

Subject: Stage 2 Light Rail Transit Project

File Number: ACS2025-TSD-RCP-0003

Report to Transit Committee on 11 September 2025

**Submitted on September 2, 2025 by Troy Charter, Interim General Manager,
Transit Services Department**

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Ward: City-wide

Objet : Phase 2 du projet de train léger sur rail

Numéro de dossier : ACS2025-TSD-RCP-0003

Rapport présenté au Comité du transport en commun

Rapport soumis le 11 septembre 2025

**Soumis le 2 septembre 2025 par Troy Charter, directeur général par intérim,
Direction générale des services de transport en commun**

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REPORT RECOMMENDATION(S)

That the Transit Committee receive this report for information.

RECOMMANDATION(S) DU RAPPORT

Que le Comité du transport en commun prenne connaissance du présent rapport à titre d'information.

BACKGROUND

On March 6, 2019, Council approved the Contract Award of Ottawa's Stage 2 Light Rail Transit Projects and Related Matters report ([ACS2019-TSD-OTP-0001](#)).

TransitNEXT (TNEXT) was awarded the contract to design, build, finance, and maintain the Trillium Line extension, including the Airport Link. These lines now operate as Line 2 and Line 4.

East/West Connectors (EWC) was awarded the contract to design, build, and finance the Confederation Line extensions. The project will extend Line 1 from Blair Station to Trim Station in the east and from Tunney's Pasture Station to Moodie Station (Line 1), and to Algonquin Station (Line 3) in the west.

As part of the 2022-2026 Council Governance Review report, Council approved the following Motion 2022 - 03/06, moved by Councillor Desroches and seconded by Mayor Sutcliffe:

THEREFORE BE IT RESOLVED that City Council establish a Light Rail Sub-Committee of Council to provide oversight over non-operational matters related to the Confederation Line 1 and the construction of Confederation Stage 2 and Trillium Lines.

Based on this motion, Transit Services provided a regular Stage 2 Light Rail Transit Project presentation to Light Rail Sub-Committee (LRSC).

On January 29, 2025, Council approved the 2022-2026 Mid-term Governance Review report ([ACS2025-OCC-GEN-0001](#)), which included the following recommendation:

- The following Council committee structure for the remainder of the 2022-2026 Term of Council, effective immediately and including that the Light Rail Sub-Committee be dissolved, and the Transit Commission be renamed as the Transit Committee.

As a result, updates to the Stage 2 Light Rail Transit Project, which had previously been provided to LRSC, will now be provided to the Transit Committee.

DISCUSSION

This report, and the presentation prepared for the Transit Committee meeting on September 11, 2025, provides a construction update on the O-Train East and West Extensions, as well as the status of remaining construction works for Line 2 and Line 4.

1. Line 2 and 4

O-Train Line 2 and 4 have been successfully operating with seven-day service since March 16, 2025.

As noted in the June 2025 report ([ACS2025-TSD-RCP-0002](#)) updates on ongoing rail operations will be brought forward to Transit Committee, similar to the process currently followed for Line 1. The Stage 2 Construction Update reports will continue to cover status of outstanding construction works.

For Lines 2 and 4, Transit Services continues to work closely with TNEXT to close out all remaining deficiencies, which include:

- **Bearing condition monitoring system:** This system allows for proactive monitoring of the condition of the trains' axle bearings and detects any potential wear that may require further investigation. This is in line as per Transport Canada requirements. The design of the system has been completed, and construction is underway and expected to be completed by the end of August. Testing and commissioning of the bearing condition monitoring system is expected to continue.
- **Conformal frog:** A frog is part of the switch that helps transfer wheels from one track to another. A final design and workplan has been completed for two locations, Beech and Brookfield, and is currently under review.
- **Locomotive Video and Voice Recorder (LVVR) deficiencies:** Some of the outstanding issues were resolved by a recent software update. Discussions are underway on next steps to resolve outstanding issues and ensure full compliance with Transport Canada regulations.

Progress continues to be made to close out all remaining deficiencies.

2. East Extension Construction

In the East, final construction activities and train control and communication system testing are well underway and nearing completion. Major fleet activities, including software upgrades, remain to be completed.

Testing and Commissioning (T&C) work has been progressing well during the summer. This progress has allowed us to connect key systems to the existing Line 1 segment, including the closed-circuit television cameras (CCTV), remote supervisory and control system, and intrusion access system. Software has also been updated on all trains in the fleet. This progress allows the training and familiarization for electric rail operators to advance, and customers and residents can expect to see more trains operating on the east alignment as a result.

RCP will continue to work with RTG to coordinate T&C and required maintenance work where possible to minimize customer impact and ensure alignment with overall rail activation plans.

Work to re-instate the OR-174 will be completed in two phases, with the work in the first phase required for Substantial Completion. The work in the first phase is currently underway and includes: grading, drainage, headwall installation, slope finishing, top-lift paving, guardrail installation and some landscaping along OR-174. The work in this phase is expected to be completed in Q3 2025. The second phase will follow Substantial Completion and will include work on the slope finishing, top-lift paving, guardrail installation and landscaping to finish the restoration and works along the OR-174.

East Stations

Station occupancy for the east stations is nearly complete with deficiency closeout, Building Code service reviews, and occupancy permits expected in Q3 2025.

2.1 East Rail Activation Management Program (RAMP)

As previously reported, the path to revenue service for the East Extension includes Testing and Commissioning, Substantial Completion, Trial Running, final safety approvals, and system preparations.

Substantial Completion will validate that the system infrastructure, designed and built by EWC, meets the requirements of the Project Agreement.

Trial Running will follow Substantial Completion and will demonstrate that Transit Services and the maintainer, Rideau Transit Maintenance (RTM), can achieve the performance requirements for passenger service.

Final Safety Approval is the final step before Revenue Service and will include a statement from the Independent Safety Auditor that the system is safe for passenger service.

The Rail Activation Management Program (RAMP) structure and reporting mechanisms ensure comprehensive tracking and support for all activities and milestones during the transition from construction to revenue service. This work is done in coordination with the Transit Services Rail Operational Readiness (ROR) Program.

As described in the June 2025 report, the Systems Steering Committee and Interface Committee continue to oversee and guide system integration and coordinate between the City, its constructor, EWC, and its maintainer (RTM).

A progress summary of critical activities include:

2.1.1. System Installation, Integration, Testing and Commissioning

Integration of communication systems for the East Extension, with the existing live systems on Line 1, is progressing well. The migration of systems from a lab environment to a production environment began in May 2025 and is expected to be completed by September 2025.

The Systems Steering Committee continues to oversee and guide the system integration process.

2.1.2 Safety Certification and Approvals

A comprehensive safety certification program is in place to guide assessment and documentation of system safety through various milestones like Substantial Completion and Revenue Service. This includes safety cases for the Stage 2 East system (EWC), operator (City), and maintainer (RTM) that are required for Trial Running.

A railway level safety case is also under development by the City to assess changes to the Stage 1 system combined with all Stage 2 East systems and activities. Further levels of assessment are provided in all cases by the Independent Safety Assessor and Auditor.

2.1.3. Operations and Maintenance Readiness

Work is progressing well in ensuring operations and maintenance readiness. New Electric Rail Operator (ERO) hiring and familiarization training is underway. Residents can expect to see more trains operating on the east alignment as training on the new line picks up. Training will continue to support the certification of personnel required to support Trial Running and operations. Training is also scheduled for Electric Rail Controllers (ERC) and maintainer (RTM) personnel.

2.1.4 Vehicles

Currently, 27 of the 38 light rail vehicles (LRVs) for the Stage 2 fleet have been delivered and accepted by the City. Four additional vehicles are at various stages of testing and acceptance, and the remaining seven are in production or awaiting production. LRVs are currently on track to meet trial running and operational requirements for the East Extension.

2.2 Interface Committee

An Interface Committee of representatives from all parties – City, EWC and RTM – meet regularly to discuss issues and resolve concerns between the three parties. Recent discussions have been centered on establishing an escalation protocol for outstanding issues. Specifically, the committee has discussed spare parts, maintenance of vehicles at the LMSF, and engaging an independent expert for warranty and/or defect management. This process will ensure timely and binding decision-making on critical matters in the lead up to Substantial Completion.

2.3 Trial Running Overview

Prior to the start of Trial Running there are four key milestones that must be successfully achieved:

1. Testing and Commissioning - Gate 5 work
2. Performance Test
3. Substantial Completion
4. Pre-Trial running

The Performance Test is expected to take place during a weekend in September. During the Performance Test, 23 trains will operate between Tunney's Pasture and Trim stations and multiple test scenarios will be conducted to demonstrate that the integrated system can achieve the service levels specified in the Project Agreement. Due to the different test requirements of the integrated system, Line 1 service will not be available for customers and R1 will operate.

After the successful completion of the Performance Test and Substantial Completion, Pre-Trial Running will start. The Pre-Trial running period is designed to validate that the system and stakeholders are ready for Trial Running and to allow for any final preparations or adjustments to be made ahead of the 21-day Trial Running evaluation period.

Following the successful completion of Pre-Trial Running, the Trial Running evaluation period will start. The objective of the Trial Running process is to validate that the fully

integrated system functions as intended in the Project Agreement. This will allow the expanded system to demonstrate specific items including prescribed travel times, headways, and operational performance requirements.

Trial Running will evaluate the performance of system infrastructure, subsystems, vehicles, operating and maintenance personnel, as well as operating procedures to demonstrate the reliability of the system and its ability to deliver passenger service without interruptions. During the Pre-Trial Running and Trial Running period, Revenue Service will continue on the existing segment of Line 1, with passengers disembarking at Blair Station prior to the trains continuing into the East Extension.

As directed by Council, staff will continue the practice of holding technical briefings to provide details on the Trial Running process and as the East Extension progresses towards revenue service. This will ensure continued transparency and timely information is shared with Members of Council, public and media partners. Regular progress updates are also being shared on <https://www.octranspo.com/en/about-us/transparency/>.

West Extension Construction

In the west, construction of stations, guideway, Overhead Catenary System (OCS), off-guideway utilities, and roadway works continue in all areas. A series of traffic detours continue to be necessary to enable various construction activities. A major milestone was achieved this summer with all of the track being installed in Q2 2025. Inside the cut and cover tunnel, work is ongoing for the OCS, jet fan and systems cable installations.

West Extension Stations (Tunney's Pasture to Moodie Stations)

Interior finishes, including testing and commissioning of mechanical and electrical components at Moodie, Pinecrest and Queensview stations continue as they progress closer to completion.

Construction of the platforms and work on the elevators continues at Bayshore Station, and work on the permanent bus loop is ongoing. Work for the Moodie bus loop is also ongoing and will continue into next year.

West Extension Stations (Tunney's Pasture to Algonquin Stations)

Structural work is nearing completion at all stations. Westboro Station is expected to be structurally complete by late-2025, and work has been progressing with preparations for the concourse topping slab pour. Elevator and mechanical and electrical installation are ongoing.

Mechanical and electrical installation and equipment installations is ongoing at Kichi Zibi, Sherbourne, and New Orchard stations. Work at the remaining west stations is

progressing well. Interior finishes, including testing and commissioning of mechanical and electrical components at Lincoln Fields, Iris and Algonquin stations continues as work nears completion. Work is ongoing at the Lincoln Fields permanent bus loop.

Construction of the pedestrian bridge at Algonquin Station is ongoing.

Light Maintenance Storage Facility (LMSF)

At the LMSF, crews have completed work on the OCS which is at the western limit of the project and train testing in the yard has begun. OCS installation is continuing east from Moodie Station towards Pinecrest Station and testing of the OCS in this area is expected to begin in Q3 2025.

Work around the property of the LMSF building is ongoing and includes fencing, gates, signs, landscaping and completion of the pavement.

Guideway Construction

West extension guideway construction is progressing well with all track installation completed. OCS installation is ongoing and expected to be completely installed by the end of 2025.

Roadway Construction

Remaining civil work is advancing at the four Ministry of Transportation (MTO) interchanges along the alignment. Ramp closures are in place and future staging is expected to complete the remaining work. Work is ongoing to complete Carling Avenue construction, and to construct the Kichi Zibi Mikan in its final alignment.

Richmond Road Complete Streets continues with work ongoing with associated traffic stages to advance the Revitalizing Richmond Road scope. OC Transpo understands that the revitalization work is disruptive and are committed to working with the community and local business throughout the construction and to make improvements to signage and information products, where possible.

FINANCIAL IMPLICATIONS

1. Stage 1 and Stage 2 Contingency Funds

The Stage 1 Confederation Line contingency fund is \$115 million. To date, \$104 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 (approved by Council on July 06, 2022) and an additional \$110 million (approved by Council on November 22, 2023) due to unforeseen costs and improvements to the project. Approximately \$269.7 million of the \$287.6 million Stage 2 contingency fund has been committed to date. As per the last funding report, a residual budget pressure is forecasted for City and other costs; however, that pressure will be addressed at a future date.

1. Stage 1 and Stage 2 Capital Budgets

In keeping with Council's approved 2017 Stage 2 Report ([ACS2017-TSD-OTP-0001](#)), 2019 Stage 2 Report ([ACS2019-TSD-OTP-0001](#)), 2022 Stage 2 Report ([ACS2022-FSD-FIN-0009](#)) and 2023 Stage 2 Report ([ACS2023-TSD-RCP-0017](#)), approximately \$4.440 billion has been spent as of July 31, 2025, and relates to the RTG MOU for Belfast Yard and vehicle assembly mobilization (\$474 million), Confederation Line extension mobilization and construction period payments (\$2.418 billion), Trillium Line extension capital costs including financial close for the Revenue Vehicle Supply Contract (\$843 million), and contingency (\$193 million). The remaining \$511 million was spent on planning, procurement, project delivery and City retained scope.

July 31, 2025					
Project Description	Authority	Actual Expenditures	Funds Committed	Reserved/	Unspent/Uncommitted
Stage 1					
Confederation Line Program	2,130,000,000	2,130,000,000		-	-
Contingency	115,000,000	103,503,262		11,496,738	-
Total Stage 1	2,245,000,000	2,233,503,262		11,496,738	-
Stage 2					
Confederation Line Extensions DBF Contract	2,680,832,113	2,418,112,463		262,719,650	-
Trillium Line Extension DBFM Contract	850,966,493	704,562,438		7,882,065	-
Deferred Equity (Maintenance Term)	-	138,521,990		-	-
RTG Stage 2 MOU (includes 38 Alstom vehicles)	516,184,423	474,381,158		41,803,265	-
City Costs (includes planning, procurement, property acquisitions, City retained scope, and delivery oversight)	574,629,108	510,998,098		28,728,241	34,902,769
Contingency	287,640,000	193,039,182		76,691,999	17,908,819
Total Stage 2	4,910,252,137	4,439,615,329		417,825,220	52,811,588

Delays could have implications on the project's budget. Staff will report to Committee and Council on any adjustments to the contingency budget, as required.

LEGAL IMPLICATIONS

There are no legal impediments to receiving this report for information.

ACCESSIBILITY IMPACTS

All components of the Stage 2 LRT project adhere to the *Accessibility for Ontarians with Disabilities Act* (AODA). Any policy or procedural development, as well as customer communications and public engagement identified in the report's recommendations will include the application of the City's Equity and Inclusion Lens. Staff will continue to engage persons with disabilities and accessibility stakeholders to ensure that their perspectives are considered and incorporated, and to promote inclusion. Staff will also ensure that any applicable accessibility legislation, standards and guidelines are adhered to during the execution of the projects and initiatives identified in this report.

ASSET MANAGEMENT IMPLICATIONS

The City of Ottawa's Comprehensive Asset Management program uses widely accepted asset management practices and long-range financial planning, in compliance with provincial asset management regulations, to manage the City's infrastructure portfolio worth over \$70 billion to provide for the safe delivery of reliable and affordable services to the community. Asset management is an internationally recognized and implemented practice that supports informed, transparent decision making, giving Council a framework to provide direction on the appropriate balance of service delivery, cost, and risk, through a process of optimizing the lifecycle management of the City's assets which support the services it delivers.

The implementation of the Comprehensive Asset Management program enables the City to effectively manage existing and new infrastructure to maximize benefits, reduce risk, and provide safe and reliable levels of service to community users. The report identifies potential improvements to the Business Case and Project Management Policy and Project Management Framework. These are guiding documents to the Comprehensive Asset Management program, and as such, any changes to these core documents will be reviewed and reflected in the program.

RURAL IMPLICATIONS

The City's transportation network, including light rail transit, is designed to provide options for all residents. Once completed, Stage 2 LRT will span from Trim Road to Moodie Drive

and south all the way to Riverside South. Rural residents will have access to Park and Ride lots at various stations which will allow them to easily use public transit.

TERM OF COUNCIL PRIORITIES

The 2023-2026 Term of Council Priorities include:

- A city that is more connected with reliable, safe and accessible mobility options.
- A city that it is green and resilient.

DISPOSITION

Transit Services will provide ongoing information to Transit Committee and Council as Substantial Completion of the Stage 2 East Extension is finalized.

Construction updates for the Stage 2 project will continue to be provided to Transit Committee.