



MEMO / NOTE DE SERVICE

To / Destinataire Mayor and Members of Council

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From / Expéditeur Michael Morgan
Director, Rail Construction Program
Transit Services Department

Subject / Objet O-Train Stage 2 Light Rail Transit Project
Quarterly Update (Q2 2023)

Date: August 16, 2023

The following memo outlines the progress made during Q2 2023 on the Stage 2 project and provides an overview of the planned work for Q3 2023.

Stage 2 Trillium Line Project

Schedule

- The City has been working closely with TransitNEXT to advance critical works that would enable the handover of the system to the City this year. Based on the current review of all inputs including an agreement on the training requirements, the updated working timeline for the project handover is before the end of the year.
- Note that this timeline is based on the information we have available and assumes that completion of remaining milestones will be relatively smooth. There remains some risk and uncertainty in the completion of the remaining works.
- The achievement of the handover milestone is contingent upon:
 1. successful completion of signal testing
 2. successful completion of systemwide commissioning including stations
 3. regulatory approvals by Transport Canada
 4. training completion
- Trackwork is largely complete; however, progress on signal testing is advancing slowly and requires additional time which is pushing the overall handover timeline to no sooner than early November.
- Staff also continue to monitor progress at stations noting that all stations still require occupancy permits and all stations require TSSA approvals for elevators.

- Subsequent to project handover, the City will make an assessment regarding the timing for start of public service. Final readiness activities and an assessment of system performance and system maturity will be made after handover from the build team.

Design

- Staff worked with TransitNEXT in Q2 2023 to continue resolving open comments for stations, guideways, and maintenance facilities. Staff reviewed issues for construction drawings for the Hunt Club Rail Bridge and the final design submissions for the communication systems.
- Final signage and wayfinding shop drawings for the stations and Walkley Maintenance and Storage Facility (MSF) have also been submitted by TransitNEXT for a final accuracy review by Transit Services.

Construction – Highlights

- During Q2 2023, the construction of all 13 Trillium Line stations continued, including elevator installation, platform work, utilities work, aluminum composite panels (ACM) and shelter installation, painting, glazing installation, communications cable pulling, mechanical, electrical, and plumbing work. Building Code Services (BCS) occupancy permit readiness meetings and deficiency closeouts for Airport, Greenboro and Carleton Stations started during this period with partial BCS occupancies targeted for end of Q2 2023.
- Civil works at Leitrim Station and Bowesville Park and Ride started during Q2 2023. Permanent fence posts installation along sections of the guideway continued in Q2 2023. Operational signage installation started along the guideway during this period.
- Works progressed at the new Albion Yard Facility (formerly called Walkley Maintenance and Storage Facility), including Mechanical, HVAC and Electrical deficiencies closeout, commissioning of the HVAC system and wayside cabinets continued. Work continued in the train wash building with deficiency closeouts and train wash equipment installation started at end of Q2 2023. Electrical, mechanical and HVAC rough-in scope progressed at the inspection building during Q2 2023, overhead doors and wayside cabinets were installed at the inspection building as well.
- Trackwork progressed along the north section of the alignment (Segment 2) including track welding, distressing, and final surfacing. The south section of the alignment was provisionally completed with the tonnage run being completed as well. Vehicle testing continued between the Walkley MSF and Limebank Station. Airport elevated guideways trackwork was provisionally completed. The first train was sent out to the Airport Station during Q2 2023.

Handover

- Following the completion of construction and then testing and commissioning program, TransitNEXT will begin a three-week trial running period to validate that all aspects of the system and maintenance activities perform as expected.
- Following the successful completion of Trial Running as well as completion of all PA requirements, Substantial Completion will be achieved.

- The system will then be available for OC Transpo to complete any remaining operational readiness activities before determining a final opening date to the public. The duration of this final process for validation of system readiness is still to be determined.

Stage 2 Confederation Line Project

Schedule

- The East extension is currently forecasting a completion date in Q1, 2025, which is approximately 7-week delay from the Project Agreement (PA) completion date of November 26, 2024.
- On the West extension, from Tunney's Pasture Station to Moodie and Algonquin Stations, the City is currently expecting a delay of up to 17 months against the contractual completion date of May 25, 2025. Specific elements such as the Moodie Light Maintenance and Storage Facility (LMSF) and Lincoln Fields Station are progressing well. Production rates and accumulated delays on the Cut and Cover Tunnel along the Sir John A. Macdonald Parkway and Byron Linear Park are pushing the overall project completion date to late 2026.
- Note that the project has two independent opening dates, with the eastern extension segment, from Blair Station to Trim Station, planned to open first.

Design

- In Q2 2023, City staff continued their review of EWC's designs of specific Confederation Line extension elements, including stations. The focus is now on closing open comments on design packages. In Q2 2023, staff continued the review of design documents for stations and remaining roads packages.
- The review of design for other works that can be completed following Substantial Completion, including the Richmond Road Complete Streets and the decommissioning of portions of the Transitway, will continue in Q3 2023.
- There is now a focus on review of testing and commissioning plans and documents.

Construction – Highlights

- In Q2 2023, work continued throughout the west extension, including:
 - PCL mobilization at New Orchard and Kìchì Sìbì Stations
 - Structural work for BOBs at Lincoln Fields and Moodie Stations
 - Concourse pour at Queensview Station
 - Station servicing for Pinecrest Station
 - Roofing and glazing at Moodie Station
- Bulk excavation in the existing transitway trench between Kìchì Sìbì and Tunney's Pasture Stations progressed in Q2 2023 and bulk excavation is complete. Drainage work and rehabilitation of the trench walls including scaling and installation of anchors, shotcrete, and drapery continues in the trench.

- In the west, rail welding and installation began in Q1 2023 and has continued throughout Q2 2023. Energization of the Servicing and Inspection building of the LMSF is complete. The infrastructure maintenance building and signals building were also energized in Q2 2023. Catenary poles and catenary work are expected following installation of rail this spring.
- In the east, the majority of the 23-kilometre guideway barrier wall between the rail guideway and the highway has been completed with some expectations for station/guideway entrances. Fence installation on top of the barrier walls will continue in Q3 2023.
- Overhead Catenary System (OCS) Messenger Wire installation has begun between Montreal and Jeanne d'Arc Stations and will continue in Q3 2023.
- Racks and cabinets installation in the communications room and cable pulling continued in east stations and will continue in Q3 2023. Communication device configuration work has begun and will continue in Q3 2023.
- Track installation between Trim and east of Place d'Orléans stations continued and is nearing completion. Eastbound trackwork between Jeanne d'Arc and Place d'Orléans stations has begun and will continue in Q3 2023.
- Finishing works at Montréal and Jeanne d'Arc stations continue. Concourse level pour and structural steel installation at Convent Glen Station were completed in Q2 2023, mechanical and electrical work will continue in Q3 2023. Electrical and mechanical rough-in work, finishes and glazing work is ongoing at Place d'Orléans Station. Structural steel work has been completed and glazing and exterior cladding work has begun at Trim Station.

Handover

The handover sequence for the Stage 2 Confederation Line is different from, and includes lessons learned from, Stage 1. Following completion of the infrastructure and system commissioning by EWC, a three-week trial running period involving City operations, Rideau Transit Group (RTG), Rideau Transit Maintenance (RTM) and East-West Connectors (EWC) will be completed to verify operation and maintenance of the completed system. Following this work, additional time may be used for trial operations prior to opening for passenger service.

Stage 2 Project Vehicles

- RTG is providing 38 additional Alstom Citadis Spirit light rail vehicles to ensure that the expanded Stage 2 Confederation Line operates as a single, uniform service. To date, 13 additional vehicles have been accepted and are in use as part of the operating fleet.
- Configuration updates, software change, reliability and performance modifications that have been identified through Line 1 service since 2019, are being applied to the Stage 1 vehicles and to the Stage 2 vehicles in order to create a homogeneous fleet. The Stage 2 vehicles will need to be retrofitted with new axles once the updated design is available.
- Additional vehicles are undergoing final commissioning now and the fleet size is expected to be sufficient for the east extension by the end of this year. The remaining fleet order is

expected to arrive well ahead of the west extension timelines.

- TransitNEXT have supplied seven Stadler FLIRT vehicles for the expanded Trillium Line, which were already delivered to Ottawa. The existing Alstom LINT fleet have undergone a retrofit program and are now ready for systemwide testing and commissioning.

Stage 1 and Stage 2 Contingency Funds

The Stage 1 Confederation Line contingency fund is \$115 million. To date, \$100.68 million from the total fund has been spent. Remaining funds are primarily related to property requirements and remaining commercial matters.

The original Stage 2 contingency fund of approximately \$152 million was increased by \$25 million due to unforeseen costs and improvements to the project, as approved by Council on July 6, 2022. Approximately \$173 million of the Stage 2 contingency fund has been committed to date.

An ongoing budget pressure exists for City costs due to project delays and the additional costs for City oversight, existing and emerging variations for system improvements and lessons learned, residual project risks, as well as new and emerging commercial issues. A budget report, detailing a summary of costs to date, a lookahead for future costs, and an approval request to address the budget pressure, is planned as part of upcoming budget processes.

Stage 1 and Stage 2 Capital Budgets

In keeping with Council’s approved 2017 Stage 2 Report (ACS2017- TSD-OTP-0001) and 2019 Stage 2 Report (ACS2019-TSD-OTP-0001), approximately \$3.171 billion has been spent as of June 30, 2023 and relates to the RTG MOU for Belfast Yard and vehicle assembly mobilization (\$431M), Confederation Line extension mobilization and construction period payments (\$1.650B), Trillium Line extension construction period payments and financial close for the Revenue Vehicle Supply Contract (\$611M), and contingency (\$71M). The remaining \$408 million was spent for planning, procurement, project delivery and City retained scope.

June 30, 2023				
Project Description	Authority	Actual Expenditures	Funds Reserved/Committed	Unspent/ Uncommitted
Stage 1				
Confederation Line Program	2,130,000,000	2,130,000,000	-	-
Contingency	115,000,000	100,680,310	14,319,690	-
Total Stage 1	2,245,000,000	2,230,680,310	14,319,690	-
Stage 2				
Confederation Line Extensions DBF Contract	2,680,832,113	1,650,631,319	1,030,200,794	-
Trillium Line Extension DBFM Contract	810,159,585	610,713,153	60,924,442	-
Deferred Equity (Maintenance Term)	-	-	138,521,990	-
RTG Stage 2 MOU (includes 38 Alstom vehicles)	516,184,423	430,950,269	85,204,409	29,745
City Costs (includes planning, procurement, property acquisitions, City retained scope, and delivery oversight)	532,629,108	408,268,756	41,625,905	82,734,447
Contingency	177,640,000	70,720,603	101,780,813	5,138,584
Total Stage 2	4,717,445,229	3,171,284,100	1,458,258,353	87,902,776

Communications and Stakeholder Relations

In Q2 2023, the Stage 2 LRT communications highlights include:

- Four videos with over 10,000 views combined
- 122 newsletters to 8,454 subscribers
- 36 weekly construction activity lookaheads
- 70,000 unique visitors on [Ottawa.ca/Stage2](https://ottawa.ca/Stage2)

Through Q2 2023, the LRT Sub-Committee received three updates on the Stage 2 project. Summaries of each meeting listed below can be found on OC Transpo's [Commitment to Transparency webpage](#). Q2 2023 Light Rail Sub-Committee meetings include:

- April 28: Ottawa Light Rail Transit Public Inquiry City's Response and Action Plan
- May 26: Peer review and O-Train South Line Deep Dive
- June 19: Rail Operations Readiness

In June, the Stage 2 team participated in Doors Open Ottawa, welcoming residents to Greenboro Station to tour the new station and new Stadler FLIRT vehicle. The event was well attended and generated positive media attention.

Residents are encouraged to subscribe to the [Stage 2 LRT newsletter](#) and follow Stage 2 on Instagram [@OC Transpo](#) to receive progress updates, construction photos and videos and area specific notifications regarding upcoming works. Residents can also subscribe to the electronic newsletters by visiting ottawa.ca/Stage2Connect.

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
Transit Services Departmental Leadership Team
Director, Public Information and Media Relations