

Integrated Infrastructure Services
LRT Expansion & Renewal

Edmonton

**Capital Line South Extension Update
(Phase 1)**

Executive Committee
May 3, 2023

IIS01679

Agenda

- Project Background
- Funding Timeline
- Procurement Update
- Cost Estimate
- Revised Scope Elements
- Public Engagement
- Other Challenges

Project Background

- 4.5 km high-floor LRT extension from Century Park to Ellerslie Road
- LRT underpass at 23 Avenue
- Two new stations (Twin Brooks and Heritage Valley North)
- New LRT bridges crossing Blackmud Creek and AHD
- New Operations & Maintenance Facility (south of AHD)
- New high-floor Light Rail Vehicles (LRVs)

Funding Timeline

- 2019 - preliminary design completed and cost estimate prepared
- Late 2020 - business case prepared for funding approval
- March 2021 - GoA approved business case
- June 2021 - City Council endorsed the project
- August 2021 - GoC publicly announced the project
- April 2022 - Federal Treasury Board formal approval
- Total budget: \$1.085 billion

Procurement Update

- Procurement process launched in June 2022.
 - Request for Qualifications (“RFQ”)
 - Two qualified bidders shortlisted in September 2022.
- Request for Proposals (“RFP”) launched March 31, 2023.
- Bid submissions due in late 2023.
- Anticipate selecting Design-Build contractor by end of 2023.

Cost Estimate

- The 2022 approved budget of \$1.085 billion was developed on an estimate completed in September 2019 (pre-pandemic).
- Since then, significant economic pressures and market uncertainty has led to an increase in estimated project costs.
- Updated estimate in late 2022 suggested a cost increase of approximately 20-30%

Cost Estimate (cont'd)

To address cost pressures, actions have been taken to design the project to the approved budget, while maintaining functionality of the line.

Actions have included:

- Undertaking a close review of the project scope to identify elements that can be re-scoped to reduce cost;
- Adjust design to accommodate staging while keeping the ultimate goals of the project; and
- Incorporating options into the contract, where feasible, to provide flexibility in pricing.

Decision Criteria

Criteria applied for scope adjustments/deferrals:

- No impact to functionality of LRT system approved in business case
- Compliance with funding agreements
- Ability to phase or build at a later date

Revised Scope Elements

- Heritage Valley North Station – change from elevated to at-grade
- Deferral of Park & Ride expansion to a future project
- LRV Order – reduce to minimum requirements
- Operations & Maintenance Facility - staged to accommodate minimum operational requirements

Project team will continue working with the bidders to manage affordability and closely monitor evolving market conditions.

Heritage Valley North Station

- Centrepiece of Heritage Valley multi-modal hub that includes a major Park & Ride and transit centre
- Station is a requirement of the funding agreement
- At-grade station:
 - Reduced operating/maintenance costs
 - More reliable access for all riders
- Elevated station:
 - Better traffic intersection performance
 - Increased operating/maintenance costs
 - Preferred by community (engagement)

Ellerslie Road Crossing

- Based on Crossing Assessment Framework, grade separation performs better than at-grade from a Network Operations perspective.
- Traffic Study (Feb 2023) for at-grade crossing (two scenarios analyzed; during peak hours):
 - 4-lane scenario expected to increase traffic delays by 20-30 seconds.
 - 6-lane scenario expected to increase traffic delays by 10-25 seconds.

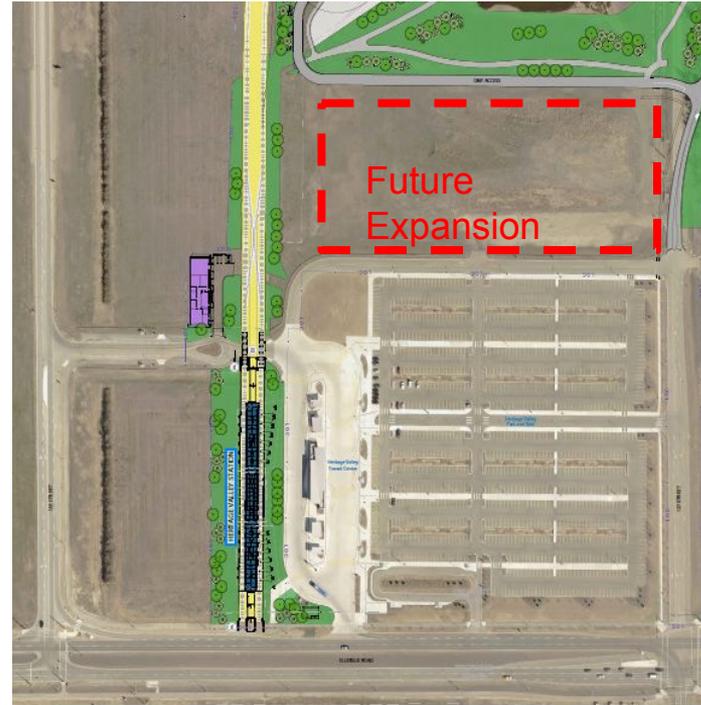
Operations and Maintenance Facility

- Stage 1 of a new Operations and Maintenance Facility (OMF)
 - Indoor storage for 40 LRVs
 - Storage in Wash Bays for 20 LRVs
 - Storage in Maintenance Bays for 6 LRVs
 - Outdoor storage for 20 LRVs
- Full buildout of OMF shown in image to store up to 90 LRVs indoors



Heritage Valley Park & Ride

- Park & Ride opened in late 2019
- Current capacity:
 - 1,100 parking stalls
 - 15 bus bays
- Ultimate capacity:
 - 1,900 parking stalls
 - 20 bus bays
 - To be completed (based on service demand & funding availability)



Light Rail Vehicles (LRVs)

- In 2020, business case identified the need to increase the existing high-floor LRV fleet by 24.
- Further analysis concluded system can perform with fewer LRVs.
- LRV procurement will be combined from different projects:
 - LRVs for CLSE (# TBD based on budget availability)
 - 6 LRVs for Metro Line extension
 - 37 replacement LRVs (approved in recent budget)
- Larger order will increase competition and may reduce \$/LRV (procurement will include options to buy additional LRVs)
- City is undertaking market sounding with LRV suppliers

Public Engagement & Community Insight

Public Engagement

2008-2010	September 2018	May 2022
November 2017	January 2019	September 2022
June 2018	July 2020	December 2022

Indigenous Engagement

Fall 2017	December 2021	August 2022
July/August 2018	June 2022	January 2023

- Community Advisory Committee from 2017-2019, and restarted in 2023.

Next Steps

- Continue with procurement based on current scope and budget.
- Work with bidders to monitor market conditions, anticipated costs and opportunities to add scope if affordable.
- Prepare for LRV procurement with the intent of awarding a contract in 2024 once available budget is confirmed
- Work with funding partners to obtain approval for scope adjustments and consider other opportunities

Twin Brooks Station

- Neighbourhood station added to preliminary design in 2018
 - Space for station provided in 2008 preliminary design
 - Consistent with City's shift to more urban-style LRT
 - Council approved station in 2019
- Station provides multi-modal connectivity with transit network and active transportation modes
- Station is a requirement in the funding agreement
- Estimated cost of station: \$12-15 million
 - Significant operational/cost impacts of adding a station later



Access in/out of Twin Brooks (9 Ave & 12 Ave)

- Crossing Assessment Framework as applied
- Traffic modelling at 9 Ave & 12 Ave, to the year 2050
 - Determined grade separation is not necessary
- Partial priority traffic measures
- 9 Ave intersection performance
 - Advanced left turn signal into Twin Brooks
 - Impact of LRT 10-14 seconds at peak times
- 12 Ave intersection performance
 - Impact of LRT is negligible

Active Transportation Connectivity

- Project includes a new LRT bridge over Blackmud Creek
- Shared-Use Path (SUP) on existing 111 Street bridge will be shifted to the new LRT Bridge. 111 Street bridge will be widened to provide an additional southbound vehicle lane.
- SUP on new Blackmud Creek bridge will connect to existing SUP network on both sides of 111 Street



Acoustic Noise Barrier Fencing

- City of Edmonton Urban Traffic Noise Policy C506 (2004)
 - Average noise levels exceeding **65 dBA** in private yards will be considered for noise attenuation
 - Policy provides fairness & consistency for communities along LRT lines
- Noise study completed in 2018 (average noise levels of **52.2 - 62.3 dBA**)
- Updated study completed in 2022 (average noise levels of **52.7 - 62.0 dBA**)
- Noise results do not exceed 65 dBA threshold in the policy therefore noise attenuation not required.
- Reviewing material options for cost-effective visual screen.

Capital Line South Extension and City Plan

- CLSE is part of the mass transit strategy and is and a key component of our integrated transit network.
- LRT and mass transit support the City Plan goals:
 - Greener as we Grow
 - Community of Communities
- Spacing between stations is consistent with the City's shift to more urban-style LRT (closer stops for direct multi-modal access from adjacent neighbourhoods).
- Twin Brooks station provides a premium transit connection between the Century Park and the Heritage Valley node.

Thank you.

Questions?

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