

Transportation
SPC on Transportation and Transit
2020 June 24

ISC: UNRESTRICTED
TT2020-0565

Airport Transit Line Study

EXECUTIVE SUMMARY

The Airport Transit Line is part of the City's Primary Transit Network. The link builds on the existing Route 300 BRT that serves the Airport and City Centre and provides an east-west connection between the Green Line and Blue Line and Calgary International Airport (YYC).

This report recommends the alignment and station locations for the Airport Transit Line that will connect the future phases of the Green Line LRT and Blue Line LRT, including a connection to the Calgary International Airport (YYC) while serving development in the local area. See Figure 1-9 in Attachment 1.

The study scope included a review of:

- Route alignment and stations between the future 96 Avenue N.E. Green Line Station and Barlow Trail N.E.;
- Location for a maintenance and storage facility;
- Land requirements;
- Transit technology; and
- A preliminary staging plan and cost estimates.

Based on ridership analyses completed for the Airport Transit Line Study, the current bus service to the Calgary International Airport will meet the ridership demands in the short term (based on 2028 estimated ridership) with a rail connection being required in the medium to long term (based on 2048 estimated ridership). See Figure 1-3 in Attachment 1.

The recommended route alignment, station locations and maintenance and storage facility location can be found in Figure 1-9 in Attachment 1. Stations are proposed at: 96 Ave NE/Greenline, Harvest Hills/Aurora, Regional/High Speed Rail (Future), Aero Drive NE, Airport Terminal (2 stations), 36 St. NE (Future), and at 88 Ave NE/Blue line. The Maintenance and Storage facility is planned for the northwest corner of Metis Tr./Airport Tr. NE.

An Automated People Mover (APM) was identified as the preferred technology. Key benefits of this technology include a lower operating cost, flexibility of service and reduced round trip travel times. Due to the medium to long term construction timelines of this project and the continuously evolving transit technology industry, the recommended technology will need to be re-evaluated when the project is funded for detailed design and construction.

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ADMINISTRATION RECOMMENDATION:

That Standing Policy Committee on Transportation and Transit recommends that Council:

1. Approve the recommended alignment and station locations between the future Green Line/96 Avenue N.E. station and Barlow Trail N.E.
2. Approve the location for a maintenance and storage facility.
3. Protect for the land needed for the Airport Transit Line alignment right of way.
4. Direct Administration to include the recommended alignment and station locations in future updates to the Aurora Business Park Area Structure Plan.

RECOMMENDATION OF THE STANDING POLICY COMMITTEE ON TRANSPORTATION AND TRANSIT, 2020 JUNE 24:

That Council:

1. Approve the recommended alignment and station locations between the future Green Line/96 Avenue N.E. station and Barlow Trail N.E., **recognizing that the Green Line North functional plan may identify adjustments to the interface between the connector and the Green line.**
2. **Retain the option of an alternate maintenance facility on the west side of the Airport to provide flexibility in staging and cost effectiveness.**
3. Protect for the land needed for the Airport Transit Line alignment right of way.
4. Direct Administration to **make required amendments to the Aurora Business Park Area Structure Plan to accommodate the recommended alignment, maintenance facility and/or station locations.**

PREVIOUS COUNCIL DIRECTION / POLICY

The alignment and station locations from the transfer station adjacent to Blue Line's 88 Avenue N.E. station to Green Line have been approved by Council through the previous functional planning studies listed below:

- Airport Trail Functional Planning Study, TT2012-0658;
- Review and Update of the 2012 Airport Trail Functional Planning Study Update, TT2017-0168;
- Northeast LRT Functional Plan – Saddletowne to Stoney Trail, TT2012-0657; and
- Green Line LRT Alignment and Stations: 160 Avenue N to Seton, TT2017-0534.

BACKGROUND

The Calgary Transportation Plan identifies an airport transit connection as part of the Primary Transit Network. This connection is also shown in RouteAhead – the 30-year strategic plan for public transit in Calgary.

The Calgary Airport Authority Master Plan discusses longer term possibilities for connections between YYC and The City of Calgary's Light Rail Transit (LRT). The Update of the 2012 Airport Trail Functional Planning Study (2017) report features the interchanges at 19 Street N.E. and

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Barlow Trail N.E. and protects a corridor for a rail connection and station at a central point between the domestic and international terminals.

The Green Line project's functional planning study has selected a station location at the intersection of Harvest Hills Boulevard and 96 Avenue N.E. that the Airport Transit Line will connect to.

As part of the recently completed preliminary design for the Blue Line Extension to 128 Avenue N.E. station, the Airport Transit Line's transfer station at 88 Avenue N.E. has been integrated with its surrounding proposed infrastructure including the Blue Line LRT station at 88 Avenue N.E., bus loop and a combined mixed use development and Park and Ride.

This study was conducted to ensure the Airport Transit Line is:

- Coordinated with the Preliminary Engineering design for the Blue Line extension;
- Aligned with the updated Functional Plan for Green Line;
- Accommodated in the Aurora Business Park Outline Plan update;
- Coordinated with Airport Trail Interchange Projects at 19 Street and Barlow Trail; and
- Considered in the Calgary Airport Authority Master Plan update.

INVESTIGATION: ALTERNATIVES AND ANALYSIS

A Multiple Accounts Evaluation (MAE) process was used to develop a preferred route alignment and station location for the Airport Transit Line. Engagement with key project stakeholders including Calgarians, adjacent land-owners, Calgary Transit, Alberta Transportation and Calgary Airport Authority occurred throughout the options development and evaluation process. This ensured that feedback from stakeholders was considered when evaluating options.

Four feasible route options running along, north and south of 96 Avenue N.E. were prepared through the study area. Options that were considered as part of the MAE are shown in Figures 1-4 to Figure 1-7 of Attachment 1. Based on the results of the MAE, Option 3 is the recommended alignment as it provides the preferred location for the Aurora Business Park Station, is adjacent to 96 Avenue N.E., has improved travel time, minimizes land requirements, and supports transit oriented development at the Aero Drive Station.

After approval of this report, next steps will include:

1. Prioritization of the Airport Transit Line as part of the Route Ahead update.
2. Updating the Aurora Business Park Area Structure Plan to reflect the approved Airport Transit Line alignment.
3. Determining the best approach to building the project including the re-evaluation of recommended technology when funding becomes available.

Stakeholder Engagement, Research and Communication

The engagement approach followed the guidelines from The City's Transportation Corridor Policy and included a two-phase approach. Stakeholders and the public provided feedback on the study recommendations through four public open houses, two online surveys and a workshop for the landowners adjacent to the Airport Trail alignment.

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The project team used the feedback to finalize the study recommendations and documented them in a What We Heard and a What We Did Report.

Alberta Transportation and the Calgary Airport Authority were key stakeholders in the study, and were involved throughout the process. Letters of support received from Alberta Transportation and the Calgary Airport Authority are included in Attachment 2.

Strategic Alignment

This project aligns with A City that Moves, the associated One Calgary Service Lines for Public Transit and the Calgary Transportation Plan.

The Airport Transit Line is identified as part of the City's RouteAhead 30-year Strategic Plan for Transit in Calgary. The RouteAhead plan is aligned with the policy direction and strategic goals of the Municipal Development Plan (MDP) and Calgary Transportation Plan (CTP), the 2020 Sustainability Direction and Council's Action Plan priorities.

Social, Environmental, Economic (External)

The Airport Transit Line will contribute directly to The City's social, environmental and economic goals.

Social

The Airport Transit Line's alignment and station locations were selected with the intent of providing TOD sites that are mixed used, mixed income and provide for all generations, thereby attracting and maintaining a diverse community that ensures economic development and vitality.

Environmental

Investment in higher quality transit service and complete communities attracts higher levels of ridership, decreasing the environmental impacts associated with urban travel, and also supports compact growth, which in turn provides health benefits.

Economic

Leveraging the transit investment maximizes the economic return through land use with the intent of providing development opportunities along the corridor. Higher population and activity generates sustained ridership and economic growth thereby creating a multiplier effect of the infrastructure investment. An efficient transit connection to the airport supports economic development in the region.

Financial Capacity

Current and Future Operating Budget:

This report does not impact the current operating budget.

The future Operating and Maintenance Costs were developed based on fleet and system operations. The annual costs to operate and maintain the system were developed for the east and west legs of the Airport Transit Line as noted below.

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East Leg – Blue Line to Calgary International Airport	West Leg – Calgary International Airport to Green Line
Estimated Annual Operating Cost: \$14.5M	Estimated Annual Operating Cost: \$20.5M

Current and Future Capital Budget:

This report does not impact the current capital budget.

The estimated cost to build the east and west legs of the Airport Transit Line are outlined below. These estimates are Class 4.

East Leg – Blue Line to Calgary International Airport	West Leg – Calgary International Airport to Green Line
Estimated Capital Cost: \$400M - \$800M	Estimated Capital Cost: \$500M - \$1B

Risk Assessment

A risk register has been developed to identify design and construction-related risks. The primary risks identified to date include: permit approvals, impact to airport operations during construction, and design integration with the terminal for the airport station. A comprehensive risk register will be developed at the time of design and construction.

REASON(S) FOR RECOMMENDATION(S):

The study recommends that the Airport Transit Line align with future developments along this corridor including Calgary Airport Authority Master Plan, Alberta Transportation's future plan for the Deerfoot Trail interchange, the development of the Aurora Business Park, and the Blue Line and the Green Line LRT extensions.

ATTACHMENT(S)

1. Attachment 1 – Executive Summary from the Airport Transit Line
2. Attachment 2 – Letters of Support from Calgary Airport Authority and Alberta Transportation
3. Attachment 3 – Airport Transit Line – Plans and Profiles