

INFRASTRUCTURE ENHANCEMENT FOR CITY TRANSIT FACILITIES

ETS Fare Gates Pilot

Recommendation			
That the September 17, 2024, City Operations report CO02262, be received for information.			
Requested Action		Information	
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	Serving Edmontonians		
Council Policy, Program or Project Relationships	<ul style="list-style-type: none"> • Bylaw 8353 - Conduct of Transit Passengers • Enhanced Transit Safety Plan • City Policy C451H - Transit Fare Policy 		
Related Council Discussions	<ul style="list-style-type: none"> • August 28, 2024 - CO02505 Ride Transit Program Funding Gap • June 12, 2024 - CO02358 Quarterly Update on the Transit Safety Plan and the Downtown Core - Verbal report • May 23, 2024 - CO02390, Ride Transit Program Funding Update • March 12, 2024 - CO02227 Quarterly Update on the Transit Safety Plan and the Downtown Core - Verbal Report • December 12, 2023 - CO01954 Bi-monthly Update on the Transit Safety Plan and the Downtown Core - Verbal report • October 24, 2023 - CO01944 Bi-monthly Verbal Update on Transit Safety Plan & Downtown Core • October 24, 2023 - CO01974 Opportunities to Enhance Transit Safety and Security - Further Information and Plans • October 11, 2023 - CO02029 - Administrative Response To: Youth Council Report Youth Perspectives on Transit in Edmonton: An Analytical Report of Ongoing Transit Issues From the Youth Lens • July 4, 2023 - CO01834 Implementation of the Edmonton Transit System Safety Plan • July 4, 2023 - CO01908 Monthly Update on the Transit Safety Plan and the 		

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Downtown Core - Verbal report

- May 1, 2023 - OCM01797 Advancing Edmonton's Safety and Security
- March 21, 2023 - CO01725 Administration Response - ETSAB Report: Youth and Their Perception of Safety on ETS
- October 26, 2022 - CO00576 Transit Fare Fines - Repayment Options
- March 24, 2021 - CR_7813 Transit Fare Fines, Community and Public Services Committee

Previous Council/Committee Action

At the December 12, 2023 City Council meeting, the following motion was passed:

That Administration provide a report outlining a detailed plan for a two-year trial for the use of fare gates at two transit facilities, including one LRT station with an underground platform, including a cost-benefit analysis, recommendation, evaluation plan, and detailed costing for the trial.

Executive Summary

- Edmonton's transit network is a hybrid of both open and closed fare systems, with random fare inspections regularly conducted by Transit Peace Officers (TPOs) to monitor and enforce fare compliance. Buses have a closed fare system, as Transit Operators have oversight of riders paying their fare. The Light Rail Transit (LRT) has an open fare system where riders are required to have valid proof of payment when entering proof of payment areas and are asked to provide it to TPOs upon request.
- Fare gates would introduce physical barriers, requiring passengers to pass through gates that would validate their fare before accessing the LRT platform.
- There are equity-related considerations and varied community feedback about the use of fare gates.
- The impact of fare gates on safety and security is nuanced and difficult to isolate from other measures. Some transit service providers in the United States have recently initiated fare gate projects to assess their impact on safety and security in transit spaces. Should Council wish to perform a similar study in Edmonton, Administration has prepared a Fare Gates Pilot Plan, which, if implemented, would evaluate the feasibility and benefits of fare gates in Churchill and Belvedere LRT stations.
- These stations were selected as trial locations based on several criteria including ridership, number of safety and security incidents, and the complexity of the installation. The impact of fare gates on rider perceptions of safety and security on transit, as well as on fare compliance, would be assessed as part of the project.
- Funding is not available within the existing Edmonton Transit Service (ETS) budget. If Council chooses to move forward with the two-year pilot, Council will need to identify a funding source for the pilot program. Permanent funding would need to be identified if the program was to be expanded at the end of the pilot. The plan represents an enhanced service level; any additional fare revenue that may be recovered in the pilot will not be sufficient to offset the additional expenditures.

REPORT

Thousands of Edmontonians rely on public transit to connect them to where they work, learn, play and live. ETS is focused on delivering a service that is safe, convenient and reliable. ETS provides mobility options through a range of services, including fixed-route bus service, LRT, paratransit (through Dedicated Accessible Transit Service, also known as DATS) and On Demand Transit. Transit is an essential service for thousands of Edmontonians every day and a core service delivered by the City of Edmonton. Ensuring all riders are able to access a safe, reliable and inclusive transit service is critical for growing ridership. A number of critical investments have been made over the past several years to improve transit service as well as transit safety and security.

Some transit services have implemented fare gates to encourage fare compliance. Serving as a checkpoint for making fare payment, fare gates act as physical barriers located near station proof of payment zones that require riders to pay their fare before they can access the service platform. Cities in Canada that have fare gates and related personnel as part of a closed payment system include Vancouver's SkyTrain, as well as subway systems in Toronto and Montreal. They serve as a checkpoint for making fare payment, deterring riders from accessing service without paying the fare.

Edmonton's transit network is a hybrid of an open and closed fare system. The LRT network is an open fare system where riders must pay their fare prior to entering proof of payment areas in LRT stations. Proof of payment is assessed through random fare inspections conducted by Transit Peace Officers (TPOs). Buses are a closed fare system where fares must be presented or paid in front of the Transit Operator before entering the bus. Transit Peace Officers also conduct onboard fare inspections on buses to ensure compliance with the bylaw requirements for fare payment. When Transit Peace Officers encounter someone who has not complied with the requirement, they begin their interaction by educating the rider about the requirements, informing them of fare payment options, advising on how to access fares and moving to enforcement as the last step.

Fare Gates Pilot Project Plan

Administration has developed a Fare Gates Pilot Project Plan for a two-year pilot program for two LRT stations (Attachment 1). The plan includes proposed timelines, budget considerations, an evaluation plan and other components required for a pilot.

If directed by Council, the project would include evaluating the costs, benefits and feasibility of implementing fare gates in all LRT stations, specifically with a focus on impacts to safety and security, as well as fare evasion.

The City of Edmonton has adopted a low-floor urban-style design for the Valley Line LRT expansion. These stations were not designed to be a closed payment system; as a result, considerations about fare gates in LRT stations would not include Valley Line stops. The proposed pilot assesses the potential for fare gates to enhance transit experience and following an evaluation, could guide wider implementation strategies. The proposed plan includes information about site selection, system selection, costs, staffing requirements and pilot evaluation.

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Site Selection

Exploring the installation of fare gates means making trade-offs between various design elements and requirements associated with egress, passenger flow, access to adjacent areas with amenities (e.g., shopping centres) and reduced surface area at the LRT platform level.

To select pilot locations, Administration established several criteria based on station ridership volumes, safety and security incidents, physical facility constraints and estimated costs of implementation. Based on these criteria, the two sites recommended for the pilot are Churchill (Metro and Capital Line) and Belvedere LRT stations.

Fare Gate Design

Reflecting learnings from other jurisdictions and community insights, the following principles have been developed to guide the pilot planning process and any future decisions regarding fare gate design and implementation:

- **Accessibility** - Fare gates must be designed to ensure accessibility for all riders, including those with limited mobility or those using devices such as mobility aids (e.g., wheelchairs, walkers), bikes or strollers.
- **Technology Integration** - Fare gates must be compatible and integrated with the regional Arc fare payment system.
- **Security Features** - Fare gates must have security features to prevent those without valid fare from accessing paid fare zones.
- **Durability and Maintenance** - Fare gate systems must be built with durability and ease of maintenance in mind.
- **Universal Design** - Fare gate systems should be designed for easy use, with consistent directions and clear signage for all riders.
- **Flexible and Scalable Systems** - Fare gate systems should be designed to be adaptable to different transit spaces and facility constraints.

Staffing

Based on learnings from other jurisdictions, fare gates would require staff presence during operational hours to grant access for riders without an Arc card, including children 12 and under with an accompanying fare-paying rider, riders using paper transfers, Edmonton Police Service sworn members, and Canadian Institute for the Blind (CNIB) cardholders (who use their identification cards as valid fare). They would also troubleshoot any operational issues with the gates, such as ensuring riders can evacuate the facility should there be an emergency.

This approach is consistent with other transit services that have implemented fare gates. For stations that have multiple areas with fare gates, several positions would be needed to provide adequate coverage. Multiple shifts per day would also be required to accommodate the 20 hours a day operation for LRT service.

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Pilot Evaluation

A robust evaluation is a core element of a pilot project, as this provides the analysis needed to inform potential future steps. If a pilot is implemented, the evaluation plan would assess the operational effectiveness and efficiency of the fare gates, as well as their impact on the rider experience, including safety and security. The evaluation would also assess the overall return on investment by outlining the revenue impacts related to fare compliance compared to the costs associated with the project. The evaluation plan details the costs, risks and benefits throughout the pilot's duration. Key measurements will be collected before the pilot to establish a baseline for comparison during and after the pilot. The plan will evaluate operational metrics (such as LRT ridership at selected locations, number of safety and security incidents, passenger capacity), rider perception metrics, as well as qualitative feedback from riders and staff.

There are some limitations to the evaluation process, such as isolating the impact of fare gates from other variables impacting perceptions and incidents related to transit safety, such as ridership growth, additional personnel resources and other safety-related improvements that take place in the two years.

Fare Gate Research Findings

To better understand the potential impacts of fare gates, including their role in safety and security, Administration reviewed examples of transit services that have implemented fare gates as well as transit services that have recently considered them (Attachment 2). As part of this research, Administration tried to assess the impact of fare gates on the number and severity of safety and security incidents; changes in rider perceptions of safety; as well as fare evasion.

- It is difficult to draw conclusions about the specific role of fare gates as it relates to safety and security. This is due to the increase in security disorder and crime that transit services across North America have experienced following the pandemic, including those with fare gates and those without.
- Anecdotal evidence from several transit services suggests that fare gates can enhance riders' perceptions of safety and fairness.¹ These perceptions are shaped by various factors, such as past experiences, the visibility of security measures, and media coverage, regardless of whether actual crime or disorder on transit has significantly changed.
- While fare gates can enhance perceptions of safety, other measures, such as increased safety and security staffing, may achieve similar results. For example, in May 2023, the City of Calgary conducted a study as part of its Transit Safety Strategy to evaluate a closed system. The report recommended an enhanced staffing model over fare gates, citing challenges with urban integration and operational concerns. In 2024, the City of Calgary released a research report² on perceptions of safety which showed that Calgary Transit rider perceptions of safety improved following safety investments by Council.
- Evidence shows that fare gates can help reduce fare evasion, especially when combined with simple and convenient payment options. Fare evasion is often seen as a “crime of opportunity”,

¹ City of Calgary, 2023 Assessing A Closed System As A Part Of The Transit Safety Strategy, May 2023

² City of Calgary. 2023 Perspectives on Calgary Safety Perceptions, February 2024

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and fare gates act as a deterrent by providing a physical barrier. However, fare evasion can still occur through methods like climbing over fare gates or “tailgating” behind another rider.

Budget/Financial Implications

A preliminary cost of the ETS Fare Gates Pilot Project has been provided in Attachment 1. Costs for the pilot include the following components:

- Fare gate units (10 per entrance for three entrances)
- Engineering services
- Power conduit installation
- General contractor services
- CCTV camera installation
- Staffing costs for the gate attendant role

The estimated one-time capital costs for the trial period are \$4.2 million and the operating costs are \$3 million for the two-year period, totalling approximately \$7.2 million in currently unfunded costs. If the trial were to expand beyond the two-year timeframe and become permanent, additional one-time capital costs, anticipated renewal cycles for the fare gate equipment and ongoing operational costs would be included as part of the plan for expanding the use of fare gates across the transit system.

Estimating the cost of the fare gates systems prior to procurement is challenging. Estimates were acquired from external vendors and reviewed against existing infrastructure at the selected LRT stations. Understanding the revenue implications would require further analysis of fare evasion at the selected LRT stations pre- and post-installation while taking into account changes in ridership at the two locations. Additionally, changes in ridership and fare evasion in nearby LRT stations without fare gates will need to be considered.

Fare revenue gained from the pilot would be related to increases in revenue from increased ridership and a decrease in fare evasion at the two specific locations. The limited scale of the pilot makes it difficult to attribute any increased ridership, given the many variables that drive ridership: service changes, population growth, residential or commercial development around stations, shifts in demographics, etc. Reduced fare evasion could potentially generate additional revenue during the length of the two-year pilot, or fare evasion behaviour could be displaced to other stations.

For the two-year pilot to proceed, Council will need to identify a funding source for the plan. Any additional fare revenue that may be recovered in the pilot will not be sufficient to offset the additional expenditures. Funding for the pilot is currently not budgeted for within the approved operating and capital budgets. While assessing the impact of fare gates could generate data specific to Edmonton transit riders, due to financial constraints in the current budget cycle, it could be difficult to proceed at this time.

Community Insight

The addition of fare gates in LRT stations is a significant change in facility design that could impact rider perceptions related to safety, accessibility and inclusion. To better understand these

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implications, between May and August 2024, Administration engaged with the following groups to hear their perspectives:

- Women's Advisory Voice of Edmonton Committee (WAVE);
- Edmonton Transit Service Advisory Board (ETSAB);
- City of Edmonton Youth Council (CYEC); and
- Edmonton Seniors Coordinating Council.

Administration provided each group with the Council motion and a broad description of fare gates, and asked the group to share their perspectives on the topic. Feedback from these groups has been incorporated into this report and the design of the pilot. Common themes included:

- Considerations on how children would be allowed to travel through fare gates without fare products.
- Use of bikes, strollers and other large items, and how fare gates impact access for these riders.
- Impacts to vulnerable groups and programs available for those in need to access transit.
- Impact on ease of egress (exiting) stations in emergency situations.
- General accessibility and universal design principles to minimize barriers including language barriers.
- Clarity on the current proof of payment zones in LRT stations and how these zones may be modified for fare gate implementation.
- Staffing models for fare gates, and potential for rider attendants to fulfill these duties rather than enforcement personnel.
- Alternatives to fare gates (e.g., additional staffing and outreach support).

In addition, ETS regularly engages with riders through an online monthly transit rider satisfaction survey that assesses satisfaction with various aspects of service provided, including perceptions of safety. In 2023, approximately 3,000 responses were collected from transit riders through the monthly transit rider satisfaction survey. During this period, 60 per cent of respondents indicated they felt safe throughout their transit trip, compared to 68 per cent in 2022. Rider suggestions to improve safety from the open-ended comments included installing fare gates in LRT stations, and increasing safety and security personnel and law enforcement. In addition, some riders have expressed a desire for fare gates through correspondence with ETS in reference to safety and security concerns.

If Council decides to proceed with the implementation of the ETS Fare Gates Pilot, additional community engagement would be conducted including pilot site-specific surveys.

GBA+

Research on the impact of fare gates on equity-deserving communities is limited. Most existing studies have primarily examined the effects of fare gates on individuals who use mobility aids (see Accessibility below). In developing this report, Administration has relied on community feedback and ongoing rider research to inform the GBA+. This approach aims to ensure the planning and implementation of a fare gates pilot considers the needs and concerns of all riders, particularly those from equity-deserving communities.

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Demographic and travel pattern data from Administration's ongoing transit rider satisfaction survey shows transit riders include a diverse range of intersecting identities. Those from equity-deserving communities are more likely to rely on transit as their primary mode of transportation. If implemented, members of these communities are more likely to interact with fare gates. Consequently, they will disproportionately experience both the benefits and challenges fare gates may present to a rider's journey.

While fare gates create a physical barrier to entry, they may also provide a greater sense of fairness and safety for those who rely on transit as their primary means of transportation. In 2023, data from the transit rider satisfaction surveys showed that women, riders with incomes below \$30,000, youth ages 24 and under and those who identified as LGBTQ2SA+ have lower perceptions of safety than other rider groups. The pilot will assess whether fare gates improve perceptions of safety among different equity-deserving communities. It will also assess the impact on fare compliance and fare revenue. Improving fare compliance may enhance revenue which in turn can support operating costs and improve service for riders.

People Experiencing Houselessness

People experiencing houselessness or those living in unstable conditions regularly seek shelter in transit spaces, although City Policy C620 - Extreme Weather Policy stipulates transit spaces are not suitable alternatives to shelter spaces. Conduct of Transit Passengers, Bylaw 8353, also confirms that inappropriate use of transit property, such as remaining in transit stations, vehicles, or platforms for long periods of time for purposes unrelated to the use of transit services, is not permitted. Fare gates would present barriers to accessing proof of payment zones (LRT platforms) for people who do not have a valid fare, who may be people who are seeking shelter in transit spaces.

The Providing Accessible Transit Here (PATH) and Transit Access Grant (TAG) fare programs provide transit fare products at no cost, distributed through social agencies, supporting people experiencing houselessness or at risk of houselessness. These programs provide access to appointments, education, employment and other services. The allocation formula for these programs uses social indicators to assess need within the community. Other ETS riders may incorrectly assume the vulnerable people who have been provided these no-cost fare products are present in LRT facilities without paying any fare and that fare gates would have prevented their access.

Accessibility

In meetings with key stakeholders for this report, an important equity concern was the perceived barriers to accessibility posed by fare gates. These challenges affect people using mobility aids, those with vision loss, and those with large bags, carts or strollers. Wider accessibility gates and onsite staff will support riders who may have difficulty with the fare gate equipment.

There are also several groups who will not use traditional fare products for accessing transit. These include children ages 12 and under with an accompanying fare-paying rider, riders using paper transfers, Edmonton Police Service sworn members, Peace Officers and CNIB cardholders. Staff at the fare gates would manually allow these groups to access proof of payment zones.

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Attachments

1. ETS Fare Gates Pilot Project Plan
2. Infrastructure Enhancement for City Transit Facilities (Fare Gates) Transit Research Findings