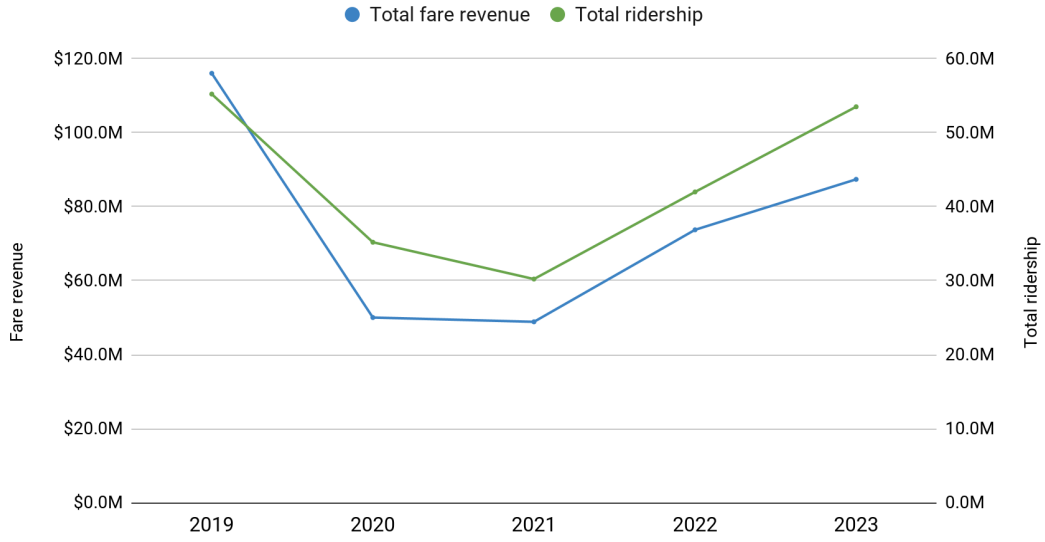
ETS Fare Revenue Analysis: Background

1. Fare Revenue Performance

As discussed in the June 7, 2022 Financial and Corporate Services report FCS01168 2023-2032 Operating Investment Outlook, modelling was completed to forecast ridership and fare revenue recovery for the period 2023-2031. Fare revenues were projected to require a longer recovery period due to factors like changes in travel behaviour and increasing demand for discounted fare products. While ridership was expected to fully recover to 2019 levels in 2024, fare revenue was projected to recover in 2029.

As outlined in Figure 1. *Fare revenue vs. Ridership*, fare revenue recovery post-pandemic has lagged ridership recovery. In 2023, total ridership was 53.5 million, increasing by 27 per cent from 42 million in 2022. During the same period, total fare revenue was $87.4 million, increasing by 18 per cent from $73.8 million in 2022.

Figure 1. Fare revenue vs. Ridership (2019-2023)



Overall, in the past three years transit services across Canada have expressed similar concerns regarding differences between ridership and fare revenue recovery. For example, in June 2023, TransLink in Vancouver, BC[1] noted that while the number of unique riders has recovered to pre-pandemic levels, fare revenue and total ridership have not yet recovered as more riders have shifted to using less

[1] TransLink CEO - Mayors' Council on Regional Transportation, June 1, 2023

expensive single-trip fare products. Similarly, a 2022 study[2] conducted on transit revenues in Calgary showed that the pandemic has resulted in an increasing reliance on short-duration fare types (e.g. single-trip fare products and day passes) relative to monthly passes.

2. 2023- 2026 Fare Revenue Budget

Several factors were used to model the ridership and revenue growth forecast used to develop the 2023-2026 fare revenue budget. These factors include but are not limited to, fare elasticity assumptions; historical ridership travel pattern data; housing and economic development forecasts; and population growth forecasts. In addition, the fare revenue budget was the first time the modeling considered the impact of Arc adoption and the shift from traditional monthly passes and tickets to a fare capping model. The modeling estimated conversion rates from existing fare products to Arc products, making some assumptions on the pace of Arc implementation.

Fare modeling and fare elasticity analysis are tools used in the public transit sector to optimize revenue, analyze ridership and enhance service. Price elasticity is defined as the percentage change in consumption resulting from a one-percent change in price, all else held constant. A high elasticity value indicates that a good or service is price-sensitive, that is, a relatively small change in price causes a relatively large change in demand. A low elasticity value means that prices have relatively little effect on demand. The Simpson – Curtin rule[3], which is often used as a benchmark for transit fare elasticity, stipulates that a three per cent fare increase reduces ridership by one per cent, and vice versa.

Overall, transit fare modelling supports the design of the fare structure, analysis of the sensitivity of transit riders to changes in price points, forecasting demand for each fare product and revenue management.

3. Fare Revenue Performance by Major Category

There are several key elements influencing fare buying behaviours since 2020, which have put negative pressure on fare revenue performance, including:

- Conventional bus ridership recovered to pre-pandemic levels in February 2023, whereas LRT and paratransit service have not fully recovered. This

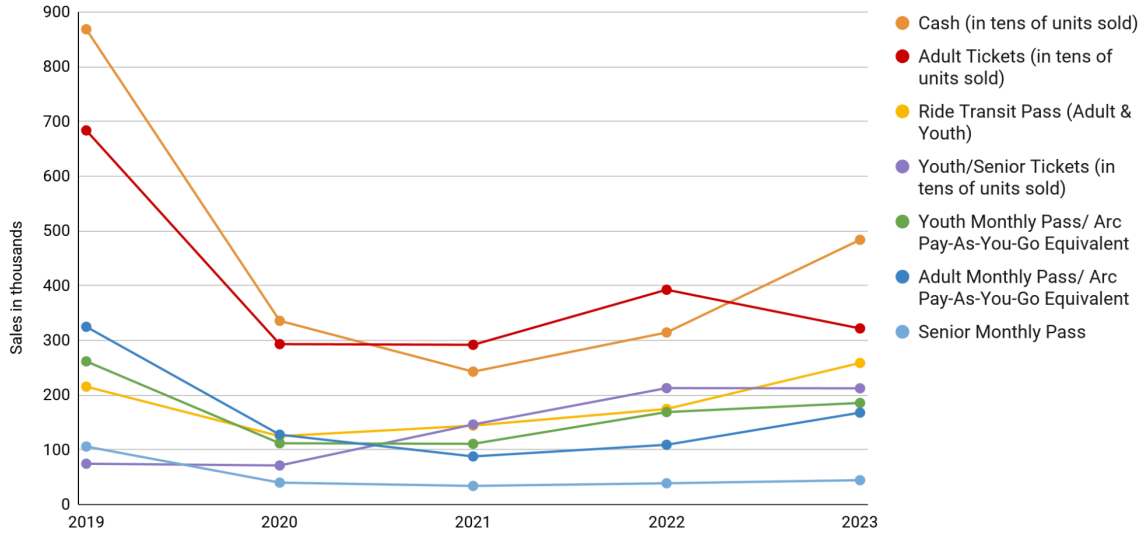
[2] Wenshuang, Yu et. al. Assessing Trends and Patterns of the Effect of COVID-19 on Public Transit Revenues in the City of Calgary, November 2022
[3] Curtain, John, Effects of Fares on Transit Riding - Highway Research Record, 214 (1968), 8-19.

experience is similar to other transit agencies in large Canadian cities. Fare revenue recovery also lags ridership recovery across Canada;
- Changes to travel patterns post-pandemic, including a portion of riders working hybrid between a physical office and work from home, as well as safety and security concerns among riders changing the volume of trips some riders take with transit; and,
- Increased demand for discounted, subsidized fare products likely due to affordability concerns and increased population growth in eligibility groups.

As outlined in Figure 2. *Fare Sales Volume By Major Category*, several changes have occurred to fare buying behaviours from transit riders.

- Fare revenue from monthly passes has not recovered to pre-pandemic levels, although adult and youth monthly sales increased in the last year.
- Riders are switching to fare products that have a higher rate of subsidy. There has been a substantial increase in demand for Ride Transit low income transit passes. Revenue from Ride Transit passes and youth/senior single-trip tickets is exceeding pre-pandemic levels (Figure 3).
- Riders used more short-term fare options following the pandemic in 2020, including cash and tickets.

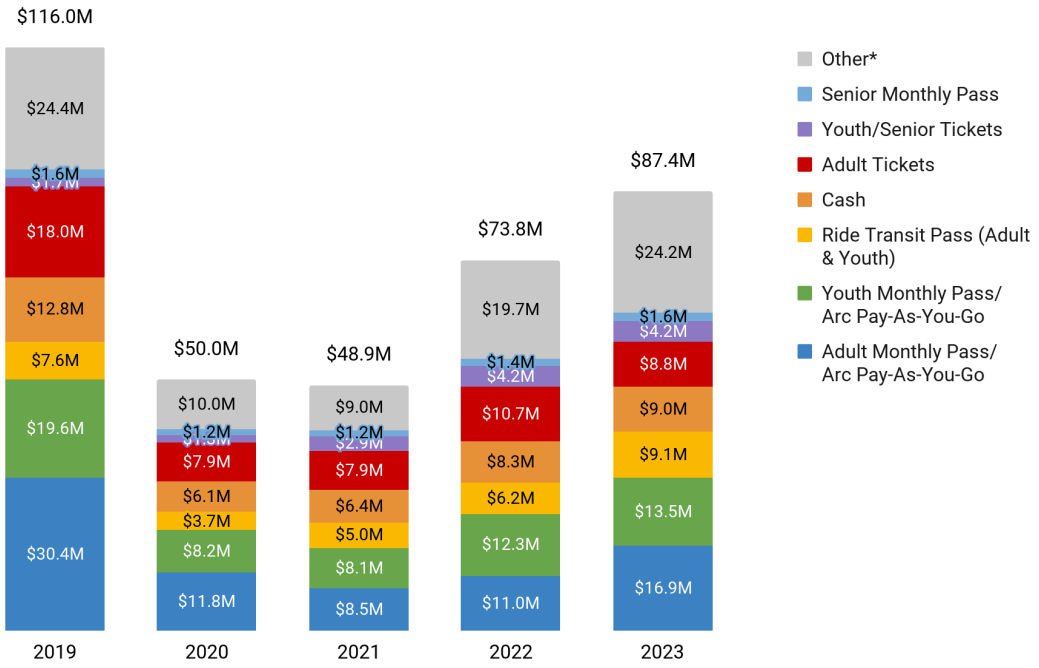
Figure 2. Fare Sales Volume By Major Category (2019-2023)



** In 2023, adult monthly pass and youth monthly pass include Arc student period passes as well as adult and youth pay-as-you-go monthly caps.*

As noted in Figure 3. *Total Fare Revenue / Stacked By Major Category*, fare revenue in 2023 grew compared to the previous three years. More revenue was generated from adult monthly pass, youth monthly pass, Ride Transit, cash sales, as well as in seniors fares, airport service fares and U-Pass compared to the previous year.

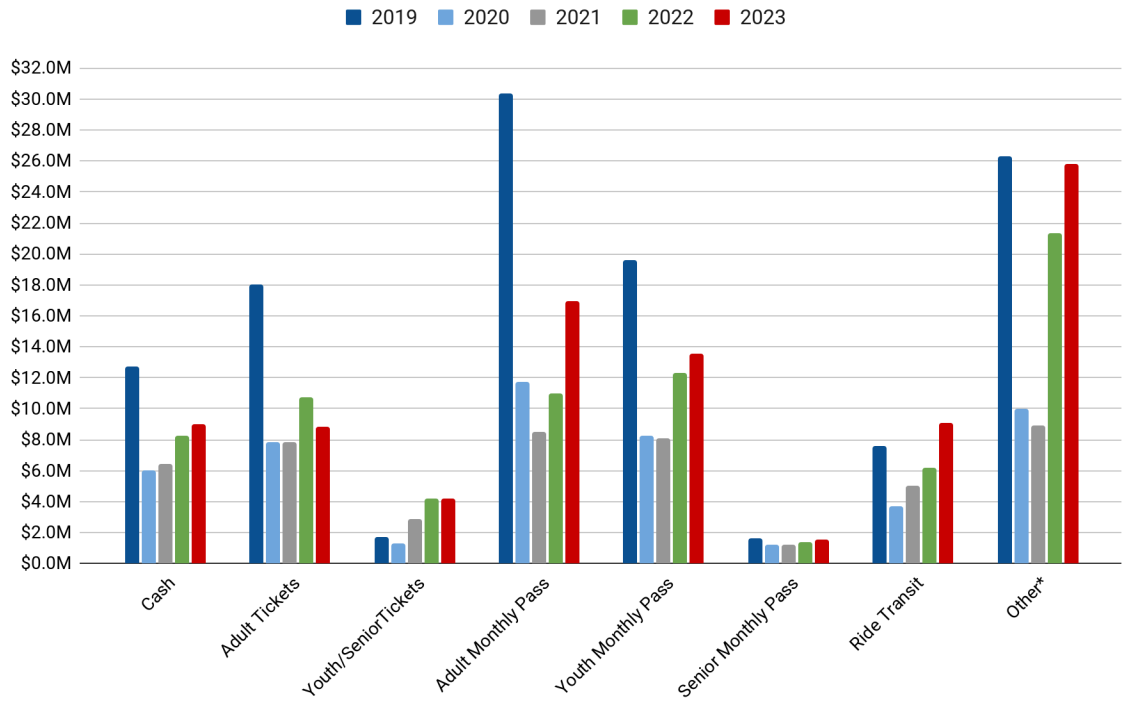
Figure 3. Total Fare Revenue / Stacked By Major Category (2019-2023)



**Other includes day pass, U-Pass, airport pass, senior regular annual pass, senior low income annual pass and courtesy pass.*

Figure 4. Fare Revenue By Major Category Bar Chart demonstrates the year-over-year revenue trend by major fare category.

Figure 4. Fare Revenue By Major Category Bar Chart (2019-2023)



**Other includes day pass, U-Pass, airport pass, senior regular annual pass, senior low income annual pass and courtesy pass.*

4. Mitigating Measures

To address overall fare revenue performance gaps, Administration is implementing the following measures:

- To increase ridership, which in turn can increase fare revenue, Administration is implementing measures to improve reliability, convenience, accessibility and safety for riders. This includes additional service hours, improving service frequency, coverage and reliability across the network; enhancements to improve accessibility; and, more rider outreach and travel training support. Safety and security enhancements also continue to be implemented to improve rider safety and perceptions of safety while using transit.

- ETS will introduce a multi-day Arc pass. It can benefit riders who are working hybrid arrangements and no longer need a monthly fare pass and visitors who are in Edmonton for several days.

- To support riders in transitioning from monthly passes to Arc fare payment and remind riders of the need to tap their Arc ticket or card, audio announcements are taking place in LRT stations and physical signage will be installed along the rider journey in the station.
- Transit Peace Officers are increasing the number of random fare inspections to monitor proof of payment bylaw requirements throughout the network, including LRT and bus service.
- Continued collaboration with regional partners to implement remaining phases of Arc.
- Working closely with Arc service delivery partner, Administration has work underway to improve the reliability of Arc equipment, including validators and smart fare vending machines. As of March 19, 2024, 96 per cent of validators are reliable and in service. Additional work is underway to further increase the reliability rate.
- Analysis of the user fee schedule is also underway to understand fare elasticities and explore opportunities for further price adjustments beyond the planned fare increase in 2025.
- The final implementation phase for Arc is the open payment system. With the open payment system, transit riders will be able to tap on and off transit using their smart devices, phones, credit cards or debit cards. This phase is targeted to be implemented in 2025.

5. Arc Regional Fare Payment System

The Arc Regional Fare Payment System is transitioning ETS users from traditional paper fare media (paper monthly passes, 10-pack of paper tickets) to a smart card, pay-as-you-go faring system. Arc Card users pre-load funds onto their Arc Card account, and tap on to an Arc validator when accessing the service to pay their fare. Riders also have the option of purchasing an Arc ticket through a Smart Fare (Arc) Vending Machine.

The Arc Card offers a more convenient option for users to load fare and travel throughout the Edmonton Region, with the additional benefit of providing pay-as-you-go options, so riders can load their cards throughout the month instead of in one increment at the beginning of the month. The user fee for the Arc monthly fare cap is aligned with the user fee of the equivalent monthly pass, while single trips (pay-as-you-go) for all users have been set at the same price as there is only

one ticket product available through Arc. Table 1. *Transit User Fee Schedule* below outlines the current price schedule for transit faring in Edmonton.

Table 1. Transit User Fee Schedule

ETS Fares and Passes	2024 Fee	2025 Fee	2026 Fee
Cash Fare	$3.50	$3.75	$3.75
Flat-Rate Fare (Pay-as-You-Go Rate)*			
Intra Edmonton Trip Rate	$2.75	$3.00	$3.00
Tickets			
90-min Ticket (All Ages)**	$3.50	$3.75	$3.75
24-hour Pass	$10.25	$10.50	$10.50
Monthly Passes and Pay-Go Monthly Caps			
Youth (6-24 years)***	$73.00	$66.00	$66.00
Adult	$100.00	$102.00	$102.00
Senior	$35.00	$36.00	$36.00
Subsidized Passes and Pay-Go Monthly Caps			
Adult/ Youth Subsidized Pass - Ride Base and Tier 1	$35.00	$36.00	$36.00
Adult/ Youth Subsidized Pass - Ride Tier 2	$50.00	$51.00	$51.00
Student Passes****			
UPASS Per Semester	$149.76	$149.76	TBD
Senior Annual Passes			
Regular	$385.00	$396.00	$396.00
Low Income - Base and Tier 1	$0.00	$0.00	$0.00
Low Income - Tier 2	$139.00	$140.00	$140.00
Charter Rates	$154.00	$157.00	$160.00
Other Arc Fees*****			
Arc Card	$6.00	$6.00	$6.00
Regional 90-min Ticket	$8.00	$8.00	$8.00
Regional 24-hour Pass	$16.00	$16.00	$16.00
** Flat rate fare is the pay-as-you-go rate per trip for all trips made in the month until the cap value is reached.*			
*** A 90-min ticket provides for unlimited travel on ETS intra-City service for all fare paying age groups.*			
**** Youth pass decreased in 2025 in alignment with Transit Fare Policy C451H.*			
***** ETS receives 83.2% of the U-PASS fees, with the remainder split between City of St. Albert, Strathcona County, City of Spruce Grove, City of Fort Saskatchewan and City of Leduc. Current U-PASS agreements end August 2025, with $180 per*			

term. 2026 fee subject to agreement renewal in 2025.
******Regional rates are subject to regional agreement.*

Arc adoption rates by transit riders have been gradually increasing since the launch and in a phased implementation approach, as more riders are transitioned to Arc. In 2023, Arc revenue made up approximately 40 per cent of overall fare revenue - this includes Arc revenue from standard adult fares, U-Pass, youth and student fares. Over 200,000 Arc cards were active during this period. While Arc usage has been increasing, transitioning to the new fare payment system requires behavioural change from riders. Regional partners have been working together to implement Arc in phases and support riders through the change.

As paper fare media is discontinued, based on experiences from other transit services, a sharp increase in Arc adoption is anticipated. Other North American transit services that have implemented smart fare systems in the past 15 years include but are not limited to, Translink in Vancouver, BC, the Toronto Transit Commission in Toronto, ON, King County Metro in Seattle, WA and TriMet in Portland, OR.