

MASS TRANSIT: IMPLEMENTING FOR 1.25 MILLION PEOPLE

Recommendation

That the August 27, 2024, Urban Planning and Economy report UPE02216, be received for information.

Requested Action	Information Only		
ConnectEdmonton's Guiding Principle	ConnectEdmonton Strategic Goals		
CONNECTED This unifies our work to achieve our strategic goals.	Urban Places		
City Plan Values	ACCESS		
City Plan Big City Move(s)	A Community of Communities	Relationship to Council's Strategic Priorities	Mobility Network
Corporate Business Plan	Transforming for the Future		
Council Policy, Program or Project Relationships	<ul style="list-style-type: none"> Active Transportation Network Expansion District Planning Policy C539A - Transit Service Standards Policy C569 - Optimization of the Transportation System Network 		
Related Council Discussions	<ul style="list-style-type: none"> May 28, 2024, Urban Planning and Economy report UPE01245, District Plans and District General Policy March 19, 2024, City Operations report CO02133, Transit Priority Measures Implementation Update February 28, 2024, Urban Planning and Economy report UPE01841, City Plan Measurements - Update on Targets February 27, 2024, Urban Planning and Economy report UPE01232, Potential Work Plan for Rezoning Priority Areas February 6, 2024, City Operations report CO01632, Direct Downtown to Airport Bus Route February 15, 2022, Integrated Infrastructure Services report IIS00416, ETS Fleet Storage and Maintenance Facility Project February 15, 2022, Urban Planning and Economy report UPE00342, Mass Transit: Planning for 1.25 Million People 		

- February 15, 2022, Urban Planning and Economy report UPE00491, Mobility Network Assessment

Executive Summary

- Edmonton's Mass Transit Network to support the first stage of The City Plan concept for 1.25 million people includes LRT routes, future Bus Rapid Transit (BRT) routes as well as district routes. While Edmonton will reach 1.25 million people sooner than originally anticipated, the mass transit network identified for 1.25 million people is foundational for the city's growth to two million people.
- BRT routes will add a new standard of service to the transit network and better serve citywide travel needs of people through dedicated transit lanes and stations. Mass transit implementation principles were developed to inform strategy level BRT route alignments and to guide further design, delivery and operations of bus-based mass transit.
 - The B1 BRT route will create a north-south connection through Downtown and transform major corridors such as 97 Street, 101 Street, 109 Street, Calgary Trail and 23 Avenue.
 - The B2 BRT route will create an east-west connection via the University area and transform major corridors such as 87 Avenue, 109 Street and Whyte Avenue.
- The next steps will include initiating concept planning and exploring future funding opportunities for short-term and long-term implementation of these BRT routes.

REPORT

The City Plan envisions a healthy, urban, climate-resilient city of two million people where Edmontonians can easily meet their daily needs within a short walk, bike, roll or transit trip. A robust, seamless transit system, with mass transit serving as the backbone, is critical to achieving this City Plan vision. It supports dense and vibrant neighbourhoods, regional prosperity, has a positive impact on managing congestion and reduces greenhouse gas emissions.

Mass transit has the ability to move more people across Edmonton and create a more affordable means of mobility. It progresses the city toward The City Plan goal of having 50 per cent of all trips made by transit or active modes. Mass transit helps build a more welcoming and inclusive city by removing travel barriers and providing people with more diverse, convenient and affordable options to get around.

The mass transit network to support 1.25 million people (Attachment 1) was presented to City Council in the February 15, 2022 Urban Planning and Economy report UPE00342 Mass Transit: Planning for 1.25 Million People. While the mass transit network is identified to support The City Plan concept at 1.25 million people, recent projections anticipate Edmonton reaching this population horizon sooner than had been originally forecasted. As a result, it will be difficult to achieve the ultimate network by the time Edmonton reaches 1.25 million people. However, the 1.25 million mass transit network contains mass transit elements that will be foundational for

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supporting growth to two million people and represent the next significant steps to achieving this vision.

This report reflects strategic work completed to further define the types of mass transit in Edmonton, outline implementation principles and identify recommended corridors for the first BRT routes. With the strategic phase now complete, Administration will advance concept planning [Project Development and Delivery Model (PDDM) Checkpoint 2] of two BRT routes, referred to as routes B1 and B2, with funds approved by City Council in the 2023-2026 Capital Budget. This work represents a significant step in The City Plan implementation and will help further guide the future planning for the BRT routes and other district bus-based mass transit.

Types of Mass Transit

As part of this initiative, Administration developed characteristics for the types of mass transit routes that make up the mass transit network as follows:

- **Citywide Routes:** Provide high speed travel over long distances and serve major nodes and primary corridors.
 - **Light Rail Transit:** Existing mass transit routes that are characterised by fully dedicated rail-based running ways and served by stations and enhanced stops.
 - **Bus Rapid Transit:** Provides a comparable level of transit service to LRT where there are dedicated transit lanes for 75 per cent of the route alignment and transit priority measures at every intersection. They will be served mainly by stations or enhanced stops. BRT routes represent a new mass transit tool that can connect more areas of Edmonton.
- **District Routes:** Bus-based mass transit service that can be more flexible by generally running in mixed traffic with targeted bus lanes and other transit priority measures. These routes will be a mix of rapid routes with limited stops connecting important nodes, and frequent service with more frequent stops serving important corridors.
- **Airport Connector:** This service can use dedicated transit lanes that will be created for BRT routes and extended beyond City boundaries to provide a rapid mass transit connection between Downtown and the Airport, with strategic stations in between.

Mass Transit Implementation Principles

The following mass transit implementation principles were developed from policy direction in The City Plan, learnings through previous mass transit projects and feedback from Edmontonians. They are intended to guide planning, design, delivery and operations of bus-based mass transit routes. The principles will also assist in evaluating the necessary trade-offs required to implement mass transit routes (e.g. reallocation of space on a roadway for mass transit and supporting facilities at the expense of vehicle space).

Principle #1: Mass Transit is Accessible and Inclusive

Principle #2: Mass Transit Connects Nodes

Principle #3: Mass Transit Supports Corridors

Principle #4: Mass Transit Provides a New Standard of Service

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Principle #5: Mass Transit is an Integrated Part of the Mobility System

Attachment 2 further describes the mass transit principles.

Bus Rapid Transit Route Alignments

As a first step, Administration focused on determining strategy-level recommended alignments for the B1 and B2 BRT routes. These recommended alignments were developed through a decision-making framework that considered the policies in The City Plan, the mass transit implementation principles, technical considerations and public engagement. Technical considerations included: connection to surrounding land uses, integration with other modes of transportation, equity considerations, and impacts to bus operations and vehicular traffic.

BRT Route - B1

The B1 BRT route will create a key north-south connection between Castle Downs and Century Park via Downtown. This route is composed of the following segments:

- **B1 North** connects Castle Downs to Downtown by way of 153 Avenue, 97 Street and 101 Street (south of 118 Avenue).
- **B1 Central** connects Downtown to Whyte Avenue by way of 101 Street, Bellamy Hill, Walterdale Hill and 109 Street resulting in using Walterdale Bridge as the recommended river crossing. Other river crossing alternatives will be explored through further planning.
- **B1 South** connects Whyte Avenue to Century Park by way of Calgary Trail and 23 Avenue.

BRT Route - B2

The B2 BRT route will create a key east-west connection between West Edmonton Mall and Bonnie Doon via the University of Alberta. This route is composed of the following segments:

- **B2 West** connects West Edmonton Mall to South Campus by way of 87 Avenue, Whitemud Drive, Fox Drive and Belgravia Road. The route crosses the North Saskatchewan River using the Quesnell Bridge.
- **B2 University** connects South Campus to the University of Alberta by way of 109 Street and 87 Avenue.
- **B2 Whyte Avenue** connects University and Garneau areas to Bonnie Doon by way of Whyte Avenue. Public realm considerations and improvements outlined in the Old Strathcona Public Realm Strategy will be considered in this segment of the B2 BRT during future stages.

The BRT network is shown in Attachment 2. The B1 and B2 BRT route alignments are shown in Attachments 3 and 4, respectively.

A recommended alignment for a third BRT route, B6, will follow existing and planned dedicated bus lanes on Terwillegar Drive, Whitemud Drive and Fox Drive. It will extend to the University of Alberta main campus by using infrastructure upgrades along the B2 alignment.

Further planning will confirm the feasibility and affordability of these recommended route alignments. Trade-offs will need to be considered to create necessary space for dedicated transit lanes and supporting transit facilities for these BRT routes. The ultimate route alignments will be

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confirmed as the project moves through the Project Development and Delivery Model (PDDM) process, per city Policy C591 Capital Project Governance.

Next Steps

Administration will begin concept planning of the B1 and B2 BRT routes to PDDM Checkpoint 2. Additional funding will be required in future years to progress the design of both BRT routes to PDDM Checkpoint 3. The current approved capital funding will enable the next stage of planning required to advance detailed route alignments and to provide a more accurate assessment of implementation costs for future funding requests. These future implementation costs include capital funding for design/delivery of the BRT routes, net new buses required to operate these routes as well as the operating impacts of these capital investments required to provide this new standard of service.

As planning and future stages of design advances, there may be opportunities for rapid implementation of portions of these routes that could serve as precursor to BRT, with interim infrastructure and service improvements that support later implementation of the ultimate BRT service. While rapid implementation may reduce initial infrastructure investment, it may require bus fleet growth to achieve the intended service outcomes. The level of capital fleet investment required to rapidly advance portions of these routes will depend on the pace of implementation. A staging plan of the BRT routes may be necessary to assess short-term versus long-term phasing of the BRT routes in order to consider short-term transit improvement while maintaining the integrity of the long-term vision of BRT and mass transit as outlined in The City Plan.

Community Insight

This initiative considered the direction provided in The City Plan and other strategic documents that were developed through robust public engagement with Edmontonians.

Administration completed two phases of public engagement as part of this work, which included surveys, online events and workshops. The first phase occurred in 2022 and focused on how participants believe mass transit may benefit and/or impact how they move around the City. The second phase of engagement occurred in 2022 and 2023 focused on route alignments, station locations and priorities related to basic transit lane configuration elements, and repurposing space within the road right of way along key segments within the B1 and B2 BRT routes. During this engagement administration also completed focused engagement meetings and activities with key stakeholders and community groups.

Participants expressed that infrastructure upgrades should reflect the context of each area served by the BRT routes and the importance of improving the pedestrian experience as part of these transit improvements. They also identified concerns related to costs, safety and the potential to create more congestion along key corridors.

This feedback was considered, along with technical studies, City Plan policy direction and the mass transit principles, as part of the decision making framework to help identify the recommended route alignment. The mass transit implementation principles reflect the incorporation of this feedback and the decision making framework for the recommended alignments took into account different trade-offs at play for different segments. Further insights

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can be seen as part of the What We Heard reports available on the City of Edmonton website¹. Targeted engagement with Edmontonians and other stakeholders will be included as part of the planning and design of the two BRT routes.

GBA+

Administration assessed inclusivity using a GBA+ approach to gain a better understanding of the needs of Edmontonians. The assessment included a literature review, transit ride-alongs and a community conversation. Participants in the ride-alongs and community conversations included people with diverse backgrounds and intersectionalities across demographics such as age, gender, racialized communities, physical ability, income and resident status.

The engagement results identified several challenges that these users tend to experience while using transit including:

- **Long Transit Travel Times:** Trips between locations with lower demand often have less frequent service and require additional transfers, particularly outside of peak times.
- **Access to Transit:** Proximity to transit stops can result in longer walking distances, which present particular challenges for people with mobility challenges.
- **Space Constraints on the Bus:** Limited space opportunities to store walkers, strollers or other mobility aid devices, particularly during times of higher ridership.
- **Safety and Personal Security:** A perception and exposure to low levels of personal security when using transit services.

The findings highlighted through these considerations are reflected in the Mass Transit principles, in particular Principle #1: Mass Transit is Accessible and Inclusive, and will be used to shape the design, delivery and operations of the BRT routes and other types of mass transit routes.

Environment and Climate Review

Administration considered the environmental and climate risks associated with implementing mass transit for 1.25 million people the following environmental risks and opportunities are noted:

- The transportation sector is responsible for one quarter of Canada's greenhouse gas (GHG) emissions. By investing in mass transit, Edmonton can help reduce the total kilometres travelled by vehicle, consequently reducing overall GHG emissions.
- Mass transit is a key component in building a sustainable and efficient transportation system in Edmonton. Mass transit enables more compact and lively neighbourhoods; reduces the City's environmental footprint; links workers with jobs and customers with businesses; improves public health; and enables all citizens to fully engage in urban life.
- Investing in the expansion of the public transit system reduces air pollution. People who live in communities with high-quality public transit drive half as many kilometres as residents who live in car-oriented communities. In addition, public transit produces less air pollution per passenger per kilometre travelled than private vehicles.

¹ edmonton.ca/BusMassTransit

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Attachments

1. 1.25 Million Mass Transit Network
2. Mass Transit Implementation Principles and BRT Network
3. B1 Route Alignment - Castle Downs to Century Park via Downtown
4. B2 Route Alignment - West Edmonton Mall to Bonnie Doon via University of Alberta