

LRT Network Expansion and Renewal Update

Recommendation

That Executive Committee recommend to City Council:

1. That the November 9, 2020, Integrated Infrastructure Services report IIS00094, be received for information.
2. That Attachment 3 of the November 9, 2020, Integrated Infrastructure Services report IIS00094, remain private pursuant to sections 24 (advice from officials) and 27 (privileged information) of the *Freedom of Information and Protection of Privacy Act*.

Executive Summary

Administration continues to advance multiple LRT network expansion and renewal projects through various stages of development. This update has been prepared as a part of Administration's commitment to regular communication with Council, both to inform and potentially seek direction on these transformative projects.

Report

Network Expansion (Design and Construction)

LRT expansion provides mass transit services to Edmontonians and will transform the way people live, learn, work, and play in the city. ConnectEdmonton, Council's Strategic Plan, calls for connected urban places to create a compact and more integrated urban environment where people can increasingly rely on sustainable transportation options, including transit, biking, and walking. LRT expansion is critical to creating these connections. Progress towards the complete buildout of Edmonton's approved LRT Network is summarized in Attachment 1.

The following LRT network expansion projects are currently underway in the design, build, or operate phases and in accordance with the priorities approved by City Council on May 3, 2016 and June 1, 2020 in Integrated Infrastructure Services report CR_3314, Long Term Funding Plan for the LRT - Strategic Options, Extension Planning and Proposed Stages of Construction and Integrated Infrastructure Services report CR_8337, LRT Transit Priorities (Update) - Strategic Options, Extension Planning and Proposed Stages of Construction, respectively.

Stage	LRT Line	Corridor
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Design	Capital Line South Extension	Century Park to Ellerslie Road
	Metro Line Northwest Extension	Blatchford to Campbell Road
Build	Metro Line Northwest Extension	NAIT to Blatchford
	Valley Line West	Downtown to Lewis Farms
	Valley Line Southeast	Downtown to Mill Woods
Operate	Metro Line	Downtown to NAIT

Significant progress has been made in 2020 on the three “Build” segments of the LRT Network with a more detailed update on the status of each of the active projects provided in Attachment 2.

- The Valley Line southeast is 82 percent complete as of the end of September. Major construction milestones have been reached on various segments including the Tawatinâ Bridge, Quarters Tunnel, Davies Station and Park & Ride, as well as community station platforms. Installation has been completed for overhead power systems, and reconstruction of integrated roadways has been completed. 17 of the 26 light rail vehicles have been delivered, with the balance expected by the end of 2020 or early in 2021. Further information and details are provided in Attachment 3 and are private pursuant to sections 24 (advice from officials) and 27 (privileged information) of the *Freedom of Information and Protection of Privacy Act*
- The Valley Line West is in the final stages of construction procurement. The selection of a preferred proponent and contract award is expected before the end of the year. Utility relocations, land acquisition, building demolitions, access closure bylaws, and building condition assessments along the corridor are underway in anticipation of detailed design and construction starting in 2021.
- The Metro Line extension from NAIT into Blatchford has started construction. This includes hard surface and removal of unsuitable materials, site grading, reconfiguration of 109 Street and the Jefferson Armoury parking lot, and installation of underground utilities.

On June 1, 2020, City Council prioritized the Capital Line South from Century Park to Ellerslie Road, followed by the Metro Line from Blatchford to Castle Downs. The business case for the Capital Line South expansion is currently being reviewed by the Province and once approved, Administration will bring forward a Capital Profile and funding strategy for City Council’s consideration. The estimated cost to advance land purchases for the Metro Line extension between Blatchford and Castle Downs is included in the fall SCBA report.

Metro Line (Downtown to NAIT)

The Metro Line opened to public service in September 2015 with speed and other operating restrictions due to an incomplete signalling system. Administration issued Thales with a Notice of Termination in Q2 2019 after the contractor failed to meet their December 4, 2018 deadline to complete the signalling system.

Alstom Transport Canada Inc. has been retained to complete the detailed design and installation of an alternative signalling plan to replace the Thales signalling system. The material procurement is complete. The design work, and hardware and software installation are being finalized, and system testing is ongoing. Transition to the replacement signalling system is currently scheduled for Q1 2021.

Centre LRT

The Centre LRT route was identified in the City's long term LRT Network Plan to provide opportunities for seamless connections between Downtown, the Alberta Legislature, the University of Alberta, Strathcona, Bonnie Doon, East Edmonton, and the wider LRT network.

Administration worked to define the selected corridor, and certain segments were approved by City Council in August 2018. The section through the University and Garneau areas including the North Saskatchewan river crossing required further review and analysis. This work was then paused while Administration finalized the City Plan and conducted a mass transit study to better understand its alignment to the broader growth plan.

The mass transit study affirmed the demand for transit along the Whyte Avenue corridor and further determined the service could also be accommodated by non-LRT technologies. Administration will return to council in 2021 with recommended next steps.

LRT Renewal Program

The 2019-2022 LRT Facility and Track Renewal Capital Program include upgrades for LRT Facilities and Right of Way Assets that are managed by Edmonton Transit. These include LRT Stations, track inventory, and tunnel systems. Key projects that were undertaken in 2020 include upgrades to Stadium Station, Belgravia Station platform, and various LRT crossings along the Capital Line.

Light Rail Vehicle Procurement

The LRT expansion projects approved by City Council will necessitate a substantial growth in the light rail vehicle fleet in the upcoming years. This, combined with the need to replace 37 of the oldest fleet of trains that are already operating well past their design life, results in the need to procure a considerable number of light rail vehicles in

the near term. Continuing to operate and maintain the older fleet of trains beyond a 5 year horizon will pose a risk to providing in-service LRVs to meet ridership demands.

The Valley Line Southeast project includes the addition of 26 new Bombardier Flexity low floor light rail vehicles. The Valley Line West project requires up to 40 low floor light rail vehicles and Administration is currently preparing to competitively procure these vehicles.

As many as 142 new high-floor vehicles may be required to support the extension to the Capital Line south and Metroline north, to provide the required service frequency on the existing Capital and Metro lines, and to address the upcoming fleet replacements. This could result in a funding requirement of over \$900 million in the short-to-medium term. Administration is having conversations with the City of Calgary about possible joint procurement of light rail vehicles and continues to explore alternatives for long-term funding with potential partners.

Budget/Financial

The total approved and estimated budgets for the projects outlined within this report are summarized below. The projects are funded for the scope defined within their capital profile for the following amounts:

Project	Stage Funded	Approved Budget
Valley Line West (Downtown to Lewis Farms)	Build	\$ 2,608.9 M
Valley Line Southeast (Mill Woods to Downtown)	Build	\$ 1,758.4 M
Metro Line Northwest (NAIT to Blatchford)	Build	\$ 351.4 M
Metro Line Northwest (Blatchford to Campbell Rd)	Design	\$ 24.2 M
Capital Line South (Century Park to Allard/Desrochers)	Design	\$ 14.5 M
Centre LRT (Downtown Circulator) ¹	Strategy	\$ 4.6 M

Project	Stage	Estimated Budget
Capital Line South (Century Park to Ellerslie Road)	Build	\$ 1,050.0 M
Metro Line North (Blatchford to Campbell Road) ²	Land Acquisition	\$ 18.6 M

Notes:

- 1) Centre LRT strategy planning has been suspended pending a review of this corridor for other rapid transit technologies in the context of the overall mass transit network
- 2) Land acquisition budget are for opportunity purchases and only includes properties up to Castle Downs (does not include land for the operations and maintenance facility in Rampart)

Public Engagement

Public engagement and communications has been an integral part of the LRT expansion efforts since the development of the LRT Network plan in 2009. Over the past 12 months the following communications and engagement initiatives to support the LRT Network expansion have taken place:

- Delivered integrated marketing communications strategies and stakeholder relations to support the construction of the Valley Line Southeast and the Metro Line Northwest.
- Delivered integrated marketing communications strategies to support procurement and construction preparations for the Valley Line West.
- Developed a Public Safety Outreach Program to support future operations of the Valley Line Southeast.
- Developed a stakeholder relations program for Valley Line West construction.
- Delivered the 2020 TLC for LRT campaign in support of the LRT Renewal program.

Corporate Outcomes and Performance Management

Outcome(s)	Measure	Result	Target
Edmontonians use public transit and active modes of transportation	Transit ridership (rides per capita)	91.6 (2017)	105.0 (2018)
	Journey to work mode (percent of survey respondents who select auto passenger, transit, walk, cycle or other)	26.1% (2016)	25.9% (2018)

Outcome	Measure	Result	Target
Edmonton is attractive and compact	Edmontonians' assessment: Well-designed, attractive city (percent of survey respondents who agree/strongly agree)	53% (2017)	55% (2018)

Outcome	Measure	Result	Target
The City of Edmonton has sustainable and accessible infrastructure	Edmontonians' assessment: Access to infrastructure, amenities and services that improve quality of life (percent of survey respondents who agree/strongly agree)	68% (2017)	70% (2018)

Attachments

1. Status of LRT Network Plan
2. LRT Network Expansion and Renewal Projects Summary
3. Private Update

Others Reviewing this Report

- G. Cebryk, Deputy City Manager, City Operations
- M. Persson, Chief Financial Officer and Deputy City Manager, Financial and Corporate Services
- S. McCabe, Deputy City Manager, Urban Form and Corporate Strategic Development
- C. Owen, Deputy City Manager, Communications and Engagement
- B. Andriachuk, City Solicitor