

# TORONTO TRANSIT COMMISSION REPORT NO.

**MEETING DATE:** JULY 14, 2010

**SUBJECT:** TRANSIT CITY UPDATE

## **ACTION ITEM**

---

### **RECOMMENDATION**

It is recommended that the Commission receive this report noting that:

- The Transit City Priority Projects Phase 1 consists of:
  - The Sheppard East LRT from Don Mills Station to Conlins Road to be completed in mid-2014.
  - The Eglinton Crosstown LRT from Kennedy Station to Jane Street to be started in 2011 and completed in 2020.
  - The Finch West LRT from Keele Street to Humber College to be started in 2015 and completed in 2019.
  - The Scarborough RT from Kennedy Station to Sheppard Avenue to be started in 2015 and completed in 2020.
- All four Priority Projects have been approved by Toronto Council. The Minister of the Environment has issued the Notice to Proceed for the Sheppard East LRT, Eglinton Crosstown LRT and Finch West LRT.
- The contract awarded by Metrolinx to Bombardier for the Transit City Light Rail Vehicles provides for all four Priority Projects Phase 1 to be completed by 2020.
- The Transit City Construction Methodology intended to minimize construction time and disruption is on track for the Sheppard East LRT and Eglinton Crosstown LRT contracts.
- Significant progress has been made on the design and engineering of the Sheppard East and Eglinton Crosstown LRTs.
- Transit City Community Relations and Local Outreach initiatives are establishing constructive relationships with the community and are ensuring that the benefits of the Transit City Projects are understood across communities.
- The Metrolinx Investment Strategy is to be proposed by June, 2013.

### **FUNDING**

There are no direct financial impacts as a result of the recommendations in this report. The Transit City program is being reviewed and adjusted to be consistent with the cashflows provided by Metrolinx.

**BACKGROUND**

At its meeting on December 16, 2009, the Commission received the report “Transit City Update – Project Approach”. The report addressed coordination with the City of Toronto, the new Provincial Transit Project Delivery Framework and the role of Metrolinx as the owner of the transit assets, and provided an update on the Transit City Projects.

**DISCUSSION**

This report provides an update on the progress of the Transit City program. In addition, an attachment to the report provides the Transit City Community Relations and Outreach Strategy Status Report.

**Transit City Program Scope and Schedule**

The Transit City Light Rail Transit Plan was approved by the Commission in March 2007. In November 2007, the Commission approved proceeding with four priority projects Eglinton Crosstown LRT, Finch West LRT, the Sheppard East LRT and the Scarborough RT.

MAP 1



In the spring of 2009, the Province of Ontario announced \$8.15 Billion for the four Transit

City Priority Projects.

Over the past 6 months TTC and Metrolinx have conducted two reviews of the Transit City program. The first addressed the scope for the Priority Projects relative to the committed funding and the second revised the implementation schedule in response to the Provincial Budget.

### **Project Scope Phasing**

Throughout 2008 - 2009 TTC proceeded with the preliminary planning and environmental assessments for the four Transit City Priority Projects in consultation with Metrolinx. As the preliminary planning for each project was completed, the Transit City project teams updated cost estimates, developed preliminary implementation schedules and prepared cashflow requirements.

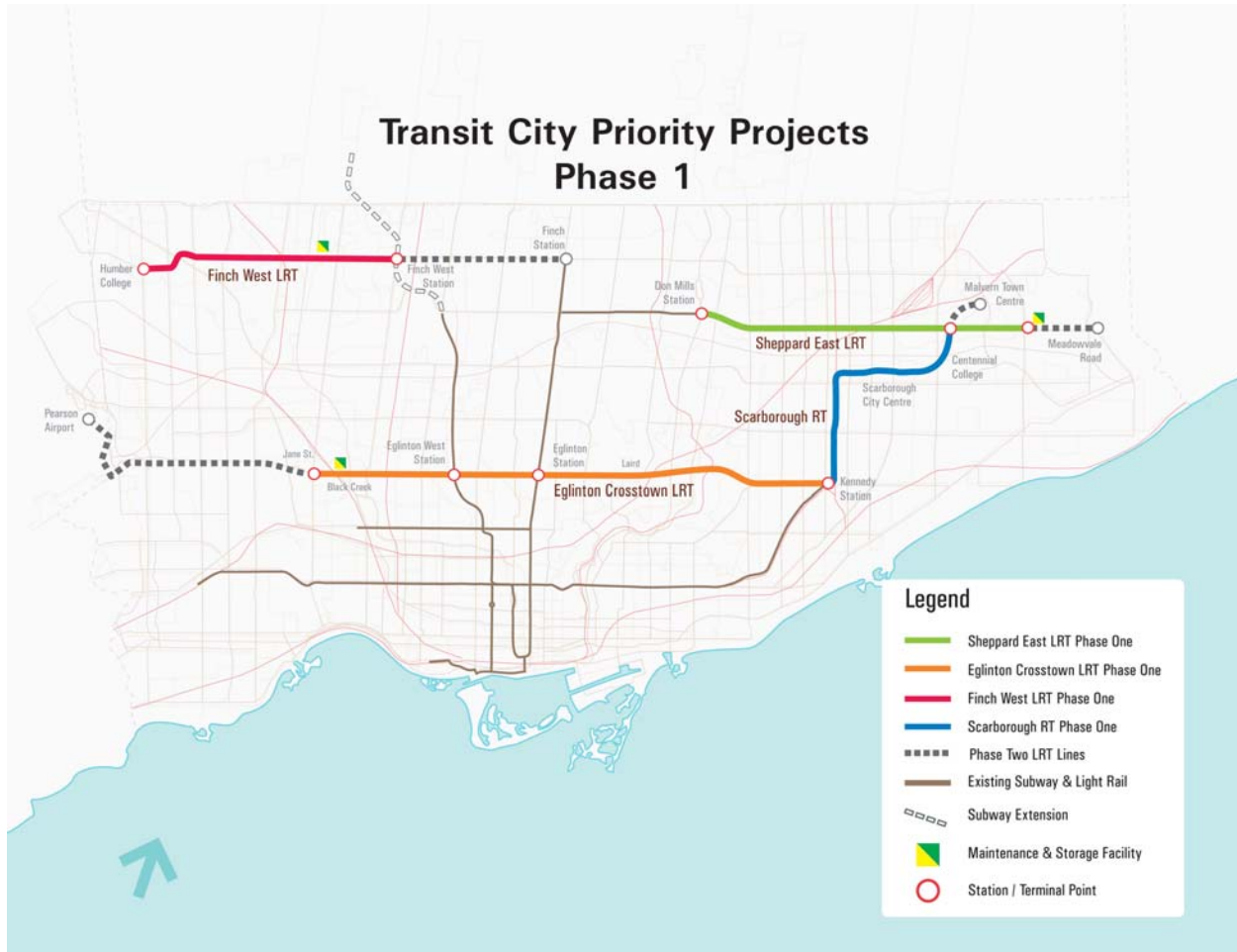
As of January 2010, the estimated total cost for the full scope of the four Transit City Priority Projects was \$9.84 Billion. With the addition of the Finch East LRT, from Yonge Street to Don Mills Station, included in the Province's funding announcement, the estimated cost was \$10.5 Billion. These cost estimates were based on 2008 dollars and on the completion of the full scope of all four Transit City Priority Projects by 2020.

In early 2010, Metrolinx and TTC conducted a review of the Transit City Priority Projects to determine how the projects could proceed within the \$8.15 Billion commitment.

TTC staff preference was to continue to implement the full scope of all four Transit City Priority Projects as a network on the schedule included in the December 2009 Transit City Update Report. However, the Province of Ontario and Metrolinx clearly indicated that additional funding would not be available and "fitting" the program to the \$8.15 Billion of committed funding would require phasing of the projects. Several approaches to reduce the scope of the projects were considered, including complete deferral of one or more projects entirely. However, it was decided that the optimal approach would be to start all four projects in phased segments and implement the full scope of the projects when additional funding is available, as a result of the Metrolinx Investment Strategy that is to be proposed by 2013.

The review concluded with the Transit City Priority Projects - Phase 1 (Map 2). The Phase 1 plan was premised on starting all four projects by implementing the segments expected to have the highest ridership and provide the most effective operations and network connectivity. TTC has continued with the environmental assessments for the full scope of all four Priority Projects.

MAP 2



**Implementation Schedule Changes**

The implementation schedule for Transit City Priority Projects provided to the Commission in the December Update Report included construction starts on all four projects by 2012. In order to meet these timelines the Transit City Priority Projects - Phase 1 required a very aggressive schedule and funding of approximately \$5.8 Billion plus escalation in 2010-2015 and \$2.31 Billion plus escalation in 2015-2020.

The 2010 Ontario Budget announced on March 25, 2010, focused on the Province’s fiscal challenges in light of the global economic recession. The Budget included a number of measures to manage infrastructure investments including working with Metrolinx to slow the implementation of transit projects and defer spending of \$4 Billion in the first five years. The Budget also noted that the Province will develop and launch a 10 year capital plan in 2011.

As a result of the 2010 Ontario Budget, Metrolinx developed a revised implementation

schedule that would reduce spending on Transit City projects in the first five years by \$3 Billion. The resulting implementation plan "*Metrolinx 5 in 10 Plan*" was approved by the Metrolinx Board on May 19, 2010 and by the Province on June 14, 2010.

The "*Metrolinx 5 in 10 Plan*" provides for continuing construction on Sheppard East LRT, construction start on Eglinton Crosstown LRT in 2011 and construction starts in 2015 for Finch West LRT and Scarborough RT.

The implications of the phased scope and deferred funding for each Transit City project is provided in the project updates included in this report and summarized.

### **Long Term Transit Funding**

The announced funding for Transit City as part of the 2010 Provincial Budget, brings into sharp focus the need for dedicated, predictable funding for transit capital and operating costs. The four Transit City Projects, along with York Region's Viva project constitute the Metrolinx "Big 5" projects and are the priority projects with committed funding amongst the Metrolinx transit projects for the GTHA.

Metrolinx is currently developing an Investment Strategy to identify new and innovative ways to fund the \$50 Billion required over the next 25 years for the capital expansion as well as additional funding for the operating and maintenance requirements of the new transit projects. Metrolinx has determined that \$2 Billion per year is needed for investment in transit expansion to implement its Big Move Regional Transportation Plan. The Metrolinx Act requires that the Investment Strategy, with proposals for revenue for implementing the transportation plan, be provided by June 2013.

### **Agreements with Metrolinx**

Since the last Transit City update report in December 2009, progress has been made on the transition to the Province's new transit project delivery framework and defining the relationship between Metrolinx and the TTC with respect to the delivery of the Transit City Projects.

The Interim Funding Memorandum of Agreement, between the City of Toronto, TTC and Metrolinx, provides for the payment of costs by Metrolinx to TTC for the design, engineering, property acquisition and construction of the Transit City Priority Projects to December 31, 2009 and was extended for costs to May 31, 2010. To date Metrolinx have reimbursed the TTC \$84.1 Million for Transit City expenses to May 31, 2010.

A Master Agreement will set out the long-term relationships between the City of Toronto, TTC and Metrolinx and will provide for the TTC to deliver the Transit City projects as the delivery agent for Metrolinx. The Master Agreement will be the subject of a separate report to the Commission in August, 2010.

TTC and Metrolinx staff will also commence the development of project charters for each

of the funded Transit City Priority Projects to more specifically define the scope, schedule, and delivery with long-term cash flow commitments.

### Transit City Organization

#### **Organization and Resources**

Transit City is one of the largest light rail expansion programs in the world and requires significant staff and consultant resources.

Consistent with TTC practices for other capital projects, a mix of TTC staff and consultants working as an integrated team is contemplated for the Transit City Department. As the Transit City plan will be built over 20 years or more, the preference is to fill positions with TTC staff either reassigned from other departments or new hires in order to develop and maintain corporate knowledge and memory. Given the scope and duration of the Transit City program, it is expected that the TTC will develop internationally recognized expertise in LRT design and development.

Currently Transit City divisions draw on professional staff expertise from international consulting companies. These international consultants have a combined global workforce of over 70,000 professionals and experts. Each Transit City division includes multiple international consulting firms. Transit City continues to seek additional consultant interest and is extending the search to firms that work primarily on European projects.

The 2010 Transit City Capital Budget provides for a staff complement of 226 consisting of 133 TTC staff and 93 consultants. As a result of the changes to the project implementation schedules for the Priority Projects, Transit City is reviewing and reassigning staff and will continue to expand in 2011 and future years as more projects are implemented.

The Transit City organization consists of four divisions.

**Program Management** is responsible for the development of program wide cost and schedule controls, engineering standards and coordination of services such as permits, property acquisitions, risk assessment and environmental compliance. Engineering is developing standards for implementation of LRT including stops and stations, fare collection, catenary, communication and control systems. Transit City includes a vehicle engineering section overseeing the development of the light rail vehicle for the new projects. The engineering standards will facilitate the development of a streamlined design review process within the TTC and with the City and utilities. In conjunction with this new approach to design review and coordination, the City is providing dedicated resources for technical reviews to ensure that Transit City projects receive priority attention and do not overwhelm City resources.

**Strategic Partnerships** develops and maintains positive relations with the public and

stakeholders through community relations, liaison and outreach for each project, program communications and public education, communication with elected officials, managing legislative requirements and approval processes, and leading the development of agreements with Metrolinx and the City of Toronto.

**Project Management** is responsible for the planning, design, engineering and construction of the Transit City projects; Sheppard East LRT, Eglinton Crosstown LRT, Finch West LRT, Scarborough RT and the related projects Sheppard East LRV Maintenance and Storage Facility (MSF), Finch West LRV MSF, Eglinton Crosstown LRV MSF and the Light Rail Vehicles for Transit City. Transit City is developing an Operating Concept that is premised on the customer experience. Transit City has developed a state of the art risk assessment program which provides for an advance warning system for issues by anticipating and quantifying, at a very early stage in the projects, possible occurrences or conditions that could have the potential for cost or scheduling implications. As the project development proceeds, the risk assessment is revised and updated.

**Procurement** manages and administers requests for proposals, tenders and contracts for services, equipment and construction. With the transition to the new transit project delivery framework and implementation of the Master Agreement, Metrolinx as the owner and funder of the Transit City projects, will appoint the Director of Procurement and Transit City procurement will act consistent with Provincial policies.

### **Transit City Implementation Strategy**

Transit City is implementing an approach to project implementation in which:

- the Transit City Project Manager has the full responsibility and accountability for implementation of the entire project;
- the scope of the project is clearly defined before any construction commences;
- the contracting strategy is to provide for greater resources and a more sophisticated approach to construction to minimize disruption; and
- community relations is emphasized, well planned and provided with sufficient resources given the size of the project.

### **Construction Methodology**

As noted in earlier reports, Transit City is developing best practices and innovative approaches to reduce disruption to businesses and residents located near or travelling through the construction areas. In February Transit City held the "Surface Construction Disruption Mitigation Workshop" with utilities, City divisions, BIAs, contractors and consultants to get feedback on project management, construction contracting and phasing strategies to shorten construction time and provide better information to the public.

The Transit City Implementation Plan principles are:

**One Complete Project and One Project Manager** – Transit City projects are being implemented as one complete project consisting of:

- the transit facilities,
- road, sidewalk, and boulevard work; and
- utility works.

The Transit City Project Manager will be responsible and accountable for all stages of the project development and construction and will ensure that cost, schedule and risk assessment protocols are satisfied. The construction will be undertaken through integrated design packages incorporating City of Toronto, utility and other third party coordination. This approach will eliminate the fragmented project management and accountability and is intended to expedite construction through thorough planning and preparation prior to tendering.

**Scope Definition** - Clear definition of the project scope prior to construction provides certainty to the Project Manager, the contractor, and stakeholders and can eliminate delays due to changes during construction. The LRT common elements, design criteria, engineering standards and directive drawings currently in development will provide a consistent approach that should reduce time to prepare design, design review and preparation of tender documents. The scope definition also applies to the utility work and requires in depth site investigations and identification of conflicts and the coordination of the eight utilities. Clear and consistent scope definition should be more cost effective, eliminate scope creep and related delays and expedite implementation.

**Contracting Strategy** - Transit City requires contractors with sufficient resources and sophisticated approaches to construction. Attracting such large firms requires large integrated contracts over 2 km in length. The contractors will be prequalified and contracts will include disincentives and incentives to encourage meeting schedules and require detailed traffic, transit, cycling and pedestrian management plans. Construction will be staged in 800 metre sections to include civil works – utilities, road widening, LRT right of way, platforms and streetscaping – requiring the contractor to get in and get out with the completed project. The only other work in the section will be the installation of the overhead catenary, communications, shelters and platform furniture – 6-8 months prior to the opening of the line.

In general the new construction methodology requires longer time and more effort up-front in the planning and design of the project in order to expedite construction and minimize disruption.

## **Property Acquisitions**



Transit City projects require extensive permanent and temporary property acquisitions many of which are minor road widenings at intersections. The property acquisition process can take over a year and delays can jeopardize construction tenders and contract schedules.

Recognizing the importance of property acquisition, the City of Toronto has taken two important steps that will expedite the process and assist Transit City. At its meeting in December 2009, Toronto Council increased the delegated authority to the City Manager for property acquisitions for transit projects from \$500,000 to \$10 Million. In spring 2010 the City established a dedicated Transit City Property Unit comprised of dedicated real estate and legal staff. Transit City Program Management has established a centralized function to coordinate and prioritize property acquisitions. While property acquisition for Transit City projects will continue to be on the critical path, the increased authority and dedicated property acquisition resources should significantly improve the ability of the project teams to meet schedules.

### **Community Relations**

Transit City is putting a very strong emphasis on effective community relations, outreach and public education at the project and program levels. The Community Relations unit includes dedicated community liaison officers to build constructive relationships prior to construction start and provide reliable information and a point of contact for problems and complaints during construction. The community liaison officers become the face of the project. The community relations plans are intended to build positive working relationships with communities, BIA's and individual businesses, residents and institutions and keep them well-informed about the progress of the project and the overall benefits of the program and transit in general. Transit City is working closely with Metrolinx on sharing community relations practices on a regional level.

The attached Transit City Community Relations and Outreach Status Report provides a summary of the community relations and consultation activities through the preliminary planning and environmental assessment phases of the projects as well as for the pre-construction and construction phases.

### **Project Updates**

#### **Sheppard East LRT**

The Sheppard East LRT construction commenced in late 2009.

The Sheppard East LRT full scope is 14 km and 30 stops from Don Mills Station to Meadowvale Road. Phase 1 is 12 km and 26 stops from Don Mills to the Conlins MSF. The completion date of Phase 1 is mid-2014.

In late summer 2010 major construction will start on the Agincourt GO Rail Grade

Separation.

The December 2009 Update report indicated that the construction of the Sheppard East LRT project would consist of 3 contracts in 2010 – the Agincourt GO Grade Separation and two LRT and road contracts. As part of the implementation of the new approach to construction to reduce disruption, the LRT and road contracts initially intended for tender in 2010, will be combined with other contracts and tendered in 2011.

This change of contracting will provide for:

- better quality and more advanced design based on the engineering standards that are being developed;
- full coordination and integration of utilities;
- acquisition of all required property;
- larger contracts to attract better more sophisticated contractors; and
- reduced risk for this and future contracts.

Shifting the construction start for the LRT and road contract to 2011 will maximize getting the first contracts right and building trust and credibility for the program and the approach.

### **Sheppard East LRV Maintenance and Storage Facility**

The Sheppard East LRV MSF will accommodate the light rail vehicles for both the Sheppard East LRT and the Scarborough RT. Initially the facility will accommodate 100 light rail vehicles but it can be expanded to a total future capacity for 135 vehicles. The property for this facility has been provided by the Ministry of Transportation.

The preliminary planning and recommendations for the Sheppard East LRV Facility Transit Project Assessment Study were approved by the Commission on May 6, 2010 and by Toronto Council on June 8, 2010. The Minister of the Environment's Notice to Proceed is expected in September 2010. The Official Plan Amendment for the Sheppard East LRV Facility is expected to be approved by Toronto Council on July 6, 2010.

The MSF is being delivered through alternative financing and procurement with Infrastructure Ontario acting as the procurement agent. The Request for Qualifications for prospective bidders was released on June 1, 2010. It is expected that Infrastructure Ontario will release the Request for Proposal in late September 2010 and award the contract in Spring 2011 with construction start in late Summer 2011. Preparatory utility work is expected to start in October 2010.

### **Eglinton Crosstown LRT**

The Eglinton Crosstown LRT Transit Project Assessment Study was approved by the Commission on November 17, 2009 and by Toronto Council on November 30, 2009. On May 17, 2010, the Minister of the Environment issued the Notice to Proceed for the Eglinton Crosstown LRT.

The full scope of the Eglinton Crosstown LRT, at 33 km and 42 stops and stations from Kennedy Station to Silver Dart Drive on the boundary of Pearson Airport, including 10 km of tunnel in the central section, makes it the largest of all the Transit City projects.

Phase 1 of the Eglinton Crosstown LRT is 19 km with 27 stops and stations from Kennedy Station to Jane Street including the connection to the MSF at Black Creek Drive. The section of the Eglinton Crosstown LRT from Jane Street to Pearson airport is deferred until further funding is available.

As reported to the Commission in December 2009, the implementation schedule for the Eglinton Crosstown LRT included completing and opening the project in three sections in 2016, 2018 and 2020. The new schedule, concentrates heavy construction in the 2015-2020 period resulting in one opening in 2020.

Eglinton Crosstown LRT implementation will start with the construction in spring 2011 of the western launch site for the tunnel boring machines, just east of Black Creek Drive, and the eastern launch site starting in late 2012, at Laird Drive. The underground stations will be started in 2012 at Chaplin Station, with the other stations started 2013-2015. The at-grade sections from Kennedy Station to Laird Drive and from Keele Street to Jane Street will be constructed in the 2015-2020 period.

At the meeting on June 2, 2010, the Commission authorized the award of four tunnel boring machines for the 10 km of the Eglinton Crosstown LRT underground section between Keele Street and Laird Drive.

### **Finch West LRT**

The Finch West LRT Transit Project Assessment Study was approved by the Commission on December 16, 2009 and by Toronto Council January 26, 2010. The Minister of the Environment issued the Notice to Proceed on May 20, 2010. The Official Plan Amendment for the Finch West LRT to Humber College will be considered by Toronto Council on July 6, 2010.

The full scope of Finch West LRT is 17 km and 30 stops from Yonge Subway to Humber College with an underground station at Keele Street to facilitate passenger transferring to the Spadina Subway Extension at the Finch West Station. Phase 1 is 11 km and 19 stops from Keele Street to Humber College. Phase 1 will provide improved service to the segment with the highest forecasted ridership, immediately west of the future Finch West Station on the Spadina Subway extension and connects to the MSF planned for the site immediately east of Highway 400. The section of the Finch West LRT from Yonge Street to Keele Street is deferred until further funding is available.

The December 2009 report noted a construction start for the Finch West LRT in 2011 with completion in 2015. The new schedule has construction starting in 2015 with completion in 2019. As a result of the new implementation schedule, the design will continue to the 30% stage. Similarly, the enabling work for the Finch West LRT consisting of modifications to two existing bridges will be deferred.

### **Scarborough Rapid Transit**

The Scarborough RT Project from Kennedy Station to Malvern Transit Project Assessment Study was approved by the Commission on May 6, 2010 and by Toronto Council on June 8, 2010. The Notice to Proceed is expected in October 2010. The Official Plan Amendment required for the Scarborough RT was approved by Toronto Council on June 8, 2010.

The Scarborough RT project requires a connection to the Sheppard LRT for access to the MSF Yard at Sheppard Avenue and Conlins Road. TTC staff had determined that two options, one via Progress Avenue and the other underground, would meet TTC operational requirements. Staff recommended the Progress Avenue option because it was significantly less expensive than the underground option. Toronto Council, on recommendation of the Executive Committee, approved the project with the underground connection track. Currently, the Metrolinx budget for the Scarborough RT does not include the anticipated \$65 Million for the underground connection.

The full scope of the Scarborough RT is 12 km and 10 stations. Phase 1 of the Scarborough RT at 9.5 km and 8 stops consists of the conversion of the existing SRT and extension to Sheppard Avenue. The December 2007 report indicated that the Scarborough RT construction would start in 2012 with completion in 2016. The revised schedule construction start is 2015 with completion in 2020. However, between 2010-2015, some works on the Scarborough RT will be undertaken. The Sheppard East LRT construction will include the pre-building of Sheppard Station for the Scarborough RT and the Sheppard MSF will be built to accommodate the Sheppard East and Scarborough RT vehicles. TTC will ensure that the structure and existing vehicles remain in a state of good repair until the construction start of 2015.

### **Eglinton and Finch LRV Maintenance and Storage Facilities**

The Eglinton Crosstown Vehicle MSF is to be located on the site formerly occupied by Kodak at Black Creek Drive. The Finch MSF is located immediately east of Highway 400. Negotiations for acquisition of both of these properties are proceeding. It is anticipated that the environmental assessment for these MSF will be submitted to the Commission and Toronto Council in early 2011.

### **Light Rail Vehicles**

At its meeting on May 6, 2010, the Commission approved the assignment of 300 of the 400 LRV option to purchase Light Rail Vehicles from Bombardier for Transit City projects to Metrolinx.

On June 14, 2010, Metrolinx announced the award of the contract to Bombardier for the purchase of 182 light rail vehicles over the next ten years. The vehicle order will provide vehicles for the Transit City Priority Projects - Phase 1. The order of these vehicles demonstrates a commitment by Metrolinx for the implementation of all four projects.

**JUSTIFICATION**

There has been significant progress on Transit City in a very short period of time. While changes to Phase 1 projects have occurred in terms of scope and timing, there will continue to be many challenges as we proceed to the conclusion of this phase of Transit City in 2020.

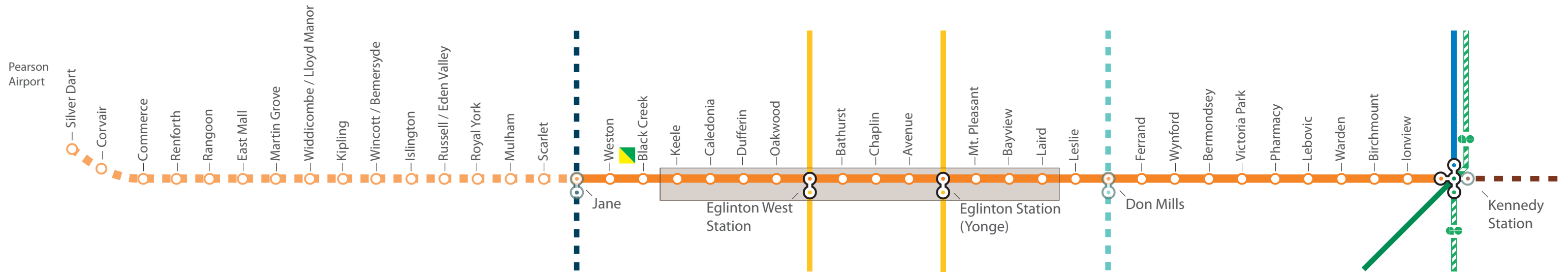
-----

July 14, 2010  
55-04-03

Attachments:            Appendices A - E



# Eglinton Crosstown LRT: Stops and Interchange Stations



## Legend

- Eglinton Crosstown LRT: Phase One
- Eglinton Crosstown LRT: Phase Two
- Eglinton Crosstown LRT: Underground
- LRT Stops: Surface and Underground
- Phase Two LRT Stops: Surface
- Interchange / Station
- Scarborough RT
- Bloor-Danforth Subway
- Yonge-University Spadina Subway
- GO Transit Stouffville Line
- Maintenance & Storage Facility

## Future Projects

- Don Mills LRT
- Malvern LRT
- Jane LRT
- Interchange / Station

