

The Way Ahead - London's Bus Rapid Transit Strategy

The BRT Strategy was developed as an integral part of the London 2030 Transportation Master Plan (TMP), approved by Municipal in June 2012. Conceived as an integrated growth management and transportation planning program, the TMP is a transportation strategy that not only accommodates population and economic growth in London over the next 20 years, but also attempts to shape that growth through the spatial distribution of economic and other activities and through sustainable transportation outcomes. The TMP is supported by five or strategic initiatives, namely:

1. Rethinking Growth to Support the Transportation Master Plan
2. Taking Transit to the Next Level
3. Actively Managing Transportation Demand
4. Greater Investment in Cycling and Walking Infrastructure
5. More Strategic Program of Road Network Improvements

The *transformation* of London's transit service is closely intertwined with rethinking growth strategy which is focused on managing the City's growth. The TMP recommended that the City reshape its current pattern of growth – based on population growth of about 1% per year – to focus on intensification, which would involve directing at least 40% of future population and employment growth into the downtown area and along the proposed rapid transit corridors. The introduction of higher-order transit corridors provides a critical platform for this intensification, which in turn can further support robust transit ridership on the proposed BRT corridors.

BRT Overview

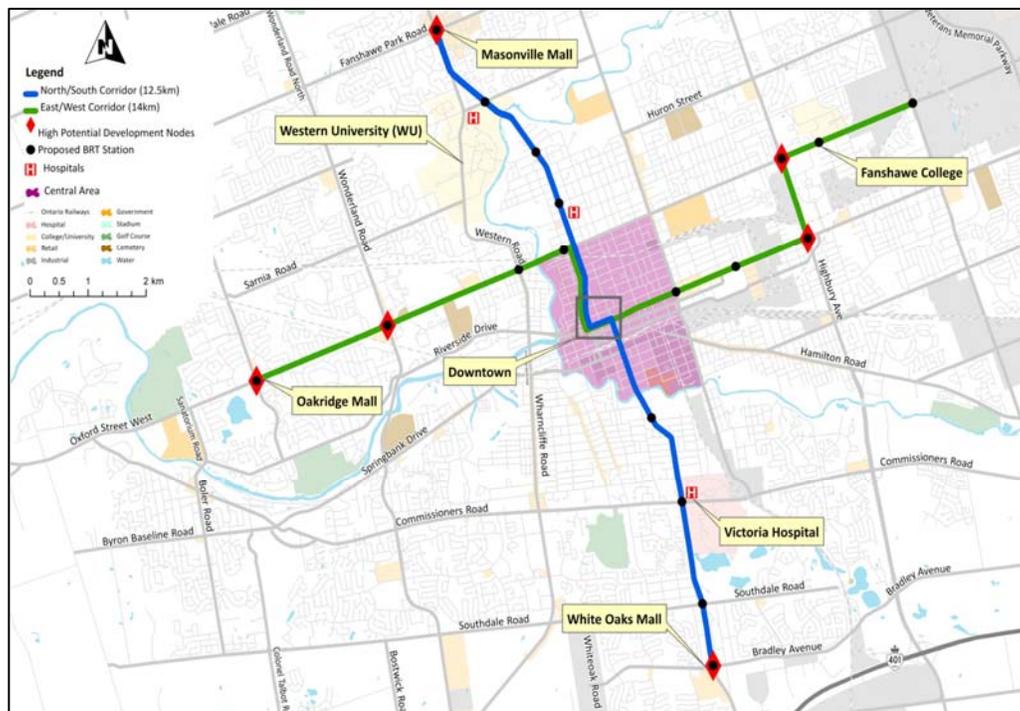
The BRT Strategy is not a single new project. It is a fundamentally different way of approaching urban passenger transportation in London. The BRT Strategy includes both new infrastructure and service improvements that would transform how public transit services are delivered in London. The two components to the strategy are:

1. A BRT Network consisting of two corridors: one running north-south along the Richmond Street and Wellington Road corridors and one running east-west along the Oxford Street and Dundas Street corridor, with the two corridors intersecting within the downtown area. The preferred BRT corridors and proposed station locations are shown below
2. Enhanced local feeder services to support ridership on the BRT corridors (which would be addressed through an extensive review and restructuring of existing routes).

The TMP envisions the BRT being fully implemented in 2020. When it is fully implemented it will improve travel time performance, increase the passenger capacity of the transit network and improve the quality of service for transit passengers. This will be achieved through several characteristics that differentiate BRT from other, local bus services:

- Frequent service along the BRT corridors, allowing riders to use the service without needing to consult a schedule.
- Limited key stops along the BRT corridors.
- Transit priority measures including traffic signalization, queue jumps up to an including bus-only lanes.
- Distinct buses: BRT services will use distinctly branded, higher-capacity, articulated buses.
- Enhanced stations: that is, bus stops with larger, more prominent waiting areas, larger shelters, seating, and potentially an enclosed waiting area.

Preferred BRT Corridors with Proposed Stations



The Business Case

The business case is a broad-based assessment of the benefits and costs of a new BRT service and enhancements in associated transit services. It provides an understanding of how the BRT Strategy will improve the standard of living for London residents and improve the competitiveness of businesses in the region. The Business Case takes into account not only the financial implications of the new BRT service, but also the transportation user benefits and the economic, environmental and social impacts of the BRT Strategy. The Business Case assessment considers the following categories of benefits:

- Transportation user -measuring travel time savings, auto operating cost savings and safety benefits from reduced road traffic
- Environmental consideration which captures the impact on GHG emissions
- Financial considerations which consists of the net capital and net operating costs (transportation and maintenance) associated with the BRT Strategy
- Economic development which capture the impact of capital spending on employment and output in the short-term and the impact of additional services and operations associated with the BRT Strategy over the long term
- Social and community account, which describes the impacts of the BRT Strategy on land use shaping and specific socio-economics groups

The results of the BRT Business Case Assessment are set out in the following table:

Business Case – London’s BRT (2020 – 2049)

	Criteria	BRT Strategy Net Present Value 2012\$ M (unless otherwise noted)
Transportation User Account	Transportation User Benefits (NPV \$M)	735
	Qualitative User Benefits	✓✓✓
Environmental Account	GHG Emissions (NPV \$M)	2
Financial Account	Net Incremental Capital Costs (NPV \$M)	(300)
	Net Incremental Operating Costs (NPV \$M)	(114)
	Benefits Less Costs (NPV \$M)	323
	Benefit-Cost Ratio	1.8
	Economic Rate of Return	11.3%
Economic Development Account	ECONOMIC IMPACTS DURING CONSTRUCTION	
	Employment (person-years)	3,500
	Income (2012\$ M)	129
	GDP (2012\$ M)	288
	LONG-TERM ECONOMIC IMPACTS, 2030	
	Employment (person-years)	110
	Income (2012\$ M)	9
	GDP (2012\$ M)	20
	Land Value Uplift (\$M)	90
Social Community Account	Land Use Shaping	✓✓
	Impacts on Socio-Demographic Groups	✓✓

Note: ✓ = slightly positive impacts - ✓✓ = positive impacts - ✓✓✓ = very positive impacts.

In strict benefit-cost terms, the BRT Strategy would be expected to generate \$1.8 of benefits for every \$1 investment in the net capital and net operating costs required to deliver the transformation of London’s transit service. The investment required for the BRT Strategy is summarized in the financial account, which shows that the net incremental capital costs under the BRT Strategy amount to \$300 million in NPV terms over the 30-year period. Net new operating and maintenance costs for the BRT Strategy were estimated at \$114 million.

The benefits from the BRT Strategy for the full 2020-49 period consist of the \$735 million under the transportation user account and \$2 million of GHG emissions savings under the environmental account. Together, the combined benefits exceed the capital and operating costs associated with the BRT Strategy by \$323 million in NPV terms (or by a ratio of 1.8:1). The same figures can be expressed in terms of an economic rate of return of 11.3% over the 30-year period. All of these benefits would be lost to London if the BRT Strategy did not proceed.

The transportation user benefits of \$735 million consist primarily of travel time savings for transit users, but also include auto operating cost savings and travel time savings resulting from less driving. These results are conservative for several reasons:

- There is likely to be additional latent demand for transit services as the BRT Strategy is put in place given the current transit service is already operating at close to full capacity at peak periods, resulting in significant service level deterioration (i.e. in-vehicle crowding, longer wait times at bus stops, etc). This means that the BRT Strategy scenario should benefit from additional latent demand that is not factored into the results.
- The capital and operating costs estimated under the BRT Strategy do not take into account of any savings which are likely to result from a restructured and optimized transit route network (e.g. removal of overlapping services).
- Conservative assumptions have been used to convert travel time benefits into monetary values (e.g. the growth in the value of time is limited to 0.5% per year in real terms, which is well below the assumptions in other benefit case assessments in Ontario)

Economic development and the social and community considerations further strengthen the case for the BRT Strategy, noting, from an economic perspective:

- required capital investment (dedicated bus lanes and additional rolling stock) would result in direct and indirect impacts of approximately 3,500 full-time equivalent jobs, \$129 million in additional income and \$288 million in GDP during the construction period. The figures are reported for Ontario as a whole, noting the construction activity will stimulate primarily local job creation.
- the sum of the direct and indirect impacts would be approximately 110 full-time equivalent jobs, \$9 million in additional income and \$20 million in GDP creation for the year 2030 and for each other year in which the BRT Strategy is in operation.

In terms of the social and community considerations, the BRT Strategy:

- Provides a critical platform for the intensification of residential and employment growth in the downtown and along the BRT corridors.
- provides significant benefits for several socio-demographic groups such as students, the elderly and low-income groups, all of whom tend to rely more heavily on transit. In addition, the BRT Strategy will help make public transit a more attractive and feasible commuter travel option for the 18-34 age group who are postponing car purchases, driving less and looking for alternatives to auto-dependence compared to earlier generations.

Summary

London's BRT Strategy represents a unique, once-in-a-generation opportunity to transform the scale and quality of London's transit network in order meet the population growth and ridership demands for the City and the wider region.

If there is remaining doubt as to the value that this BRT strategy brings to London, consider London's transit network without any improvements. The existing network has been successful in generating substantial increases in ridership over the last several years, but is now at the breaking point. Buses on many routes are crush-loaded through most of the day and are unable to accommodate any more passengers. At some stops, users are left at the curb and forced to wait longer for another bus.

It is not possible for the existing level of service to accommodate growth in London's population or a further mode shift to transit. Incremental additions to transit service may partially alleviate crowding along certain routes during certain time periods, but these are insufficient to fully solve future capacity constraints. Though there may not be as large a fiscal outlay toward infrastructure or services in maintaining the status quo there would be negative impacts on the population, particularly groups that are dependent on transit, such as the elderly, youth, and lower-income individuals. These groups will bear the brunt of the degraded service quality and reduced mobility that will result from the status quo. Further, London is not likely to achieve its 40% intensification target with the Base Case transit network, resulting in more sprawl at the periphery and less investment within the downtown and other built neighbourhoods.