





### A Critical Connection for the GTHA

This business case sets out the reasons why Metrolinx should recognize the Yonge Subway extension as a top priority, and how funding this critical missing link will benefit the Province, the Greater Toronto and Hamilton Area (GTHA) and the public who are expecting to be provided with better transit options.

### The Next Phase in the Evolution of GTHA Transportation

Like other proposed projects, extending the Yonge subway will link commuters and communities geographically. But what really sets the project apart is the role it will play in evolving the GTHA's transportation network to the next stage.

No other project can do more to advance the broad strategy for improving transportation in the GTHA. Only a subway project can compel the support needed to make political actors move. Only a subway project running straight down Yonge, the GTHA's "Main Street", can generate the ridership and value-release that will unlock innovative financing. Only this project can combine with market forces to unleash significant economic development benefits. Only this project can transformatively bring citizens out of their cars and onto the transit system.

York is the perfect partner to deliver this strategic project. The Region has consistently stayed ahead-of-the-curve in transit planning and delivery. Whether it's innovative arrangements to deliver services or being ready-to-go with next stage projects when funding became available, York Region has been a consistent leader. Our team is ready to show excellence in partnership once again on this project.

This package of unique leveraging opportunities puts the proposed Yonge Street Subway Extension in a class by itself: truly "The Missing Link" in the evolution of transit in the GTHA.



## The Case for Action

The following eight points identify why the Yonge Subway extension is critical and needs to be identified as the top priority project and receive full funding:

### 1 The Yonge Subway extension is a critical link in a GTHA regional transportation network.

One of the barriers to increased transit use is the fact that, for commuters, most transit trips across municipal borders mean questionable connections and inconvenient transfers. The MoveOntario 2020 vision was a breakthrough with its promise to replace this fragmentation with a properly integrated network, giving commuters the seamless service across municipal borders and convenient connection points that they want.

With its investment in vivaNext rapidways, the Province is helping to create a first class rapid transit service to serve people throughout the GTHA. Until the rapid transit network is linked to other regional systems, most critically to the TTC through its main Yonge Street artery, the critical link in the regional GTHA transit network will be missing. (See map on page 2)

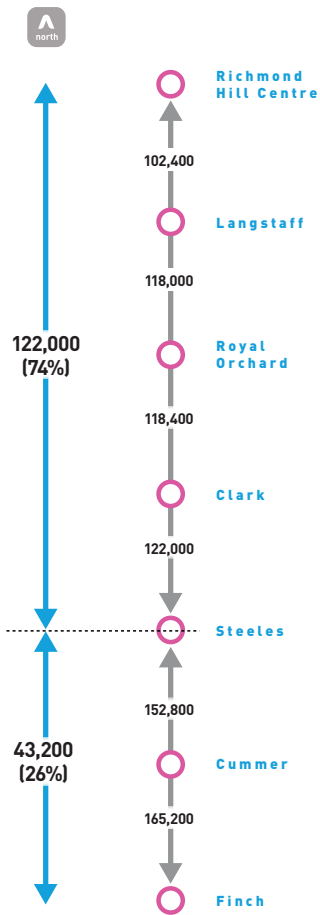
### 2 The subway is the best strategy to move people through the already crowded roadway between Finch and Highway 7.

There is a huge potential ridership that would connect between other transit services and the Yonge Subway:

- Potential daily ridership of 165,000 (or 2 people / second);
- 74% of the future demand begin their trip north of Steeles station; and
- The remaining 26% would utilize Steeles and Cummer stations.

Yonge Street north of Finch is already facing perpetual gridlock in the peak period. In order to carry existing transit riders, 370 vehicles (or 1 bus every 30 seconds) currently operates on Yonge Street. The volume of buses will continue to grow with increasing development along Yonge street. In other words, buses would clog the street just as yellow taxis do in downtown New York City.

The ridership volume to be carried by the subway extension cannot be accommodated by another mode.



**Potential daily ridership of 165,000 (or two people per second)**

### **3 The Yonge Subway extension is a responsible investment based on solid development plans, approved policy documents, and existing and new riders.**

Both the Province and Metrolinx will benefit from their investment to extend the Yonge Subway to the Richmond Hill / Langstaff Gateway anchor hub:

- Only with the subway extension can York Region deliver the residential and employment densities that are central to the objectives of Places to Grow, MoveOntario 2020 and The Big Move;
- The Yonge subway extension will deliver the highest transit ridership of any single rapid transit line project within The Big Move, and will be a key element in the success of the Province's investment in new rapid transit;
- The Yonge subway extension will ensure the success of the Province's investment in the vivaNext rapidways system; and
- The Richmond Hill / Langstaff Gateway anchor hub will deliver more riders and ridership movements than any other anchor hub in the GTHA, apart from Union Station.

**About 60,000 new residents and 24,000 jobs have been included in new secondary plans or applications in the last two years.**



### **4 With the Yonge subway extension, the intensification and development being planned for the Richmond Hill/Langstaff Urban Growth Centre will meet the Province's own smart growth objectives.**

York Region has been a strong supporter of Provincial smart growth policies as set out in Places to Grow. We have drawn on the concepts outlined in this forward-looking framework as our planners have considered how to enable increased intensification and urbanization in our Region's developed areas. We are in agreement with the underlying assumption of Places to Grow, that this intensification can only occur when it is supported by an integrated transportation network that includes transit.

Building on both Provincial and subsequent Regional planning direction, and in anticipation of the Yonge Subway being available to their future tenants, massive residential and employment projects are already underway or in various stages of approval for the Richmond Hill/Langstaff Urban Growth Centre and along Yonge Street north of Steeles.

These developments are great news for the Region, and will also help us meet the density targets set by the Province. But if there is no nearby access to rapid transit, these developments are unlikely to live up to their potential. Unfortunately, less intensification here will probably mean more sprawl elsewhere in the GTHA – perpetuating traffic gridlock.



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27 million trips  
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**5 The increase in transit ridership from the Yonge Subway extension would reduce road congestion and air pollution to a greater extent than any other transportation investment being considered by Metrolinx.**

As a suburban area, commuters from Peel, York and Durham Region are traditionally car-dependant. However, research and ridership statistics show that commuters are enthusiastic about switching mode if convenient rapid transit is available. The total potential ridership, taking a collective 27 million trips annually, would result in a massive reduction in car travel and concomitant greenhouse gas emissions.

If passengers are left to their own to negotiate their connections to and from York Region, it is much less likely that this potential ridership will in fact materialize. Without the mode shift from car to transit, the impacts would be broadly felt:

- Viva's ridership will underachieve its potential;
- Gridlock on Yonge Street and GTHA highways will continue to increase; and
- The Province will be much less likely to realize its greenhouse gas reduction objectives and reduce the economic drag on productivity caused by traffic congestion.

**6 Extending the Yonge Subway only part way will not improve connections for the majority of riders.**

Virtually all passengers (90%) connecting between Viva and the TTC would need to transfer through the Richmond Hill / Langstaff Gateway anchor hub. Any benefit of extending the subway will be lost if the subway ends south of the Richmond Hill anchor hub.

In addition to the inherent construction inefficiencies, an incremental approach of building the subway would result in wasteful throwaway costs.

**The Yonge Subway extension would attract over 80,000 new transit riders daily by 2031.**

**7** Public expectations that the Yonge Subway will be extended to the Highway 7 anchor hub were significantly heightened through provincial announcements in *MoveOntario 2020* and *The Big Move*.

The Yonge Subway extension has been well publicized as a core component of the Province's vision for a regional transportation network. The Province, through its own policies and announcements, has created a heightened expectation that the subway will be built to the Richmond Hill / Langstaff Gateway anchor hub to provide for a multi-modal GTHA transit centre.

With their expectations having been raised, public appetite is resoundingly supportive of the subway's extension to Highway 7. For example:

- A Facebook group pushing for its funding already has over 600 members; and
- An independent Compass survey showed 89% of respondents want the subway extension built.

**8** The subway is the best strategy to drive the economy as a key infrastructure investment.

New subway construction is one of the best investments that governments can make because it is permanent transportation infrastructure that the private sector can rely upon. For example, a study by University of Massachusetts showed that investment in fixed guideway public transit creates more jobs per dollar than spending for defence, tax cuts, health care, education, and home weatherization. The study shows that transit investments create 19 per cent more jobs than new road construction.



# The Missing Link

## YONGE SUBWAY EXTENSION ADDENDUM ONE

- VivaNext
- Spadina Subway Extension
- TTC
- Metrolinx
- Mayor Ford's Proposed Sheppard Subway
- Terminals
- GO Transit Rail Lines



Map not to scale



Further to the distribution of our brief to you “The Missing Link”, we have been asked to clarify the implications of congestion issues on the Yonge line and what work is underway to address these concerns. We would report as follows:



Richmond Hill/Langstaff Urban Growth Centre – artist's rendering

### Automatic Train Operation (ATO) / Automatic Train Control (ATC)

The implementation of ATO/ATC on the Yonge-University-Spadina (YUS) subway line will improve the passenger moving capacity by allowing trains to travel closer together which means more trains can run each hour.

- » ATO/ATC involves improvements to the subway signalling systems and trains which will allow some aspects of subway operation to be centrally controlled.
- » Centrally controlled trains are able to operate with less time between trains than driver operated trains.
- » Recently completed studies have concluded that the potential headways that can be achieved are 105 seconds which equates to capacity of 34.3 trains per hour.
- » As a result, the TTC is projecting the capacity of the Yonge Subway Line to be 38,000 passengers per hour in comparison

to the existing capacity of 26,000 passengers per hour based on TTC loading standards.

- » The TTC is currently on schedule for ATO/ATC to be in revenue service on the Yonge line by 2016.

### Yonge-Bloor Capacity Study

Capacity constraints at Yonge-Bloor Station become a bottleneck for achieving reduced headways.

- » To understand the implications on the future capacity of the Yonge line, the Yonge-Bloor Capacity Study tested operational and capital improvements to reduce:
  - Amount of time that the train waits at the platform (dwell time)
  - Passenger delays as a result of limited vertical circulation capacity between the Yonge line and Bloor-Danforth lines
  - Platform congestion



## The principle issue for train dwell time is the uneven distribution of passengers within the train and on the platform



The study shows that operational improvements at Yonge-Bloor Station may be able to delay the need for more costly capital improvements.

- » The principle issue for train dwell time is the uneven distribution of passengers within the train and on the platform (i.e. too many passengers in the northern subway cars).
- » Key stations, such as Finch, are north end loaded which means access to buses, parking and passenger pick-up/drop-off are primarily located at the north end of the station.

- » Reduced dwell times were achievable by controlling the distribution of passenger on and off movements.
- » This has been implemented and has been successful for southbound trains during the morning peak period.
- » For this reason, the Yonge Subway extension is being designed to encourage the south end loading of trains which will have a positive impact on downstream operational issues at Yonge-Bloor Station.

More work for Yonge-Bloor Station has been approved by TTC for 2011 and 2012 to determine the specific improvements, triggers/timing for implementation and the associated capital costs. The studies will:

- » Investigate the potential to implement operational strategies in the northbound afternoon peak similar to those currently in place for the southbound morning peak.
- » Verify what capacity is attainable with dwell times achieved from specific improvements.
- » Incorporate the implications from any recommendations for the Downtown Rapid Transit Expansion Study (DRTES) which may defer the need for improvements at Yonge-Bloor Station.



The demand for riders north of Finch on the Yonge line will be in excess of 20,000 peak hour riders by 2031.

### Downtown Rapid Transit Expansion Study (DRTES)

TTC is working with Metrolinx to examine rapid transit options to the downtown core from the east which would bypass the congested Yonge-Bloor Station.

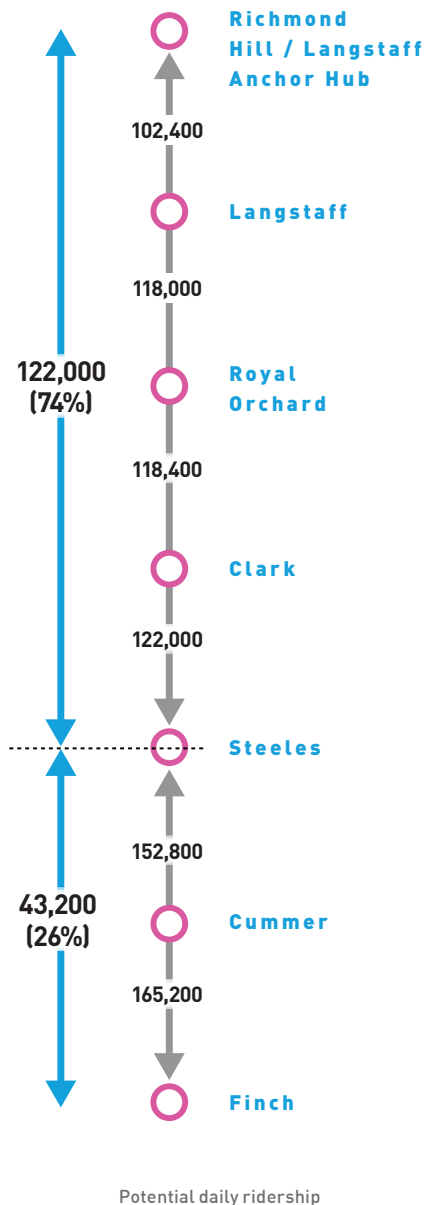
- »» TTC initiated the DRTES in 2010 to examine the need for the Downtown Relief Line (DRL).
- »» The TTC has been working with Metrolinx in an effort to maintain consistency with the work Metrolinx is undertaking for Union Station.
- »» Alternatives to the DRL are also being examined as part of this review.
- »» A report is expected in the spring of 2011.



### Conclusion

#### The Yonge Subway extension is being readied to be built:

- »» Environmental assessments and conceptual design are complete.
- »» Downstream congestion studies are nearing completion.
- »» Preliminary engineering is ready to commence.
- »» The ridership demand is significant and requires subway technology.
- »» Securing funding is a top priority!



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