Subject: Rail Operational Readiness – Trillium Line

File Number: ACS2023-TSD-RCP-0012

Report to Light Rail Sub-Committee on 19 June 2023

Submitted on June 8, 2023 by Renée Amilcar, General Manager, Transit Services Department

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Ward: Citywide

Objet : Préparation opérationnelle du train léger – Ligne Trillium

Numéro de dossier : ACS2023-TSD-RCP-0012

Rapport présenté au Sous-comité du train léger

le 19 juin 2023

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REPORT RECOMMENDATION(S)

That Light Rail Sub-Committee receive this report for information.

RECOMMANDATION(S) DU RAPPORT

Que le Sous-comité du train léger prenne connaissance du présent rapport.

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 was awarded the contract to design, build, finance, and maintain the Trillium Line extension, including the Airport Link.

In preparation for the opening of Line 2 and Line 4 (Trillium Line and Airport Link), the Transit Services Department has been developing and implementing strategic projects and activities that enable OC Transpo to deliver an expanded, integrated, and multimodal transit service. These projects and activities are organized through the Rail Operational Readiness (ROR) Program, which is a structured project management approach that supports the implementation of business and service delivery models to ensure a seamless end-to-end customer journey.

The ROR model was presented to Transit Commission several times leading up to O-Train Line 1 revenue service, including through two reports:

- Ready For Rail O-Train Confederation Line Operational Readiness (ACS2019-TSD-TS-0001) – March 2019
- Confederation Line: Customer Service Operational Readiness (ACS2019-TSD-TS-0002) – June 2019

The ROR Program will operate until the successful completion of the Stage 2 project. Leveraging experience gained from the implementation of the O-Train Line 1, the Program will facilitate the delivery of a vastly expanded multimodal transportation network.

DISCUSSION

Stage 2 light rail transit (LRT) will create 44 kilometres of rail and 24 new stations. The project will result in shorter commutes, cleaner air, and a stronger economy. When complete, Stage 2 will bring 77 per cent of residents within five kilometres of rail. The first segment of Stage 2 to open will be Line 2 (Trillium Line) and Line 4 (Airport Link).

Based on the model used for O-Train Line 1 Confederation Line, the Rail Operational Readiness (ROR) program and Rail Activation Management Program (RAMP) will manage the delivery of Stage 2 light rail. The foundation for both models relies on

extensive coordination and teamwork of TSD staff, TransitNEXT and stakeholders. Transit Services has integrated lessons learned, recommendations from the LRT Public Inquiry, and the multiple third-party reviews to enhance the ROR and RAMP projects.

Most importantly, ROR and RAMP were created to ensure a positive customer experience on LRT from Day 1.

The ROR program will manage and schedule the activities and projects required to operate Lines 2 and 4 on opening day. ROR was created to develop and implement strategic projects and activities that enable TSD to deliver an expanded integrated multimodal transit service. ROR supports the implementation of business and service delivery models that ensure a seamless and positive end-to-end customer journey.

Detailed information on each ROR project was presented to LRSC on May 26, 2023 as part of the Trillium Line Extension Project report (ACS2023-TSD-RC-0009). The ROR projects include:

i. Contract Management

The Contract Management project involves service delivery management and contract administration of Project Agreements (PAs) during the maintenance term.

ii. Transit Operations Control Centre (TOCC)

Introduction of an expanded Trillium Line and Confederation Line into the Transit Operations Control Centre (TOCC) with further integration of systems and processes supporting the O-Train Line 1 and Line 2.

iii. Systems

Transit Engineering Services will provide documentation review, input and witness testing of systems, as well as the control and communication systems required for the project.

iv. Prelaunch Coordination & Live Testing Project

The Pre-launch launch Coordination and Live Testing project ensures that important and necessary steps in preparing and training staff and stakeholders for revenue service and emergency events are being planned and practiced prior to opening for revenue service. Technical drills and integrated exercises, dress rehearsals activities, bus loop operational tests, and tabletop exercises will allow internal and external stakeholders, to plan, review

and develop standard operating procedures and work instructions, prior to the revenue service of each of the Stage 2 light rail transit (LRT) extensions.

v.   Fare Control

The fare control strategy ensures that all new O-Train stations are ready and equipped to operate the fare management system for day-one operations.

vi.   Stage 2 Station Design, Construction & Fit-out Project

The City's design review process provides input at each design submission stage to ensure the design of the stations are clearly identifiable and meet the needs of OC Transpo's customers.

vii.   Operational Planning Project

As part of opening extensions with a live rail system, there is a requirement for coordinated tie-ins between the existing and newly built systems and infrastructure.

viii.   2025 Bus Network

This project will oversee the development of the revised bus networks that will support the expanded rail network.

ix.   Traffic & Transit Connectivity Project

This project ensures efficient bus operations within new bus loops. Bus movements will be modelled and reviewed to ensure that they are optimized.

x.   IT Operational Readiness Project

This project will consult, identify, develop and implement IT requirements to support the operational readiness of Stage 2 rail stations and systems.

xi.   System Wayfinding Project

Network configuration, stations and vehicles that emerge from Stage 2 will require the development of new or expanded design elements, and new or expanded standards for applications that have not been defined. The project will ensure a consistent application of visual identity and wayfinding across the O-Train system and vehicles.

xii. Training Strategy

This project provides the framework to ensure all activities related to training are captured, defined, and planned in a sustainable rail training program.

xiii. Simulator Project

The Simulator project will oversee upgrades to simulators to support operational stakeholders and emergency response training in preparation for the Stage 2 expansions.

xiv. Staffing Project

The Staffing and Recruitment Project will produce and implement strategies that will ensure that the right people are in the right positions at the optimal time. This will ensure objectives are met for Stage 2 testing and commissioning, and for day-one revenue service for the Confederation Line extensions and the Trillium Line extension.

xv. Document Support Project

This project will provide oversight for the development or revision of Rail Operational documentation, consistent industry best practices and where applicable consistent with relevant legislation, regulations and rules.

xvi. Regulatory Compliance Project

This project ensures regulatory requirements are identified, documented and reported on for Stage 2.

xvii. Communications Project

The communications project will develop the customer readiness, customer info and content, customer journey and the internal communications required in advance of the Stage 2 expansion of the light rail system.

RAMP will manage the meeting structure and reporting of milestones required for each stage up to the public launch of Lines 2 and 4. RAMP is the mechanism for:

- Tracking and reporting on all deliverables required to ensure operational readiness

- Addressing escalated issues and risks for mitigation

- Ensuring a seamless incorporation of the Trillium Line extension into Ottawa's

multi-modal transit system

- Ensuring the effective transition from construction to operations

Below are the critical activities included in the Stage 2 RAMP reporting:

- Vehicles and Fixed Components

- Systems, Testing & Communication Systems

- Operations & Maintenance Readiness

- Customer-Facing Projects

- External Communications and Events

These activities are being managed through a complex and well-coordinated plan that includes meeting all Project Agreement (PA) requirements; making bus stop, route and customer service information changes; implementing Council-approved service expansion; planning for connections with STO; and providing customer communications throughout.

ROR and RAMP represent a coordinated team effort, which includes planning dress rehearsal activities with a variety of situations. These preparations include the regulatory framework and tabletop exercises, Transit Operations Control Centre (TOCC) readiness, contracts, and systems. Customer facing elements such as traffic and transit connectivity, station design, wayfinding, and safety, play an important role in staff preparations.

TSD is ensuring that lessons learned from the Line 1 experience are implemented ahead of the start of operations to ensure a successful delivery of Stage 2 for customers and residents alike. TSD will continue its commitment to transparency, including working towards the completion of the Public Inquiry Action Plan (ACS2023-TSD-TS-0003) recommendations, and regular updates to Transit Commission and Light Rail Sub-Committee. There will be continued engagement with Council, the public and stakeholders, as well as daily reporting to Council during Trial Running.

FINANCIAL IMPLICATIONS

Funding for the Rail Operational Readiness Program is available within existing capital orders.

LEGAL IMPLICATIONS

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

ACCESSIBILITY IMPACTS

All components of the Stage 2 O-Train project adhered 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

Receipt of this report does not carry asset management implications. The report content describes plans to prepare for rail operation which are consistent with the City's Comprehensive Asset Management (CAM) Program objectives. 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. This is done in a socially, culturally, environmentally, and economically conscious manner. The Rail Operational Readiness – Trillium Line Report aligns with the guiding principle of sustainability by considering climate impacts in the decision to acquire new assets.

When the City commits to the acquisition of new assets, consideration must also be given to the City's commitment to fund future operations, maintenance, and renewal costs. It must also account for future depreciation when reviewing long term financial sustainability. When reviewing the long-term impacts of asset acquisition, it is useful to consider the cumulative value and lifecycle costing of the acquired assets being taken on by the City.

CLIMATE IMPLICATIONS

Ottawa's Climate Change Master Plan established greenhouse gas (GHG) reduction targets of 100 per cent by 2050 for the city as a whole and 100 per cent by 2040 for the

municipal corporation. The transportation sector contributes 44 per cent of Ottawa's overall GHG emissions, so achieving these targets will require significant shifts in vehicle technology and travel behaviour, as outlined in the City's Energy Evolution Strategy.

The O-Train Line 2 and Line 4 extensions expand on the Stage 1 Confederation Line system to provide sustainable transit and a transition to cleaner vehicle technologies.

As outlined in the recent Transportation Master Plan Update (ACS2023-PRE-TP-0001), the shift to walking, cycling and transit use is critical to reducing GHG emissions and is already at the heart of the City's transportation planning.

The technology incorporated as part of this project will reduce GHG emissions by providing high-efficiency vehicles, which will also reduce fuel consumption, and reduce the number of vehicles on roads by.

ECONOMIC IMPLICATIONS

The Trillium Line extension project, including the Airport Link (O-Train Line 2 and 4), will provide a significant benefit to Ottawa's economy and support economic diversification, economic growth, business attraction and talent attraction. The project has delivered a number of construction jobs and provides opportunity for new business investment. The project will create a new transit option for residents, students and tourists.

INDIGENOUS, GENDER AND EQUITY IMPLICATIONS

OC Transpo, and the priorities outlined in this report, aim to improve access for people who experience transit-related barriers. O-Train Line 2 and Line 4 will provide enhanced and extended public transit to support those residents who may face barriers during their daily travel needs.

Following from the City's Equity and Inclusion Lens, the ROR Program will prioritize the mobility needs and constraints of women, children, older adults, people with disabilities, people living in poverty, Indigenous peoples, members of racialized communities, and other equity-deserving groups.

RISK MANAGEMENT IMPLICATIONS

Risks directly associated with the Stage 2 O-Train extensions to the south are outlined in the Trillium Line Extension Project report (ACS2023-TSD-RC-0009), which was

presented to LRSC on May 26, 2023. In addition, TSD staff have reviewed and responded to the November 2022 Ottawa Light Rail Transit Public Inquiry Report.

Some of the recommendations from the Public Inquiry do relate to the Trillium Line Project. Based on previous lessons learned reviews, third-party reviews, external oversight and consultation with international light rail professionals, improvements have been made to the Stage 2 LRT model – from design to procurement to construction to contract management. The ROR Program and RAMP will follow all of the previous lessons learned and any specific recommendations from the Public Inquiry.

The risks associated with the OLRT Public Inquiry Report are being tracked and mitigated through the City's Action Plan.

RURAL IMPLICATIONS

The City's transportation network, including light rail transit, is designed to provide options for all residents. Once completed with the Stage 2 extensions, the City's O-Train network 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.

For Line 2 specifically, there will be Park and Ride lots at Bowesville Station, Leitrim Station, and Greenboro Station.

TERM OF COUNCIL PRIORITIES

The 2019-2022 Term of Council Priorities include:

- This report supports the City's on-going commitment to financial sustainability and transparency.
- Integrated Transportation: Enable effective mobility through a sustainable, accessible, and connected city transportation system.
- Service Excellence Through Innovation: Deliver quality services that are innovative and continuously improve to meet the needs of individuals and communities.

DISPOSITION

As outlined in the Trillium Line Extension Project report (ACS2023-TSD-RC-0009), the Transit Services Department will provide regular updates to Council during the Trial Running Period of Lines 2 and 4 of the Stage 2 LRT project.