-Line" Corridor

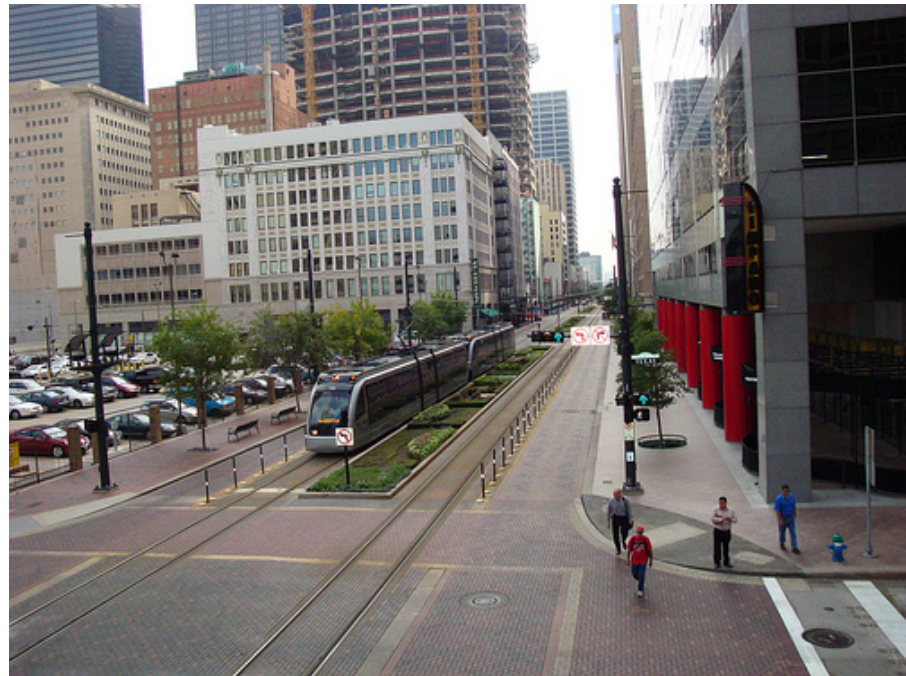


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|------------------------------------|-------------------------------|--|---|---|
| 1 Art Gallery of Hamilton | 8 Delta Secondary School | 17 Hamilton Public Library | 25 James Street North Arts District | 33 Sir John A. MacDonald School |
| 2 Bayfront Park | 10 Eastgate Square | 18 Hass Village | 26 Lister Block | 34 Sir Winston Churchill Secondary School |
| 3 Brock University East-end Campus | 11 Farmers Market | 19 Imperial Cotton Centre for the Arts | 27 Luna Station | 35 St. Peter's Hospital |
| 4 Cathedral High school | 12 General Hospital | 20 Innovation Park | 28 Locke Street South Shopping District | 36 Theater Aquarius |
| 5 Children's Museum | 13 GO Station | 21 International Village BIA | 29 McMaster University Medical Centre | 37 University Plaza |
| 6 City Hall | 14 Gore Park | 22 Ivor Wynne Stadium | 30 McMaster University | 38 Westdale Secondary School |
| 7 Columbia International College | 15 Hamilton Convention Centre | 23 Jackson Square | 31 Ottawa Street Textile District | 39 Westdale Village |
| 9 Copps Coliseum | 16 Hamilton Place | 24 James South Professional District | 32 Pan Am site | 40 YMCA of Hamilton-Burlington |

Examples of Centre-Median Rapid Transit



*San Francisco, California
Geary BRT Corridor (proposed)*



Houston, Texas LRT



BCA Options



Base case today: “BRT-lite” service on King and Main Streets featuring high-frequency diesel-hybrid articulated buses

Option 1: Full BRT



Option 3: Phased LRT (East Segment BRT-lite)

Assumes full LRT deferred to 2030, the near-end of the BCA 25-year planning horizon



BCA Key Results

	Option 1: Full BRT 14.2 km	Option 2: Full LRT 14.2 km	Option 3: Phased LRT 9.3 km
Total Capital Cost* (\$ 2008)	\$220 M	\$830 M	\$600 M
Transportation User Benefit : Cost (PV)	\$313 M : \$220 M	\$852 M : \$784 M	\$748 M : \$655 M
Benefit : Cost Ratio	1.4	1.1	1.1
Emissions reduction (PV)	\$0.6 M	\$2.6 M	\$2.5 M
Land Value Uplift	\$38 M to \$77 M	\$50 M to \$144 M	\$38 M to \$106 M
Jobs during construction	1,837 person-years	5,793 person-years	4,308 person-years
Jobs long-term	48 person-years	187 person-years	187 person-years

Note: Higher-confidence costing will be developed in PDE workplan phase



More BCA Results

	Option 1: Full BRT 14.2 km	Option 2: Full LRT 14.2 km	Option 3: Phased LRT 9.3 km
Social Community Impacts			
Land Use Shaping	✓	✓✓✓	✓✓
Reduced Road Network Disruption	✓✓✓	✓	✓✓
Reduced Construction Disruption	✓✓✓	✓✓	✓
Key Assumptions			
Headway	2.5 minutes	4 minutes	4 minutes
2031 capacity per peak hour peak direction	2,200	1,950 to 3,900	1,950 to 3,900
2031 ridership per peak hour, peak direction	1,700	2,100	2,100
LRT Vehicles	n/a	30	20
BRT Vehicles	36	n/a	n/a
Travel time end-to-end	34 minutes	26 minutes	30 minutes



BCA Summary Findings

- All three options – BRT, full LRT and phased LRT:
 - Generate more benefits than cost to Hamilton and the region
 - Are capable of meeting projected long-term demand in the corridor
- Key BRT advantages
 - Lower capital and operating costs
 - Less disruption to local road network
 - Less construction disruption
- Key LRT advantages
 - Stronger catalyst for land value uplift, land-use shaping and urban revitalization
 - More significant emission-reduction and economic development (jobs, income and GDP growth) impacts
 - Faster travel times and a higher-quality transportation experience
 - Will attract more people out of their cars



Implementation Issues

- Coordination between rapid transit construction timelines and the 2015 Pan Am Games
- Supportive transit signal priority measures to accelerate BRT or LRT operating speeds
- Conversion from a one-way to two-way street system to:
 - Give rapid transit faster, more competitive trip times for shorter trips
 - To create a healthier, more pedestrian friendly downtown
- Complementary City of Hamilton land use and economic development objectives to attract investment and redevelopment
- Integration between Hamilton Rapid Transit and:
 - Local transit feeder services
 - Expanded GO Transit regional services at Hunter Street Station
- Fiscal capacity to support rapid transit operating and maintenance costs



Proposed Go-Forward Strategy

- Metrolinx Board approve the BCA
- Hamilton has indicated its 2010 Planning, Design and Engineering (PDE) workplan will continue to build and refine the case for LRT
- The 2010 PDE workplan:
 - Recognizes unanimous support for LRT by Mayor of Hamilton and Council
 - Builds on the BCA and other planning work completed to date
 - Supported by a \$3 million provincial/Metrolinx grant executed in 2009
- PDE deliverables will include:
 - Assessment of corridor constraints and opportunities
 - Detailed route alignment and stop location alternatives
 - Detailed ridership and service forecasts
 - Detailed capital and operating costs
 - Environmental Assessment (EA) process and public consultation



Staff Recommendation to Metrolinx Board

➤ *RESOLVED:*

- *THAT* the Metrolinx Board approve and publicly release the February 2010 Hamilton King-Main Rapid Transit Benefit Case Analysis (BCA) report, demonstrating positive benefits for the Bus Rapid Transit (BRT), full Light Rail Transit (LRT) and phased LRT options described further in this report;
- *THAT* the Board direct staff to continue to work collaboratively with the City of Hamilton on the planning, design and engineering (PDE) workplan for the King-Main corridor in 2010; and
- *THAT* staff report back to the Board in late 2010 with a PDE workplan status update.

