



MEMO / NOTE DE SERVICE

To / Destinataire	Mayor and Members of Council	File/N° de fichier:
From / Expéditeur	Director, Rail Construction Program Transportation Services Department	
Subject / Objet	O-Train Light Rail Transit Stage 1 and Stage 2 Quarterly Update (Q2 – 2019)	Date: August 7, 2019

As part of the ongoing commitment to keep Council apprised of the progress of the O-Train Light Rail Transit (LRT) Stage 1 and Stage 2 projects, this memorandum outlines the milestones achieved in Q2 2019 and provides an overview of the planned work for the remainder of Q3 2019.

Stage 1 Confederation Line Project Update

Stations

Over the course of Q2 2019, significant progress has been made towards the completion of all Confederation Line stations. As noted previously, Building Occupancy Permits with minor conditions have been issued for all stations by Building Codes Services (BCS). Rideau Transit Group (RTG) will arrange for a BCS inspection to confirm that the conditions of the occupancy Permits have been corrected prior to the station opening for public use. Final installation of the public art project at Tunney's Pasture Station is expected by the end of August, and completion of minor deficiencies work will continue.

Guideway

Work on the Confederation Line guideway is substantially complete. Some additional track work was initiated at the end of Q2 in response to hot weather conditions. Minor deficiency works will be ongoing in Q3 2019.

Multi-Use Pathways (MUP), Cycling Lanes and Roadway Re-instatements

The MUPs, installed as part of the Confederation Line project, are now substantially complete and open for use. Completion of minor deficiencies is expected in Q3 2019. The Waller Street reinstatement work, including final asphalt and landscaping, is expected to be completed by September 2019. The connection to Nicholas Street will be completed following the start of revenue service.

Systems, Vehicle, Testing and Commissioning

- The train control system end-to-end integration is complete, including the successful deployment of the updated train control software, and the issuance of a safety certificate. Some minor work in this area is planned prior to RSA;
- The testing of communication systems is complete, with minor deficiency work underway;
- System integration tests are complete for the Supervisory Control and Data Acquisition (SCADA) system with minor deficiency work underway; and,
- Vehicle assembly is complete with minor retrofits being finalized across the fleet.

Preparations for Operations

- The Independent Safety Auditor is reviewing documentation to confirm that safety requirements will be met at Revenue Service Availability (RSA);
- Safety and security requirement resolution and closure is nearing completion;
- On the job development and training for Controllers is nearing completion;
- Training for Electric Rail Operators (ERO) is nearing completion;
- Operational familiarisation tours for operations staff continues; and,
- The maintenance team is finalising training and procedures.

Key Activities to Monitor

The following items are required to achieve system operationalization:

1. 12 days of Trial Running – successful demonstration of performance;
2. Revenue Service Availability (RSA); and,
3. Launch of train service.

Path to Revenue Service Availability

As noted in the Memo to Council, RTG achieved Substantial Completion on July 27, 2019, and Trial Running started the week of July 29, 2019. RTG provided an updated RSA date of August 16, 2019 at the July 10, 2019 Finance and Economic Development Committee meeting.

Following RSA and handover to the City, staff will need to undertake the operational readiness activities required to ensure that the Confederation Line seamlessly integrates into the OC Transpo network prior to opening day, including additional City-led system practice, simulated system operations and final staff training. It is expected that Confederation Line service would be launched within one month of RTG achieving the RSA date. The City anticipates that operations of the Confederation Line will begin in September 2019.

Stage 2 LRT Project Update

Upon reaching financial and commercial close earlier this spring, TransitNEXT and East West Connectors (EWC) have started to mobilize along their respective alignments to commence preparatory activities such as geotechnical investigations, silt fence installation, site office mobilization, and pre-construction surveys.

The Rail Construction Program will continue to work with City Councillors to advise where work is underway and provide public notification as appropriate.

Trillium Line Extension

TransitNEXT has commenced preparatory activities along the new Trillium Line extension from Greenboro Station to Limebank Station, including the Airport Link. Tree clearing, and grubbing work has been completed and crews have initiated the installation of 30,000 metres of silt fencing around the perimeter of the new alignment. TransitNEXT will begin removing topsoil, installing granular subbase and further grading activities along the new alignment in Q3 2019.

Crews have undertaken geotechnical investigation work along the new alignment. Boreholes are being drilled to collect soil, water and bedrock data further informing design and construction efforts. Geotechnical and utility investigations are currently underway along the Airport Link. Further geotechnical investigations will take place along the new alignment in the next quarter. Baseline noise and vibration monitoring is taking place at properties near the new and existing Trillium Line to ensure that construction and rail activities comply with applicable regulations and requirements.

Field offices and staging areas are being prepared at Uplands Drive and along Earl Armstrong Road. Spreading of gravel, temporary road construction, and fence installation has been completed at Uplands Drive and will commence at Earl Armstrong Road this summer. Preliminary preparatory work such as survey control and fencing has commenced at the new Walkley Yard Maintenance and Storage Facility and will continue into Q3.

Confederation Line East & West Extensions

Earlier this spring, EWC commenced geotechnical investigation work along the Confederation Line East and West extensions. Geotechnical investigations will continue over the summer and into the fall with a concentration at the future locations of stations, structures and OR 174. In some areas, temporary and intermittent night work may be required to minimize impacts to pedestrians, cyclists, and motorists.

EWC has retained DST Consulting Engineers to carry out a pre-construction survey of the homes and buildings located within proximity of construction activities in the zone of influence. DST will be documenting properties to establish the existing conditions of the interior and exterior of buildings near the alignment, prior to construction.

Preparatory activities commenced in May to realign the Sir John A. Macdonald (SJAM) Parkway further north to accommodate the future cut-and-cover tunnel between Dominion Station and Cleary Avenue. In May, crews completed the first phase of tree clearing north of the SJAM and within the median. Crews will begin constructing new westbound traffic lanes on the Sir John A. Macdonald Parkway in Q3. Once the new westbound lanes are complete, traffic will be shifted, and work will begin to construct the new eastbound lanes. This work will require off-peak lane reductions from July to October. Pedestrian and cyclist access through this area via the Ottawa River Pathway will be maintained throughout the construction of new traffic lanes. Phase 2 of tree clearing south of the SJAM is anticipated to take place in Q4.

EWC intends to commence the reconfiguration of OR 174 in Q3 by widening the median between Blair Road and Trim Road. This includes area clearing and tree/vegetation removal, grading, excavation, utility relocation, backfill and asphalt work in preparation to shift the eastbound OR 174 lanes further south. This will allow future guideway work to begin in the centre median area, away from active traffic lanes. Intermittent eastbound lane closures on OR 174 may be required during off-peak or overnight hours as crews and equipment construct the new traffic lanes. All traffic will be maintained in both directions along OR 174 throughout the duration of the project, however, minor off-peak delays to eastbound traffic may occur at times.

EWC plans to establish their main east and west day-to-day work yards in Q3. The east yard will be located near the intersection of Montreal Road and OR 174, and the west yard will be located near Woodroffe Avenue and Baseline Road. Crews will commence preparatory activities this summer with the yards anticipated to be operational in late Q3.

Building demolition is scheduled to occur in September 2019 within the Confederation Line West project limits on the east side of Connaught Avenue between Severn Avenue and Hanlon Avenue (three houses), and on Richmond Road, east of Cleary Avenue (one strip mall).

Belfast Maintenance and Storage Facility Expansion (MSF)

Following Council approval of the MOU with RTG in March 2017, construction to expand the Belfast MSF commenced. In June 2019, the Stage 2 expansion of Belfast Maintenance and Storage Facility was deemed substantially complete. Stage 1 LRT vehicles will continue to be finalized, commissioned, deployed and maintained for the next 30 years in the existing and expanded facilities as per the Maintenance contract.

Budget

June 30, 2019				
Project Description	Authority	Actual Expenditures	Funds Reserved/Committed	Unspent/Uncommitted
Stage 1				
Confederation Line Program (DBFM Contract & City Costs)	2,130,000,000	1,558,317,828	266,402,172	-
Deferred Equity (Maintenance Term Repayment)			305,280,000	-
LRT Highway 417 Widening	224,500,000	224,325,295	168,631	6,074
Contingency	100,000,000	63,736,058	42,770,855	(6,506,913)
Total Stage 1	2,454,500,000	1,846,379,181	614,621,658	(6,500,839)
Stage 2				
Confederation Line Extensions DBF Contract	2,680,832,113	171,337,161	2,509,494,952	-
Trillium Line Extension DBFM Contract	810,159,585	-	671,637,594	-
Deferred Equity (Maintenance Term Repayment)			138,521,991	-
RTG Stage 2 MOU (includes 38 Alstom vehicles)	516,184,423	295,011,342	220,486,076	687,005
City Costs (includes project planning, procurement, property acquisitions, City retained scope, and delivery oversight)	497,629,108	155,544,572	26,426,734	315,657,802
Contingency	152,640,000	-	-	152,640,000
Total Stage 2	4,657,445,229	621,893,075	3,566,567,347	468,984,807

The Stage 1 Confederation Line project budget includes an amount of \$305.3M, net of HST rebates, which represents the private partner's capital investment to be repaid during the maintenance period. The Stage 2 Trillium Line Extension project budget includes an amount of \$138.5M net of HST rebates, which represents the private partner's capital investment to be repaid during the maintenance period.

The Stage 1 Confederation Line Contingency Fund is \$100M. To date, \$63.7M from the total fund has been spent. Remaining funds are earmarked for potential future changes primarily related to property requirements and transit priorities. When funds are reserved for contract variations, the upper cost limit for the variation is used and upon completion of the work, unspent monies are returned to the Contingency Fund. For this reason, the funds reserved figure is an estimate that may be higher than the actual amount spent.

The Stage 2 program budget has been updated to reflect current forecasts, net of HST rebates. In keeping with Council's approved 2017 Stage 2 Report (ACS2017- TSD-OTP-0001) and 2019 Stage 2 Report (ACS2019-TSD-OTP-0001), approximately \$622M has been spent as of June 30, 2019 and relates to RTG MOU for Belfast Yard and vehicle assembly mobilization (\$295M) and Confederation Line extension mobilization and construction period payments (\$171M). The

remaining \$156M was spent for the planning and procurement cost budgets, which were previously by Council as part of the annual budget approval process starting in 2015 to 2018.

Stage 2 Project Agreements

As outlined in the Memo to Council on August 2, 2019, redacted versions of the Stage 2 O-Train Confederation Line and Trillium Line Request for Proposal (RFP) and Project Agreement (PA) documents are now available to the public on the Routine Disclosure and Active Dissemination Plans website:

<https://ottawa.ca/en/routine-disclosure-and-active-dissemination-plans#transportation-services-department>

Should you have any questions about the information provided in this memo, please do not hesitate to contact me at extension 52718.

*Original signed by
Michael Morgan*

c.c. Senior Leadership Team
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