

To: Metrolinx Board of Directors

From: Matt Clark
Chief Capital Officer, Capital Projects Group

Date: June 27, 2019

Re: **Capital Projects Group Quarterly Report**

Recommendation

That this report is received for information.

Executive Summary

Since the last quarterly update on February 7, 2019, the Capital Projects Group (CPG) continues to advance a large program of signature transit expansion projects, including a suite of projects comprising the GO Expansion program as well as light rail transit (LRT) and bus projects.

CPG is pleased to report the following accomplishments this quarter:

- a total of 7 vehicles are now at the Eglinton Maintenance Facility, 5 of which were delivered in February 2019;
- the Highway 7-Vaughan Metropolitan Centre segment of the vivaNext BRT reached Total Performance on April 9, 2019 which includes completion of all deficiencies, and final payment;
- 30% Design Development Submittals were completed for the Finch West LRT in April;
- in March, Hamilton LRT project activities resumed in earnest following the Minister of Transportation's confirmation of the provincial commitment to proceed with the Hamilton LRT project;
- the RFP period closed in May 2019 on the Hurontario LRT;
- the construction of approximately 300 new parking spots at Unionville GO Station commenced February, 2019;
- the first contract for construction on the Barrie corridor, including noise walls and utility relocations, was awarded on April 10, 2019;
- the Detailed Design for the Highway 400 and Major Mackenzie Park & Ride lot expansion was completed on April 1, 2019;
- the train shed vertical access rehabilitation at Union Station achieved Substantial Completion on February 25, 2019; and
- the Request for Proposals to the four international teams who were shortlisted to bid on the GO Rail Expansion Program was issued on May 31. These teams

are EnTransit, MTR Kiewit Partners, Oncore Transit, and ONxpress Transportation Partners.

A summary of Metrolinx’s major capital project status is shown in Table 1.

Table 1: Program Overview

| Corridor | Project Stage | Approved Budget for Capital Construction | In-Service Date ¹ |
|--|---------------------|--|------------------------------|
| Rapid Transit Program | | | |
| Eglinton Crosstown LRT | Construction | \$5,300,000,000 ² | 2021 |
| Finch West LRT | Construction | \$1,000,000,000 ² | 2023 |
| Hurontario LRT | Procurement | \$1,400,000,000 ³ | 2022 |
| Hamilton LRT | Procurement | \$1,000,000,000 ³ | 2024 |
| Viva BRT | Construction | \$1,400,000,000 ² | Various |
| Bus Infrastructure | Various | \$429,660,000 | Various |
| GO Expansion Projects³ | | | |
| Barrie | Procurement | \$1,506,000,000 | 2025 |
| Kitchener | Design/Construction | \$1,534,000,000 | 2025 |
| Lakeshore East | Procurement | \$735,000,000 | 2025 |
| Lakeshore West | Procurement | \$401,000,000 | 2025 |
| Milton | Procurement | \$4,000,000 | 2025 |
| Stouffville | Construction | \$581,000,000 | 2025 |
| USRC | Various | \$682,000,000 | 2025 |
| Network Infrastructure ⁵ | Design/Construction | \$4,493,000,000 | 2025 |
| Vehicles | Design/Study | \$2,583,000,000 | 2025 |
| Parking, Access & Property | Design/Study | \$981,000,000 | Various |
| Extensions | | | |
| Bowmanville Extension | EA and Design | \$550,000,000 ³ | 2024 |
| Kitchener Extension | EA and Design | \$2,250,000,000 ⁶ | 2024 |
| Niagara Extension | EA and Design | \$160,000,000 ³ | 2023 |

¹ Actual in-services dates are subject to schedules submitted by the successful AFP bidders. 2025 indicates the announced timeline of '2024/25'.

² 2010\$

³ 2014\$

⁴ RER project budgets have been updated to reflect the current budget baseline.

⁵ Includes Electrification and Signals.

⁶ 2016\$

Safety Update

Metrolinx’s construction contractors reported a Lost Time Injury Frequency Rate (LTIFR) of 0.16 in April, which is well below the 2018-19 target of 0.5. For 2019-20, the LTIFR target for construction has been reduced to 0.10 and Metrolinx is working together with its contractors to reinforce a culture of safety to meet the new target.

To continue focus on construction safety, Metrolinx launched the Construction Safety Coordination Committee, an industry safety advisory committee with representatives from 20 of its largest contractors. This committee is creating a harmonized suite of construction safety metrics and a library of best practices. The Committee has strongly endorsed the creation of a senior executive committee with a focus on

improving construction safety. This new Safety, Health and Environment Leadership Team began quarterly meetings on May 10, 2019. Their mandate is to oversee and instruct the Committee, and to receive and resolve issues escalated from that group. Led by Metrolinx's Chief Capital Officer, the Team will be a strong positive step towards the goal of improving construction safety in Ontario.

Major Project Updates

RAPID TRANSIT: LRT UPDATE

Eglinton Crosstown LRT

Construction at the Eglinton Maintenance & Storage Facility is essentially complete. The facility will be home to the Eglinton Crosstown's fleet of light rail vehicles (LRVs), where they will be inspected, cleaned and maintained. The first 7 vehicles, out of a total of 76, are now at the facility with 5 having arrived on February 16, 2019. The public was invited to tour the facility and step into an LRV as part of Doors Open Toronto on May 25, 2019.

Finch West LRT

Mosaic Transit Group (Mosaic), the consortium delivering the project, submitted the complete 30% design development package on March 21, 2019. The 60% design package continues to be developed and is currently 35% complete.

Construction continues to progress on early works including the relocation of Enbridge Gas lines, as well as the relocation and protection of oil pipelines.

Hurontario LRT

A formal statement about project scope changes was issued on March 21, 2019. These changes include removing the Mississauga city centre loop and creating a direct in-out access route from Hurontario to the Rathburn stop, and deferring the pedestrian bridge at the Cooksville stop. The changes have been designed to reduce project costs while still achieving the project goal of providing a fast, reliable and seamless customer experience between the new Hurontario LRT line, the GO Transit network, and the local transit systems.

The Request for Proposal (RFP) for the Hurontario LRT P3 Contract reached RFP Close on May 23, 2019. Currently, works conducted by telecommunication and utility companies (Rogers, Bell, PSN, Alectra, and Enbridge Gas) are ongoing and on schedule.

Hamilton LRT

The RFP for the Hamilton LRT is currently in-market. The Minister of Transportation met with the Mayor of Hamilton on March 28, 2019 and confirmed Provincial commitment to moving forward with the Hamilton LRT. Potential opportunities for utility relocation early works are now being discussed with utility companies.

RAPID TRANSIT: BUS UPDATE

VivaNext BRT

Yonge Street - Highway 7 to Major Mackenzie Drive

Installation and commissioning of watermain works from Hillcrest Mall to Major Mackenzie Drive were completed in February 2019. Service connections were completed in March 2019, and the overall work was completed before the end of June 2019.

Highway 7 - Vaughan to Richmond Hill

All utility civil relocations work has been completed. Telecommunications cabling and splicing works are ongoing at Highway 7 West and on Centre Street. The Alectra transformer and underground relocation work at the south East/West ramp was completed at the end of March 2019.

Construction for 9 of 10 stations is ongoing; permanent traffic signal installations and intersection works at various locations are also ongoing.

Highway 7 - Vaughan Metropolitan Centre

The Highway 7-Vaughan Metropolitan Centre segment reached Total Performance on April 9, 2019.

GO Bus Infrastructure

Bus stop improvements at Stanley and Highway 420, in the City of Niagara Falls, reached substantial completion on June 21, 2019. The Detailed Design package for the Highway 400 and Major Mackenzie Park & Ride Lot Expansion project was completed on April 1, 2019. The Bus Terminal project at Jane and 407 was completed in April by the Bus Infrastructure program.

GO EXPANSION

AFP - Early Works Update

Highway 401/409 Tunnel

Toronto Tunnel Partners (TTP), the consortium delivering the project, continues to develop the 90% and 100% design submittal packages. Works onsite include construction of retaining walls, and preparatory works for tunnel construction, including construction of the median shaft to facilitate tunnel excavation.

Cooksville GO Station

Three milestones were achieved in February 2019: the installation of the final precast panel of the parking garage structure; storm sewer directional boring from the north-east of the parking garage to west platform; and installation of the storm sewer pipe into the steel pipes at the east side of the parking garage site across the rail corridor.

Works on the west side of the Rail Corridor are ongoing with construction of footings and the erection of galvanized steel. The construction of the canopies at the north and south sides of the pedestrian bridge stair commenced in March 2019. The Station Building foundation work was completed in April 2019 and the erection of structural steel commenced in March 2019. The steel framing for the mesh façade of the parking garage is ongoing.

Kipling Station Bus Terminal

Construction of the Main Entry Building foundation is complete with works ongoing to allow for suspended slab construction. The Bus Terminal Building suspended slab formwork and beam rebar is now over 50% complete. Waterproofing of the roof of the Pedestrian Tunnel between Entry Building and Bus Terminal Building is underway. Demolition of the TTC's existing Passenger Pickup & Drop-off (PPUDO) is 90% complete.

Rutherford Station and Grade Separation

EllisDon Infrastructure Transit (EDIT), the consortium delivering the project, continues to develop the 60% design development package. Design workshops and fieldwork activities are ongoing to support design activities. The Works Schedule was approved in March 2019.

Preparatory works are ongoing to construct the temporary parking lot for the transition of commuter parking scheduled for June 2019.

Stouffville Stations and Grade Separation

The construction of approximately 300 new parking spots at Unionville GO Station commenced in February 2019 and is expected to be completed in late 2020.

Shoring, excavation, foundations and elevator pit construction works are ongoing at Agincourt GO Station. Shoring, excavation, foundation and parking lot reconfiguration are underway at Milliken GO Station.

Both the Stations and Grade Separation Detailed Design Packages are at 90%.

Lakeshore East - West Corridor Expansion

Detailed designs have been submitted and utility investigation and design are now complete.

Davenport Diamond Grade Separation

The Davenport Diamond in-market period ended on February 28, with the receipt of three bids that were subsequently evaluated. On June 17, Infrastructure Ontario (IO) and Metrolinx announced Graham Commuter Rail Solutions (GCRS) as the preferred proponent to design, build and finance the project. Negotiations are now proceeding and IO and Metrolinx expect to reach financial close in summer 2019, with construction to begin shortly thereafter.

Non-AFP Early Works Update

Pickering Pedestrian Bridge - Lakeshore East Corridor

The Pickering Pedestrian Bridge project received the Urban Design Award from the City of Pickering on May 13, 2019. One of the longest enclosed pedestrian bridges in the world, the bridge attracts attention from designers globally for its unique metal exoskeleton and LED lighting system that's similar to the one used on the CN Tower.

Stouffville Rail Corridor Expansion

Works within the corridor to accommodate two tracks are well underway for completion by 2020.

Lincolnville's layover expansion to accommodate three additional storage tracks is progressing well and is scheduled for completion by December 2019. Lincolnville GO Station design is at the 95% stage and construction is anticipated to start in spring 2020.

Bramalea Multilevel Parking Structure - Kitchener Corridor

The 100% design submission package was submitted on June 7, 2019, which incorporates revisions to the site plan.

Ongoing works include the construction of the island and side platforms; finishing works/upgrades to the installed West Pedestrian Tunnel; pier installation works in the North Lot for the future Parking Structure; concrete foundation works for the West Tunnel Access Building; and civil works/storm and sanitary works underway on the northeast corner of the North Lot.

Weston Station - Kitchener Corridor

The construction contract tender for the Weston Station project closed on February 21, 2019. Eight bidders submitted, and the construction contract was awarded on May 6, 2019. Work will begin in June 2019.

Barrie Corridor

The Barrie Corridor non-AFP work includes three large contracts. The first construction contract was awarded on April 10, 2019 following an RFP phase. The scope of the first contract includes grading, noise walls, retaining walls, culvert extensions, and utility relocations on the southern portion of the corridor, as well as bridge widening at Sheppard Avenue and a new platform at Downsview Park GO Station.

Aurora GO Station - Barrie Corridor

The Aurora Station Interim project includes construction of the required infrastructure for future service increases at Aurora GO Station. The project includes constructing a west island platform and a second west track and associated signal requirements. The feasibility study for the project was completed on February 28, 2019 and Detailed Design commenced on March 1, 2019.

Port Credit GO Station Rehabilitation and Elevator Replacement - Lakeshore West Corridor

The Port Credit GO Station Rehabilitation and Elevator Replacement project focuses on the replacement of the elevators, which are at the end of their life span and need to be upgraded for the station to comply with accessibility requirements.

Detailed Design for the project was completed on May 8, 2019 based on a Sponsorship Office requested scope change. The construction contract tender will be issued for in-market period in summer 2019.

Vegetation Removal and Compensation

The GO Rail Expansion Program will require removal of vegetation from Metrolinx land as well as adjacent municipal, private, and conservation authority lands. Evaluations of the qualified vendor bids were conducted on February 19, 2019 and the Design Consultant Contract was awarded on April 17, 2019.

GO Station Capital Delivery Infrastructure Update

Early Stations Improvements

The Early Stations Improvements project includes a variety of work on more than 29 existing stations, including rail platform edge tile installations, new digital signage, elevator modernization, secured bike parking, and electrical room upgrades. The 50% design submission was completed on April 1, 2019, while the 90% design submission was completed on May 31, 2019.

Rail Corridor Extensions Update

Niagara Extension

The Preliminary Design activity for the Niagara Falls and St. Catharines VIA station and parking improvements were both completed on April 24, 2019. The 25% detailed design commenced on April 25, 2019 and the design work is projected to be completed June 26, 2019.

Bowmanville Extension

Public Meetings were held on May 21, 2019 and May 22, 2019 to inform the community of the options being considered and to obtain feedback.

Union Station Rail Corridor

The Train Shed Vertical Access Rehabilitation project at Union Station achieved Substantial Completion on February 25, 2019.

The Hardware factory acceptance testing for the GO Transit Train Control System began in early June 2019.

On Corridor Project

The RFP for the OnCorr project was issued on May 31, 2019. This release included technical documents that Proponents require to commence their technical solution including the Reference Concept Design, background information, and passenger service requirements.

Corridor Maintenance

The Corridor Maintenance program includes several works that are required to keep the GO Transit network operating in a state of good repair. Work is currently ongoing to replace track, concrete ties, and bridges to ensure the network can operate safely and on-time.

Routine maintenance is also ongoing, with most deficiencies being caught prior to any impact on operations. Maintenance contractors continue to stay vigilant to seasonal conditions such as rising temperatures, flooding risk locations, and other weather-related issues.

Signals and Communications have performed all routine inspections and system validations with no major non-compliances found. Upgrades for bandwidth and resilience of all signal sites on the data network have been completed for preparation of the new GO Transit Control System project being delivered for Metrolinx routing and dispatch of rail traffic. The addition of new level crossing active warning systems for the Guelph Subdivision has begun for two at-risk locations. Relay resilience, re-cabling and reliability are underway for 2,120 critical relays at major relay controlled locations on the Lakeshore Corridors.

Respectfully submitted,

Matt Clark
Chief Capital Officer, Capital Projects Group