

LRT Network Expansion and Renewal Update

Recommendation

That Executive Committee recommend to City Council:

1. That the June 14, 2021, Integrated Infrastructure Services report IIS00552, be received for information.
2. That Attachment 3 of the June 14, 2021, Integrated Infrastructure Services report IIS00552, 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 project development and delivery. This update has been prepared as a part of Administration's commitment to regular communication with City Council, both to inform and, if required, seek direction on these transformative projects.

Report

Network Expansion (Design and Construction)

LRT expansion enhances mobility for Edmontonians and, as a key part of our mass transit network, will transform the way people live, learn, work, and play in the city. The City Plan and ConnectEdmonton, Council's Strategic Plan, call 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.

Stage	LRT Line	Corridor
Design	Capital Line South	Century Park to Ellerslie Road
Build	Metro Line Northwest	NAIT to Blatchford
	Valley Line West	Downtown to Lewis Farms

	Valley Line Southeast	Downtown to Mill Woods
Operate	Metro Line	Downtown to NAIT

Progress continues on the three “Build” segments of the LRT Network. Detailed updates on the active projects are provided in Attachment 2.

- The Valley Line Southeast is 90.3 percent complete as of the end of March 2021. Major construction milestones have been reached on various segments including the Tawatinâ Bridge, Quarters Tunnel, Davies Station and elevated guideway, as well as all community stops. Installation is ongoing for overhead power systems. All 26 light rail vehicles have been delivered to Edmonton. Testing and commissioning of the vehicles, infrastructure, and systems will continue through 2021. TransEd Partners has stated that the line is expected to commence revenue service by the end of this year.
- In December 2020, the City signed the contract with Marigold Infrastructure Partners Limited Partnership, for the design, construction, and partial financing of the Valley Line West. Marigold is mobilizing their team, preparing project plans and designs, and procuring major construction contracts. Early works are ongoing, including utility relocations, building removals, and geotechnical investigations. Land acquisition is 94 percent complete, and the majority of required access closure bylaws have been approved. Construction of the temporary West Edmonton Mall transit centre is underway.
- Construction of the Metro Line extension from NAIT into Blatchford continues with the following key milestones expected to take place in 2021: completion of underground utilities including duct banks, drainage and water infrastructure; commencement of utility complex construction including foundations and structural assembly; and commencement of concrete trackway installation.

Administration has also advanced Integrated Infrastructure Services report IIS00553, Capital Line South Extension - Project Update and Budget Approval to Executive Committee on June 14, 2021, seeking budget approval for the extension of the Capital Line from Century Park to Ellerslie Road. Once City Council approves the funding for this project and all associated funding agreements have been signed with the other orders of government, a construction contractor will be retained to commence final design and construction with a target completion in 2026.

Metro Line (Downtown to NAIT)

Over the last weekend of February, 2021, the Thales signal system was decommissioned and replaced with the Alstom system. The transition was successful and the line is now operating fully as intended.

The transition to the Alstom signal system coincided with a number of changes to the roadway traffic/LRT interface. These changes resulted in considerable reductions to the average and maximum traffic wait times at the 111 Avenue and Kingsway crossings. Before and after field surveys conducted during LRT activity have recorded reduced average peak hour queue lengths (length of the vehicle line up) by 49 percent and 40 percent along 111 Avenue and Kingsway respectively.

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.

The City Plan identified a long-term mass transit network based on a technical study. The study affirmed the demand for mass transit along the Whyte Avenue corridor and further determined the service could also be accommodated by non-LRT technologies. Administration will be presenting a report on the Mass Transit Plan to support interim population horizons in early 2022.

LRT Renewal Program

The 2019-2022 LRT Facility and Track Renewal Capital Program includes upgrades for LRT facilities and right of way assets that are managed by Edmonton Transit Service. These include LRT stations, track inventory and tunnel systems. Key projects being undertaken in 2021 include upgrades to Stadium Station, South Campus Station platform, and various LRT crossings, track renewals, signalling, communications, electrical and mechanical upgrades along the Capital Line. The improvement to LRT stations include addressing maintenance and lifecycle deficiencies, safety improvements, security, accessibility, and functionality to improve vehicle and pedestrian safety.

Light Rail Vehicle Procurement

The LRT expansion projects approved by City Council will necessitate substantial growth in the Light Rail Vehicle (LRV) fleet in the upcoming years. This, combined with the need to replace 37 of the original LRVs that are operating well past their design life, results in the need to procure a considerable number of LRVs in the near term. Continuing to operate and maintain the older fleet of LRVs beyond a five-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 LRVs, which are being supplied through the Valley Line Southeast P3 Project Agreement with TransEd Partners. The Valley Line West project requires up to 40 additional low floor LRVs. Administration has completed a pre-qualification and shortlisted three companies to provide proposals to supply these 40 vehicles, with selection and contract award anticipated by the end of 2021.

The City may need to acquire as many as 142 new high-floor LRVs over the next 10 years to support the extension to the Capital Line south and Metro Line 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. This would be funded through a combination of capital projects and an expansion/renewal funding strategy that will be developed in the future. Administration continues to have conversations with the City of Calgary about possible joint LRV procurement opportunities and 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	Spend to Date (March 2021)
Valley Line West (Downtown to Lewis Farms)	Build	\$ 2,609.1 M	\$ 156.6 M
Valley Line Southeast (Mill Woods to Downtown)	Build	\$ 1,758.5 M	\$ 1,445.6 M
Metro Line Northwest (NAIT to Blatchford)	Build	\$ 351.4 M	\$ 53.7 M
Metro Line Northwest (Blatchford to Campbell Rd) ¹	Design	\$ 24.2 M	\$ 24.3 M
Capital Line South (Century Park to Allard/Desrochers)	Design	\$ 15.0 M	\$ 14.4 M

Project	Stage	Estimated Budget
Capital Line South (Century Park to Ellerslie Road) ²	Build	\$ 1,025.0 M
Metro Line North (Blatchford to Campbell Road) ³	Land Acquisition	\$ 18.6 M

1. Spring SCBA will request a funding increase to address \$100K shortfall
2. Funding request is scheduled for the June 14, 2021 Executive Committee meeting
3. 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.

Residents and businesses can expect timely, relevant and targeted communications, which includes regular updates, opportunities for discussion, and availability of project team staff to answer questions and raise concerns.

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 and Metro Line.
- 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 to highlight the Renewal program.

Corporate Outcomes and Performance Management

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

- C. Owen, Deputy City Manager, Communications and Engagement
- K. Fallis-Howell, Acting City Solicitor