Appendix 3: Optimal Public Transit Fare Structures in Small and Mid-Sized Cities: A Deep Dive into Saskatoon's Structure

City of Saskatoon Transit Fare Analysis

[3.1] Introduction

Appendix 2 analyzed key financial indicators for Saskatoon relative to other small and medium sized cities across Canada using a cross-sectional data set of 23 cities and 35 variables for the 2023 year. That analysis generally found that Saskatoon had mixed results, low fares, moderate ridership, low costs per trip, low frequency, and relatively high subsidization levels.

This section builds off that work and takes the analysis a few steps further by digging deeper into Saskatoon's conventional transit data to better understand the influence different fare types have on ridership and revenue.[1] Like the previous sections, this section integrates core public finance principles into the analysis where possible, placing particular emphasis on highlighting the fiscal policy trade-offs.

Saskatoon Transit offers almost 30 different fare categories (see Appendix 3A) most of which have not been reviewed or changed since 2016, when almost all fare categories received some modest, albeit disproportionate, price increases (Tank, 2015). In June 2024, Saskatoon City Council made the decision to eliminate transit fares for all children up to and including those in grade 8, effective September 2004, but did not adjust other fares to offset the potential revenue loss (City of Saskatoon, 2024). Other than that, no major transit fare policy changes have been made.

[3.2] Approach and Methodology

This document uses electronic fare data from Saskatoon Transit for the period of 2014-2024, including ridership, revenue, sales quantities, and fare price data for nearly 30 distinct fare categories to analyze the fiscal performance of Saskatoon Transit's conventional transit system. The ridership data used in this section differs from that used in Appendix 2, where it relied on CUTA data. The CUTA data defines ridership more broadly as "linked trips" and results in higher overall counts. Using the electronic fare data ensures we can better understand the interactions between ridership and revenue for selected fare categories.

The dataset also includes the transit system's overall budgetary revenue, expenditures, and municipal contribution levels, and is supplemented by demographic and economic variables to strengthen the analysis. In all, the local time-series dataset contains 11 annual observations with 64 core variables. Despite a sufficient number of key variables, this short time series is greatly affected by the COVID-19 pandemic, during

[1] Saskatoon Transit provides conventional bus and Access Transit services. The analysis in this section excludes Access Transit data.

which ridership and revenue fell substantially. That coupled with one major fare change limits our ability to provide more detailed statistical analysis.

With those caveats in mind, this section uses the aforementioned data to provide a deep descriptive analysis of Saskatoon Transit's fare products, including their influence on ridership and revenues. This sets the context for additional analysis including potential fare reforms that are covered in section 4.

[3.3] Saskatoon Transit's Fiscal Picture

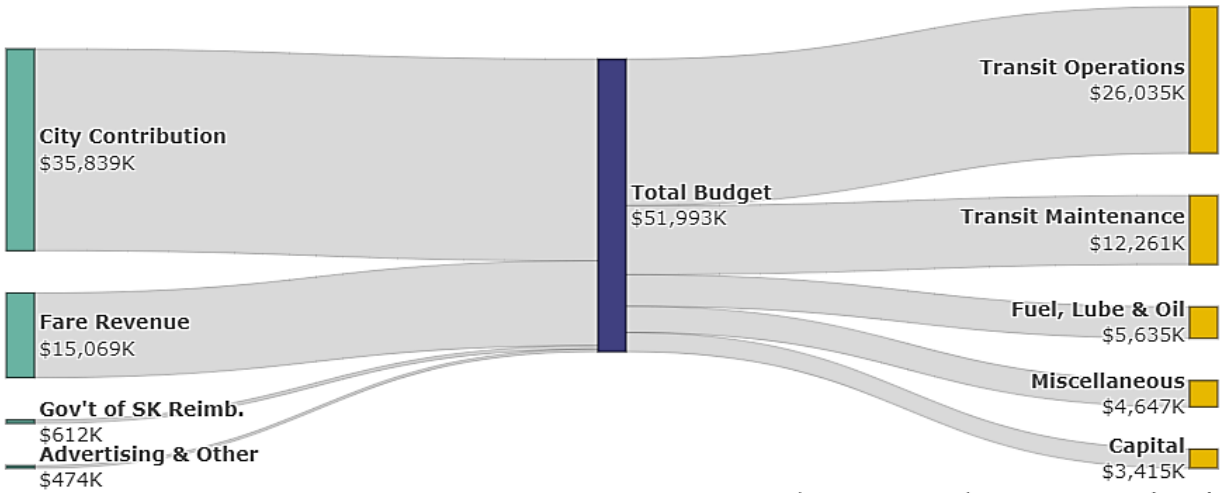
Before analyzing fare structures, it is essential to understand Saskatoon Transit's fiscal picture. As explained in Section 2, the system, like all transit systems, relies heavily on the municipal contribution or subsidy, as fare revenues alone cover about 30% of the transit system's costs.

Saskatoon Transit incurred nearly $52 million (about $164 per resident or $7.40 per trip) in total expenses in 2024, up 5.4% from 2023. As illustrated on the right side of Figure 3.3.1, half of these costs were for transit operations, with fleet maintenance (25%) and fuel (11%) accounting for the next largest shares.

To cover these expenses, Saskatoon Transit generated approximately $15 million in fare revenue, as shown on the left side of Figure 3.3.1. This represents a farebox recovery ratio of about 29%, meaning fares covered less than one-third of the system's total costs. Minor sources, such as provincial reimbursements for social service client bus passes and advertising, contributed another 2% of total revenue.

The remaining funding gap is filled by the City of Saskatoon's general revenues. In 2024, this municipal contribution (or subsidy) was $35.8 million, accounting for 69% of Saskatoon Transit's total revenue. This contribution rate is the second highest of the last decade (outside the pandemic years) and sits four percentage points above the pre-pandemic average of 65% (see figure 3.3.2). This heavy reliance on tax-supported subsidies underscores the fiscal pressure on the system and motivates the search for a more sustainable and equitable fare policy. The next subsection addresses Saskatoon Transit's existing fare structure.

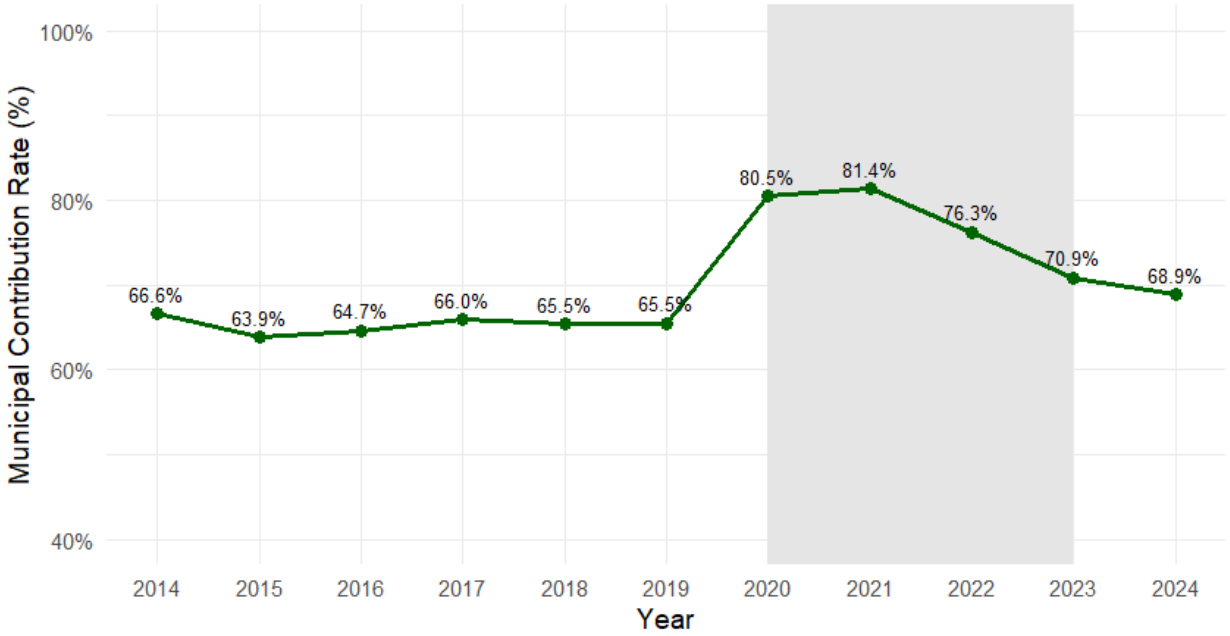
Figure 3.3.1: Saskatoon Transit Revenue and Expenditure Flows (2024)



Source: Saskatoon Transit Administrative Data (2024)

Figure 3.3.2: Saskatoon Transit Municipal Contribution Rate (2014-2024)

The shaded area indicates the primary COVID-19 impact period (2020-2022)



[3.4] Describing Saskatoon's Transit Fare Structure

As shown in Table 3A-1 in Appendix 3A, Saskatoon Transit maintains a highly segmented fare system, offering nearly 30 distinct fare products, excluding the UPass.[2] The structure is primarily age-based, supplemented by a variety of targeted programs, and has remained largely unchanged since a series of modest and uneven price increases in 2016. The only recent major policy change, (as noted) was the elimination of child fares in September 2024, which was implemented as a full subsidy without offsetting adjustments to other fares to recover the potential revenue loss.

The benchmark fare price is the monthly pass, set at $83 (nominal) since 2016. This stagnant fare structure means the real (or inflation adjusted) price has fallen, suggesting this and all transit fares are about 23% cheaper in 2024 than they were in 2016.

Other age-based passes are discounted from the benchmark fare price and vary widely: the high school student pass is 29% lower ($59), while the senior monthly pass receives a deep discount of 65% ($29) relative to the benchmark. The latter appears inconsistent with modern income data, which shows seniors as a group have among the lowest poverty rates (Statistics Canada, 2024).

Two separate low income passes add additional complexity. The first is the provincially-supported social assistance pass, priced at $28 per month. [3] The second is a municipal program for which eligibility is based on the outdated Low-Income Cut-Off (LICO) thresholds (Statistics Canada, 2025). Under this program, the adult low-income pass is set at $66.40 (a 20% discount from the adult benchmark), and the student low-income pass is set at $47.20 (a 20% discount from the regular student pass).

Beyond monthly products, the system includes specialized options such as discounted employee and employer passes, various Eco Passes, and multiple cash and ticket fares. Adult cash fares are $3.00, while tickets offer a modest discount at $2.75. Some short-term products, such as the $8.50 Day Pass, are priced in ways that may limit uptake compared with multi-ride tickets.

Overall, Saskatoon's fare structure is complex, static, and inconsistent in its application of discounts. While it reflects an intention to promote affordability, the result is a patchwork of overlapping products that risks confusing riders, imposes administrative burdens, and lacks a clear policy framework linking fare levels to efficiency, equity, and revenue objectives. The next section examines how this structure affects transit ridership.

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[2] UPass is a contract-based pricing system negotiated with post-secondary institutions, so it is not included in the fare structure (more about UPass later), but it does account for approximately 30% of Saskatoon Transit's total fare revenue.

[3] Saskatchewan's Ministry of Social Service pays $25 per pass: https://www.saskatchewan.ca/residents/transportation/public-transportation/discounted-bus-pass-program

[3.5] Saskatoon Transit Ridership

This sub-section analyzes Saskatoon Transit's ridership patterns, focusing on overall trends and the composition of riders across eight key fare categories, accounting for over 90% of the system's total ridership:

- Adult Monthly Pass (Adult Monthly)
- Social Service Monthly Passes – (Adult Provincial)
- Adult Low Income Pass (Adult Low Income)
- Adult Tickets
- Student Monthly Pass (High School Monthly)
- Senior Monthly Pass (Seniors Monthly
- Cash Fares – All (Cas)
- UPass.

Using electronic fare data, we can observe several significant shifts between 2014 and 2024. Ridership data for this section was spliced from two different data collection sources and reflects the change to a mobile ticketing system in 2021. Data cleaning and robustness checks were used to test the reasonableness of the results, but measurement error is present in the data, especially for cash-based ridership. Nonetheless, the results are deemed to be over 95% reliable.

With those caveats in mind, Appendix 3-B provides several time-series plots to show how ridership has changed over time. As shown in plot 3B-1, overall ridership peaked in 2019 at 9.6 million rides before the pandemic. As of 2024, ridership has recovered to 7.9 million, approximately 18% below its peak.

Similarly, as shown in plot 3B-2, ridership per capita also peaked in 2019 at 35.5 rides per person and stood at 25.6 in 2024. This means when controlling for population, overall ridership has fallen by 23% relative to 2019. While it's difficult to confirm a permanent structural shift without complementary data (e.g., on ridesharing or remote work), analyzing other important fare products reveals significant changes in rider behavior.

The adult monthly pass remains the largest single ridership category, at about 25% of total ridership, yet it has been slow to recover post-pandemic. As illustrated in plot 3B3, after peaking at 2.15 million rides in 2019, it remains 9% below that level in 2024.

UPass ridership, which accounts for about 20% of all trips, follows a similar pattern. As plot 3B-4 shows, UPass ridership peaked at 2.16 million rides in 2019 and has since fallen to 1.65 million rides in 2024, or by 23% from the peak.

To better illustrate how transit ridership has changed over time, plot 3B-5 is a multi-panel chart that illustrates the compositional shifts in ridership across the eight fare categories. Despite the pandemic shifts most fare products have maintained their

relative shares overt the series. The most dramatic change is the shift from cash to electronic single payments, which appear to show inverse trends especially after 2021.

Cash fares, which consistently made up over 12% of ridership pre-pandemic, collapsed to less than 2% in 2024[4]. Conversely, adult ticket ridership has surged from about 7% before 2021 to nearly 17% in 2024, a trend that coincides with the adoption of mobile fare payment technology in 2021. The figure provides visual evidence that mobile technology, combined with a price incentive, has fundamentally changed how casual riders pay.

While the provincially supported pass ("Adult Provincial") has seen its share decline from 13% to 9%, the City's adult low-income pass saw its share grow fivefold, indicating a growing uptake from eligible low-income riders. Other pass-based products remain relatively stable.

Despite deep discounts, seniors' monthly pass usage has remained a stable yet small portion of ridership (between 4 and 6% over the period). The high school monthly pass has also been highly consistent, accounting for 7-9% of total ridership over the time series.

Overall, these trends suggest a system in transition, with a clear move away from traditional cash payments toward more flexible electronic options and a growing reliance on targeted low-income programs. In fact, discounted or concessionary fares account for about 56% of Saskatoon Transit's overall ridership. Given this analysis, how does ridership relate to fare revenue? Do similar patterns emerge with revenues?

[3.6] Saskatoon Transit Fare Revenue

Like the previous section, this section analyzes Saskatoon Transit's revenue patterns, focusing on overall trends and the composition of revenues across key fare categories. As shown previously in figure 3.3.1, fare revenue (including UPass) accounts for roughly 30% of Saskatoon Transit's total revenues in 2024, about five percentage points below the pre-pandemic average. Again, using electronic fare data, we can observe several interesting revenue trends during the 2014 to 2024 period.

Figure 3B-6 (in Appendix 3B) plots Saskatoon Transit's total fare revenue levels (including UPass) over the time series. Unlike ridership which failed to surpass previous levels, fare revenues reached record levels in 2024, surpassing $15 million, a 14% increase relative to 2023 levels. This appears to be puzzling: how could fare revenue achieve record highs, with no price changes, and yet ridership is below peak?

[4] According to Saskatoon Transit officials, this change in the Cash composition is partly explained by a change in the farebox system, which appears to undercount cash-based rides. The change occurred in 2021 alongside the implementation of mobile ticketing.

Figure 3B-7 plots fare revenue per rider. It reveals a post pandemic average of about $1.90, compared to a pre-pandemic average of $1.38. Despite the lower overall ridership, revenue per rider is about 34% higher than the pre-pandemic average. This is largely due to the growth and stability of two main fare products: Adult Monthly and UPass.

Figure 3B-8 plots the fare revenues for the Adult Monthly. Fare revenues in this category achieved record levels in 2024, generating about $2.5 million in revenue, a 20% increase over 2023 levels. Adult Monthly revenues account for on average 16% of total fare revenue.

Figure 3B-9 plots the fare revenues for UPass. Although UPass is not a typical fare, it is included in the analysis due to its large influence on ridership and service frequency, and the substantial revenue it generates. Like the adult monthly pass, UPass revenue also reached record highs, generating over $4.6 million in 2024 alone, a more than 25% increase relative to 2023 levels and a 30% increase relative to 2019 levels. UPass revenue accounted for about 31 % of all fare revenues in 2024, five percentage points above its pre-pandemic average.

Figure 3B-10 uses a multi-panel chart to illustrate the compositional shifts of fare revenues over the time series, using the same fare categories as in section 3.5. It reveals a structure that is more stable than the ridership numbers suggest.

U-Pass revenue as a share of total revenue has grown substantially post-COVID. This is largely reflective of higher post-secondary enrollments relative to the pre-pandemic period. Other than Upass, most other fare revenue categories have maintained consistent shares over the time series.

For example, the share of the next largest fare revenue, the Adult Monthly, has remained relatively consistent over the period at about 16%. Although still significant, cash revenue post-COVID has been on a slow gradual decline. Unlike its steep drop in ridership, its revenue share has remained relatively stable, consistently contributing between 12% and 15% of total fare revenue.

Despite a surge in ridership, adult tickets have been relatively stable hovering around 15-18% of total revenue, making it a top tier source of revenue. Seniors' monthly passes and other deeply discounted passes generated less than 8% of total revenue, combined, over the time series.

[3.7] Transit Fare Revenue Per Rider

So far, this document has reviewed fare categories, transit ridership and transit fare revenue in isolation, but has yet to analyze them together. While the various fares reflect the nominal price for a fare product, another way to analyze the data is to investigate the effective price. The effective price in this case is the revenue raised per rider, both overall and by fare categories. In other words, we define revenue per rider

as total fare revenue divided by rides within a category. This is an effective price, not a posted fare.

As we showed earlier in plot 3B-7, overall fare revenue per rider sat at $1.90 in 2024. But what are the trends for other fare categories? To better understand this measure, if the effective price for each fare category is close to the overall level ($1.90) it means that ridership and fare revenue are relatively equivalent and cross-subsidization is non-existent. If the fare revenue per rider is higher than the overall level, it means that the fare category is subsidizing others. Conversely, if the fare revenue per rider is below the overall level, this fare category is being cross-subsidized by other categories.[5]

Plot 3B-11 is another multi-panel chart that illustrates the revenue generated per rider using the same eight fare categories used previously in this document. The plot reveals some interesting results, suggesting that fare reforms are needed.

The most obvious result is the drastic spike in cash revenue per rider skyrocketing to over $13, post-pandemic. This obviously skews the trends and is a clear data anomaly perhaps reflecting a couple of influencing factors. First, due to the introduction of mobile ticketing in 2021, casual riders have shifted from cash to tickets. There is a strong incentive to do so given lower prices and more convenience relative to cash. Second, cash-based ridership appears to be undercounted post-pandemic while cash-based revenue is accurately counted. This could be due to fare evasion or inconsistent data entry.

The effective prices for Adult Monthly, High School Monthly, and UPass holders is remarkably stable and predictable outside the main COVID disruption.[6] This reinforces the financial stability and predictability of pass-based, "membership-style" systems. Despite that stability, the Adult Monthly effective price sat at $1.28 in 2024 or 33% below the overall level, indicating meaningful implicit discounting for frequent adult riders, to be expected with flat unlimited passes.

The UPass effective price, by contrast, is $2.79 per rider, over $1.00 (or 47%) above the overall rate, suggesting it substantially cross-subsidizes of other fare products. The High School Monthly effective price is $1.85, sitting very close to the overall level suggesting it is priced accordingly.

The downward trend in the effective price for Adult Tickets is also noteworthy. It suggests that more people have adopted this payment method. They are likely buying more discounted bulk ticket packages rather than single tickets, lowering the average revenue per trip for this category from $2.48 in 2019 to $1.44 in 2024.

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[5] Calling a particular fare a “cross-subsidy” here is revenue-side only. A true subsidy per ride equals cost per ride – revenue per ride; because cost per ride varies by time of day and service used, this analysis is a strong proxy, but not a full cost allocation.

[6] Unlimited passes are supposed to drive lower revenue/ride as usage increases, that is the product’s purpose. The policy question is whether the current gap is the right magnitude and whether it should be adjusted.

Although almost perfectly stable, the Senior Monthly generates a very low effective price, the lowest among the categories. In 2024, the Senior Monthly effective price level sat at $0.73, $1.12 cents (or 62%) less than the overall level. Its effective price is even lower than the Adult Provincial low-income pass. This deep discount for Senior Monthly effective price illustrates a major cross subsidization by other fare products.

Table 3.7.1 summarizes this analysis in a comparative, tabular format. The far-right column measures the implicit transfer, which quantifies whether each fare product is a net contributor or net recipient.[7] A negative value indicates that the category is a net contributor while a positive value indicates the product is net recipient (or cross subsidized).

What emerges from the table is that UPass is a substantial contributor; its implied surplus alone almost offsets the combined shortfall from Adult Monthly and Senior Monthly implied deficits. Adult Tickets also draw a sizable subsidy despite being a "single-ride" product (because many trips are purchased as discounted bundles).

Although Cash appears to have the highest implied surplus, this is because of undercounted boardings and the post-2021 shift to mobile ticketing. It is treated as an anomaly rather than a durable contributor.

Table 3.7.1 - Implicit Cross Subsidy By Fare Category (2024)

Fare Category	Effective Price	Trips	Trip share	Gap vs. Average	Implicit transfer ($)
Adult Provincial Monthly	$0.81	744,100	9.40%	$ 1.09	$ 813,653
Adult Monthly	$1.28	1,952,795	24.70%	$ 0.62	$ 1,214,501
Adult Tickets	$1.44	1,369,093	17.30%	$ 0.46	$ 629,849
Senior Monthly	$0.73	335,800	4.20%	$ 1.17	$ 393,002
Adult Low-Income Monthly	$1.41	205,486	2.60%	$ 0.50	$ 102,007
High School Monthly	$1.85	711,470	9.00%	$ 0.05	$ 35,401
UPass	$2.79	1,653,407	20.90%	$ (0.89)	$ (1,454,998.16)
Cash*	$13.60	143,058	1.80%	$ (11.70)	$ (1,673,778.60)
Overall (or Average)	**$1.90**	**7,916,384**	**100%**	**$ -**	**$ -**

[3.8] Summary

This document and its supporting appendices take a deep dive into Saskatoon Transit's complex yet static fare structure. It analyzed how the fare structure influences ridership and revenues from 2014 to 2024 and found that ridership has yet to return to the pre-Covid trend, let alone the 2019 peak. There have been some notable shifts due to technological change, but overall ridership levels by fare categories have remained relatively stable.

Turning to fare revenues, record levels were achieved in 2024. Saskatoon's fare mix generates stable revenue from pass products, particularly, the Adult Monthly and

[7] The implicit transfer is calculated as $(\overline{p}_{sys} - p_{cat}^{eff}) * trips_{cat}, where\ \overline{p}_{sys} = \$1.90$

UPass, while deep, age-based discounts, especially the senior pass, generate very little revenue.

Using revenue per rider as an effective price shows large cross-subsidies across products. In 2024 the system average was $1.90 per trip. U-Pass riders paid well above that ($2.79), making UPass a major net contributor; Adult Monthly ($1.28) and Senior Monthly ($0.73) were sizeable net recipients.

Combined with real (inflation-adjusted) fare erosion, a shift to mobile ticketing, and cash data issues, the case for fare reform is strong. To explore those potential reforms, Section 4 simulates income-tested bands, sliding scales, a flatter single-ride price with fare capping, and streamlined products, to rebalance simplicity, efficiency, equity, ridership, and fiscal sustainability.

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Appendix 3A

Table 3A-1: Saskatoon Transit Fare Prices Before and After 2016			
Fare Categories	**Transit Fares (after 2016)**	**Transit Fares (before 2016)**	**Percentage Change (Fare Levels)**
Adult Monthly Pass	$ 83.00	$ 81.00	2.47%
Student Monthly Pass	$ 59.00	$ 57.00	3.51%
Child Monthly Pass*	$ 50.00	$ 48.00	4.17%
Adult Annual Pass	$ 913.00	$ 891.00	2.47%
Student Annual Pass	$ 649.00	$ 627.00	3.51%
Child Annual Pass*	$ 550.00	$ 528.00	4.17%
Adult Provincial Monthly Pass	$ 28.00	$ 27.00	3.70%
Student Provincial Monthly Pass	$ 28.00	$ 27.00	3.70%
Child Provincial Monthly Pass	$ 28.00	$ 27.00	3.70%
Adult Low Income Pass	$ 66.40	$ 64.80	2.47%
Student Low Income Pass	$ 47.20	$ 45.60	3.51%
Child Low Income Pass*	$ 40.00	$ 38.40	4.17%
Day Passes*	$ 8.50	$ 8.20	3.66%
Civic Eco Pass - Monthly	$ 74.70	$ 72.90	2.47%
Civic Eco Pass - 6-month	$ 398.40	$ 388.80	2.47%
Civic Eco Pass - Annual	$ 597.60	$ 583.20	2.47%
Employer Eco Pass (Only Annual)	$ 796.80	$ 777.60	2.47%
Adult Tickets	$ 2.50	$ 2.40	4.17%
Student Tickets	$ 2.10	$ 1.80	16.67%
Child Tickets*	$ 1.60	$ 1.40	14.29%
E-Purse	$ 3.00	$ 3.10	-3.23%
Senior Monthly Pass	$ 29.00	$ 26.00	11.54%
Senior 3-Month Pass	$ 87.00	$ 78.00	11.54%
Senior 6-Month Pass	$ 168.00	$ 150.20	11.85%
Senior Annual Passes	$ 313.30	$ 280.85	11.55%
Cash Fare - Adult	$ 3.00	$ 3.10	-3.23%
Cash Fare - Student	$ 2.75	$ 2.60	5.77%
Cash Fare - Child*	$ 2.25	$ 2.10	7.14%
Cash Fares - All	$ 3.00	$ 3.10	-3.23%
Semester Passes	$ 272.00	$ 264.00	3.03%

** all child fares were eliminated by a Council resolution, effective September 1, 2024. They are included in the table to show their levels prior to their elimination and because they are included in the 2024 revenue and ridership data.*

Appendix 3B

Figure 3B-1: Saskatoon Transit Ridership - Electronic Fare (2014-2024)

The shaded area indicates the primary COVID-19 impact period (2020-2022)

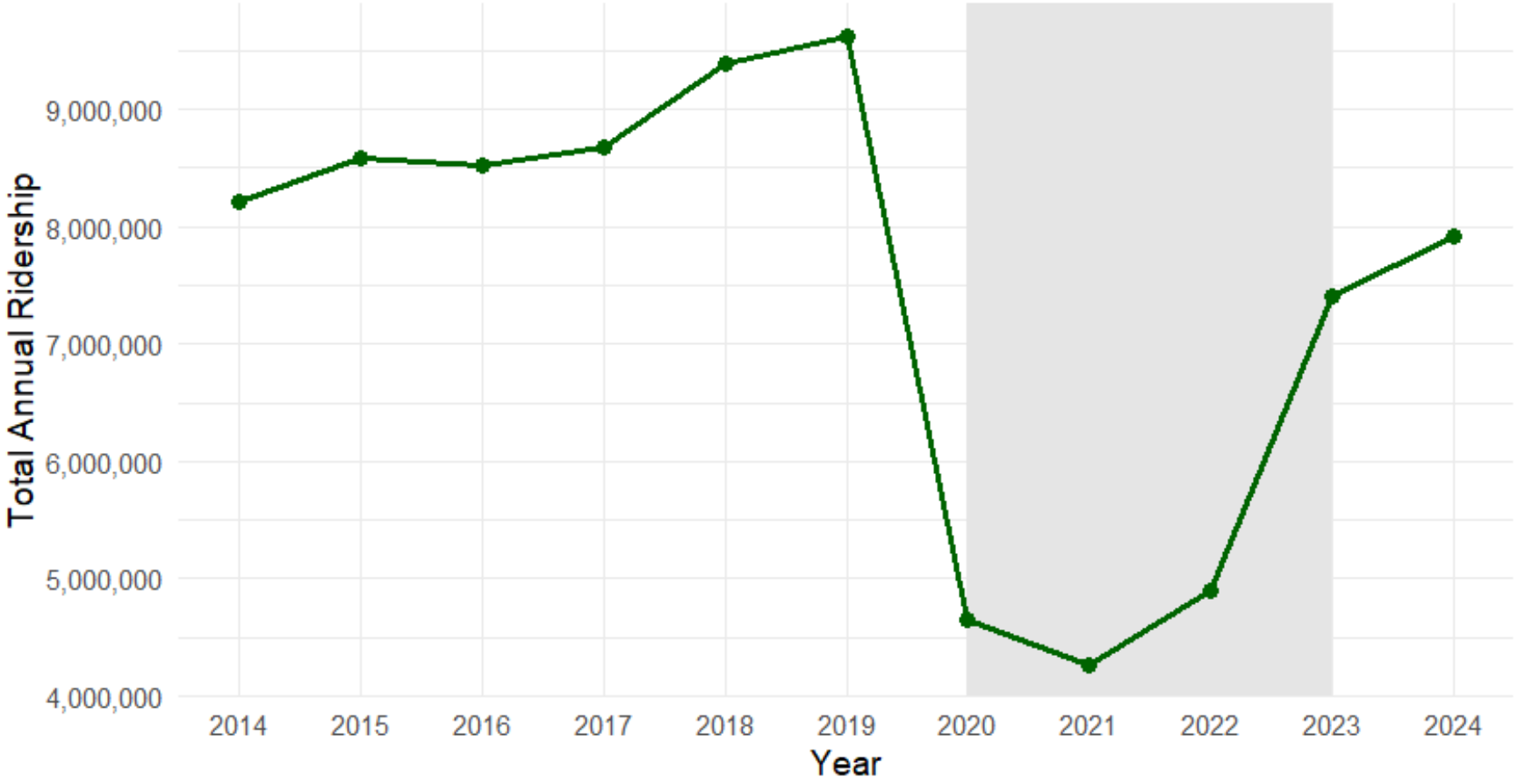

Figure 3B-2: Saskatoon Transit Ridership per Capita - Electronic Fare (2014-2024)

The shaded area indicates the primary COVID-19 impact period (2020-2022)

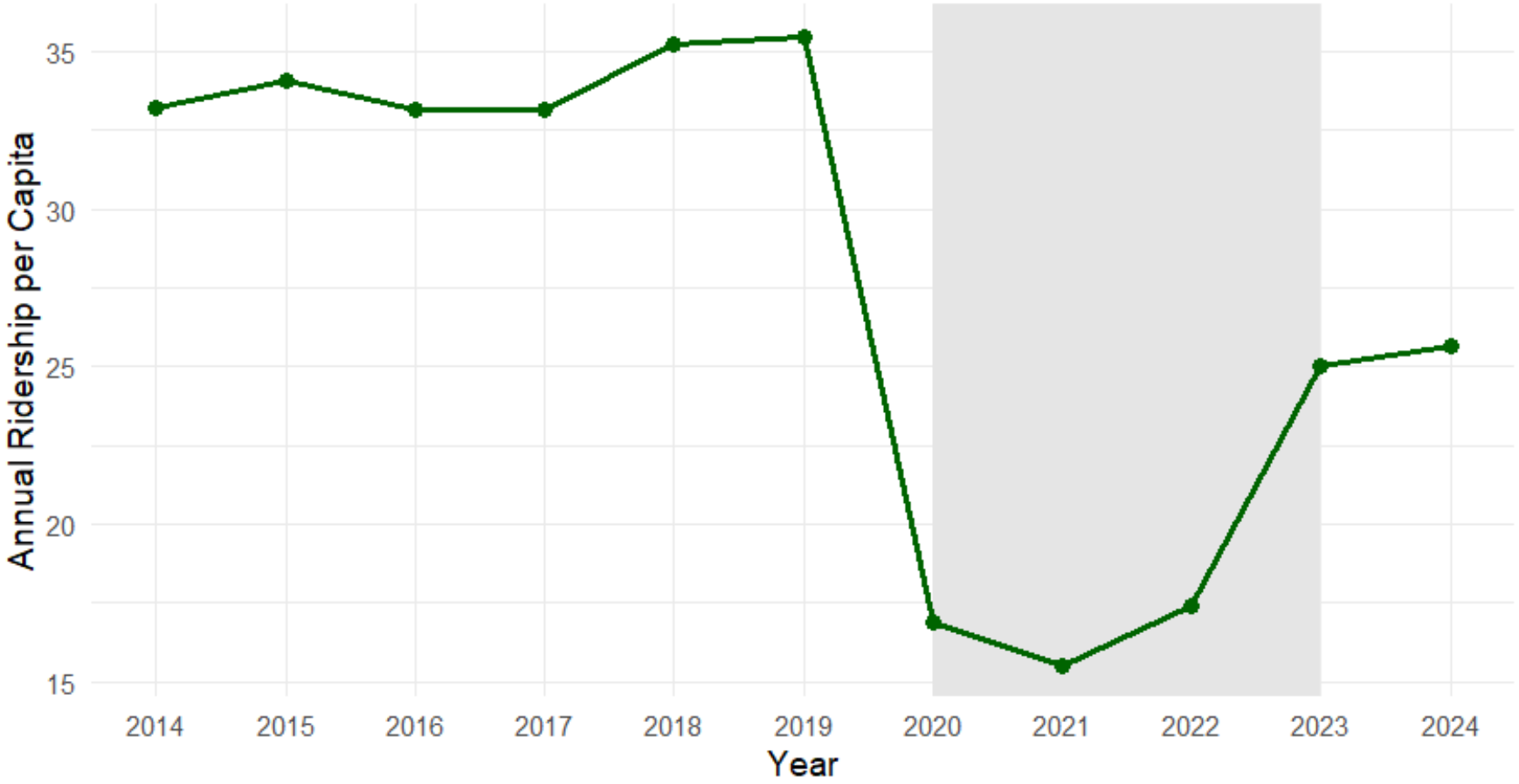

Figure 3B-3: Saskatoon Transit Adult Monthly Pass Ridership (2014-2024)

The shaded area indicates the primary COVID-19 impact period (2020-2022)

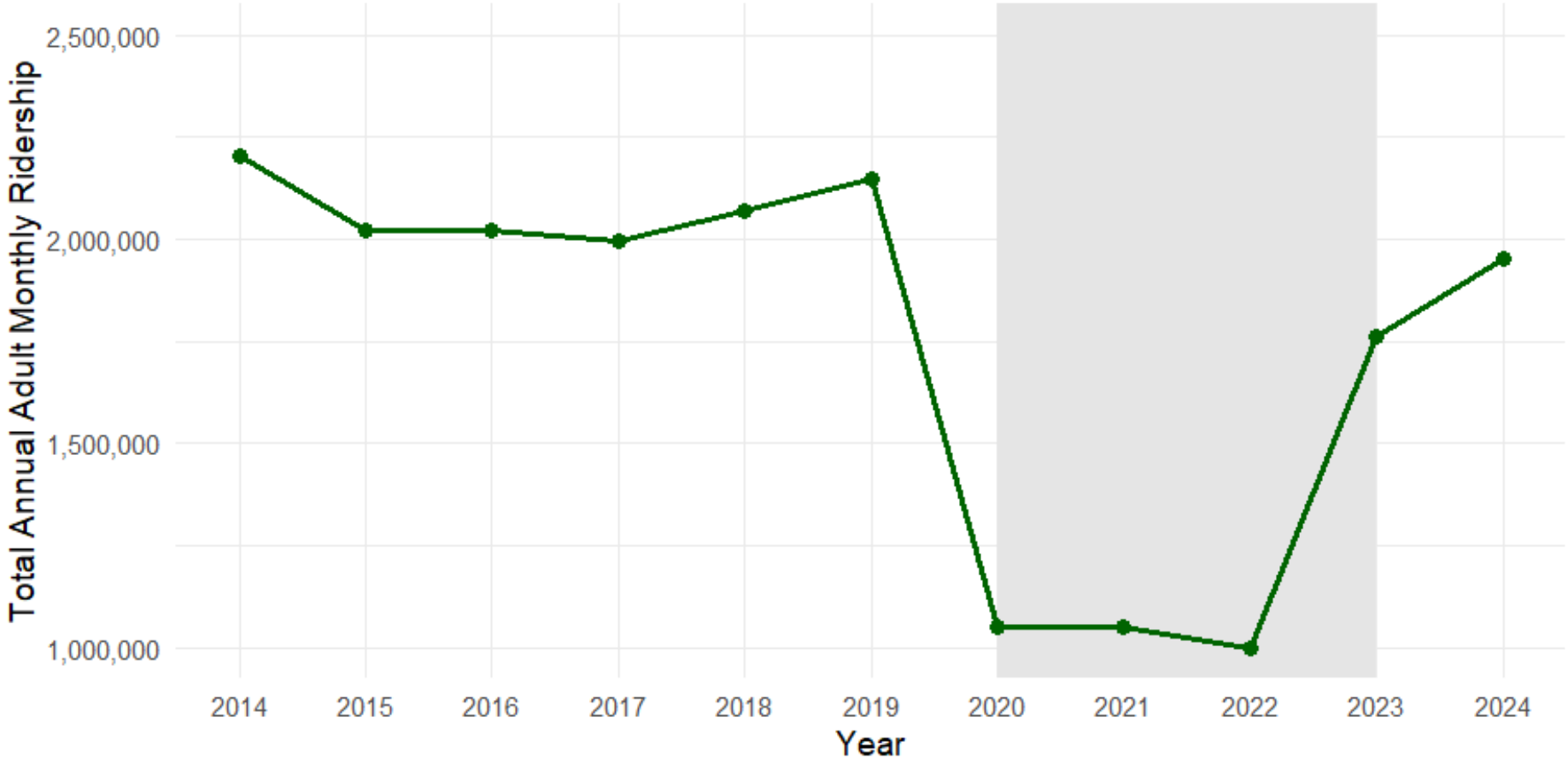

Figure 3B-4: Saskatoon Transit U-Pass Ridership (2014-2024)

The shaded area indicates the primary COVID-19 impact period (2020-2022)

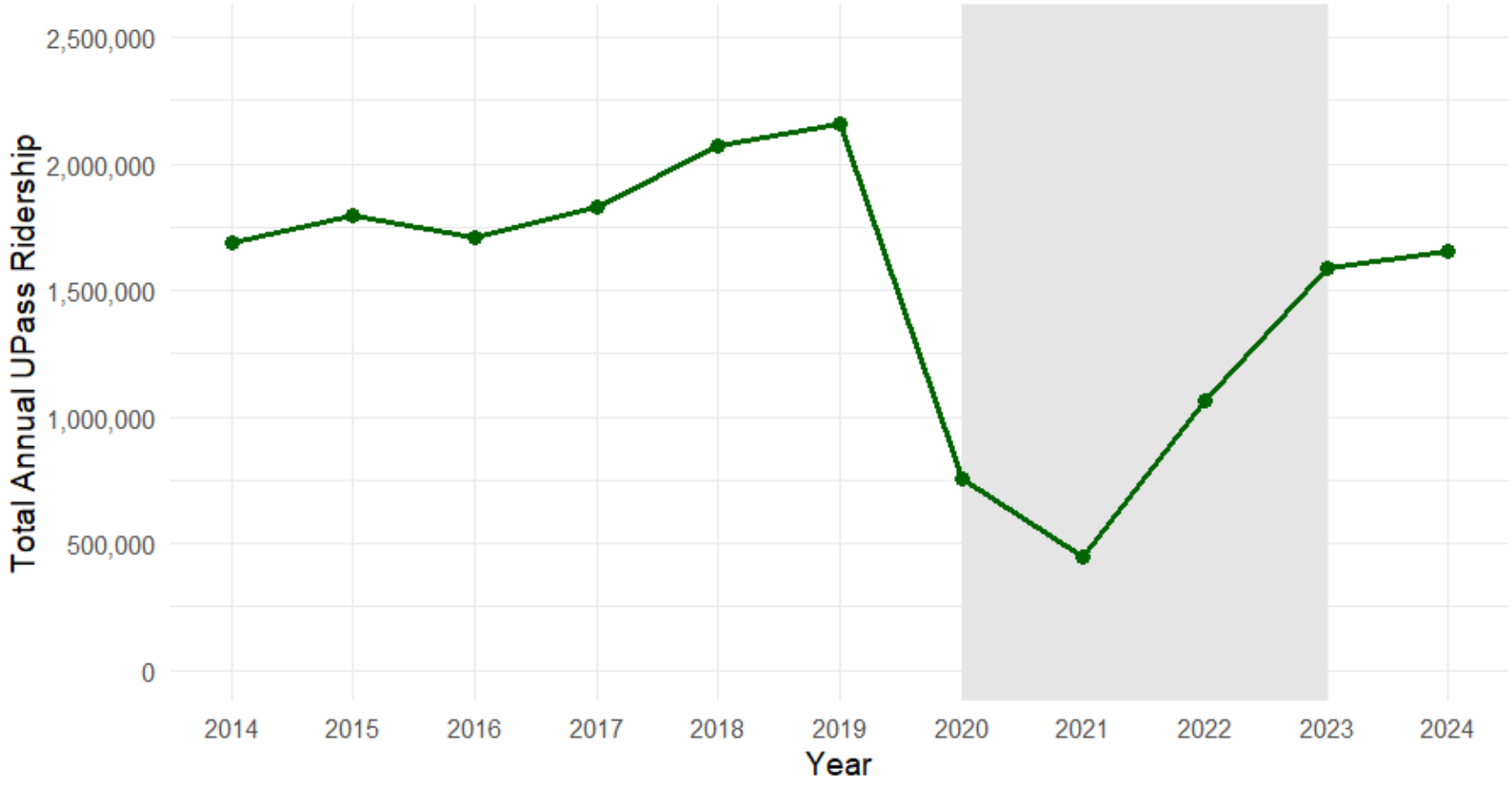

Figure 3B-5: Composition of Saskatoon Transit Ridership (2014-2024)

Share of total annual ridership by major fare category (Grey shaded area represents COVID-19)

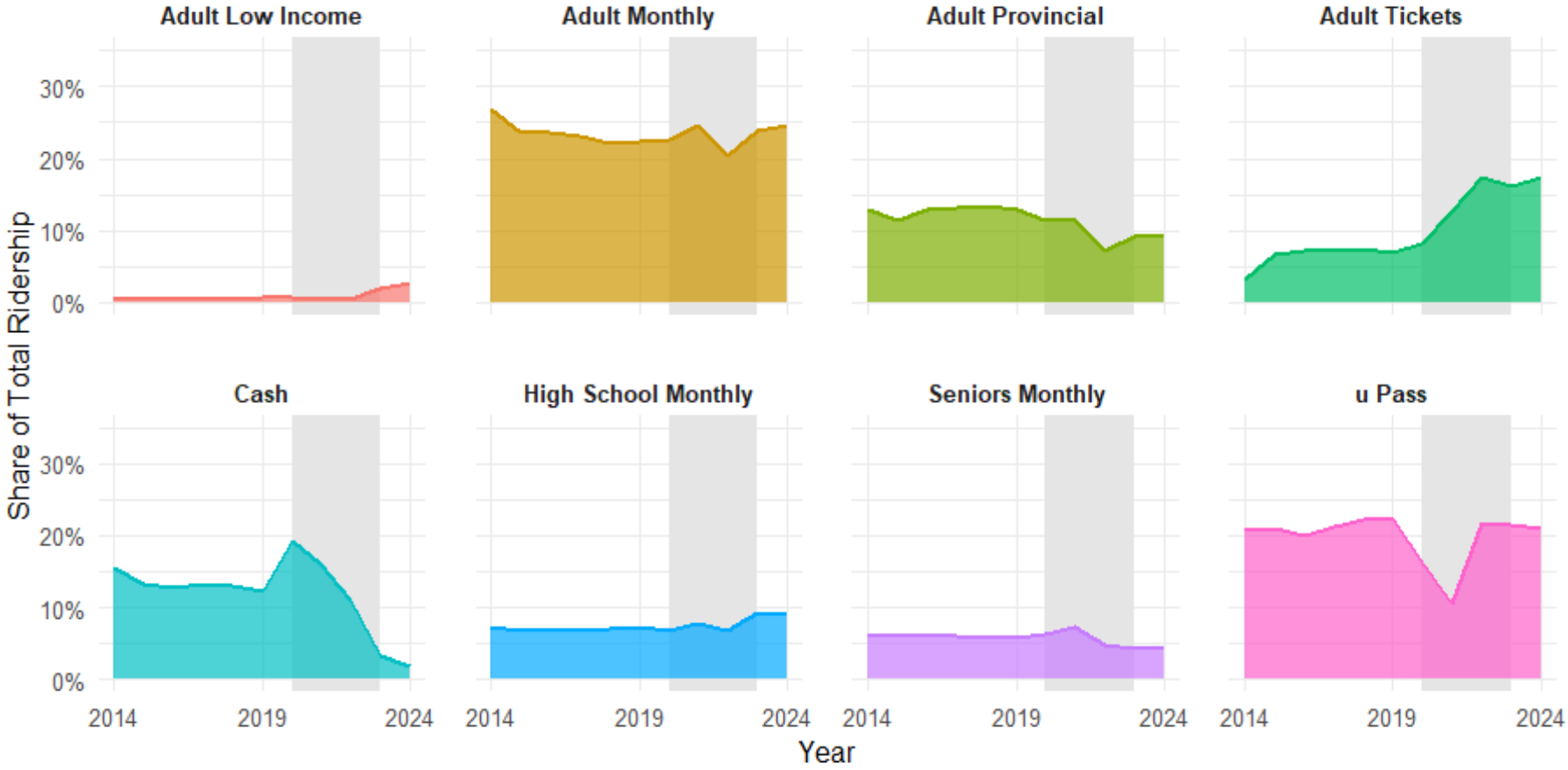

Figure 3B-6: Saskatoon Transit Total Fare Revenue - Electronic Fare (2014-2024)

The shaded area indicates the primary COVID-19 impact period (2020-2022)

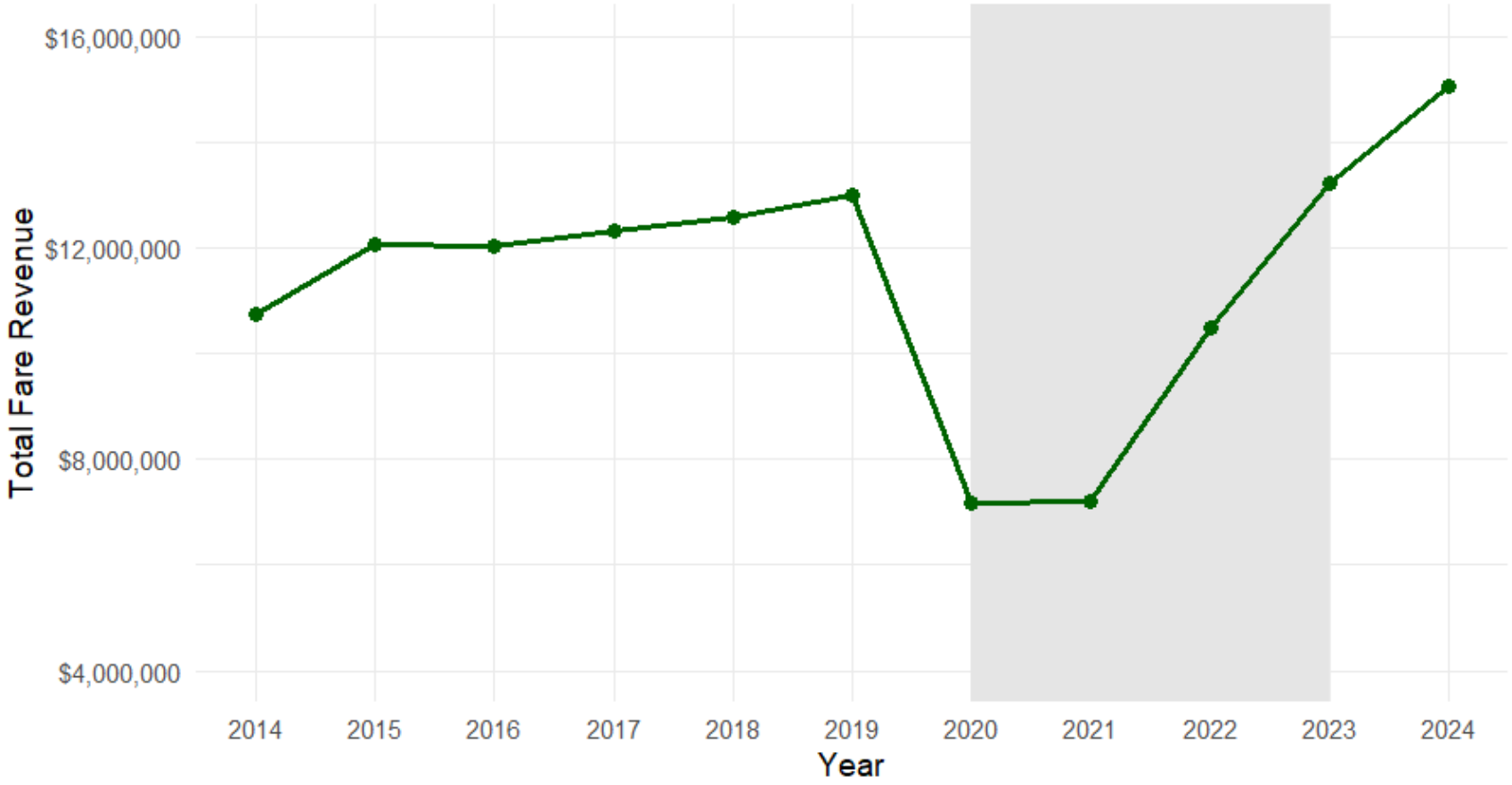

Figure 3B-7: Saskatoon Transit Fare Revenue Per Rider - Electronic Fare (2014-2024)

The shaded area indicates the primary COVID-19 impact period (2020-2022)

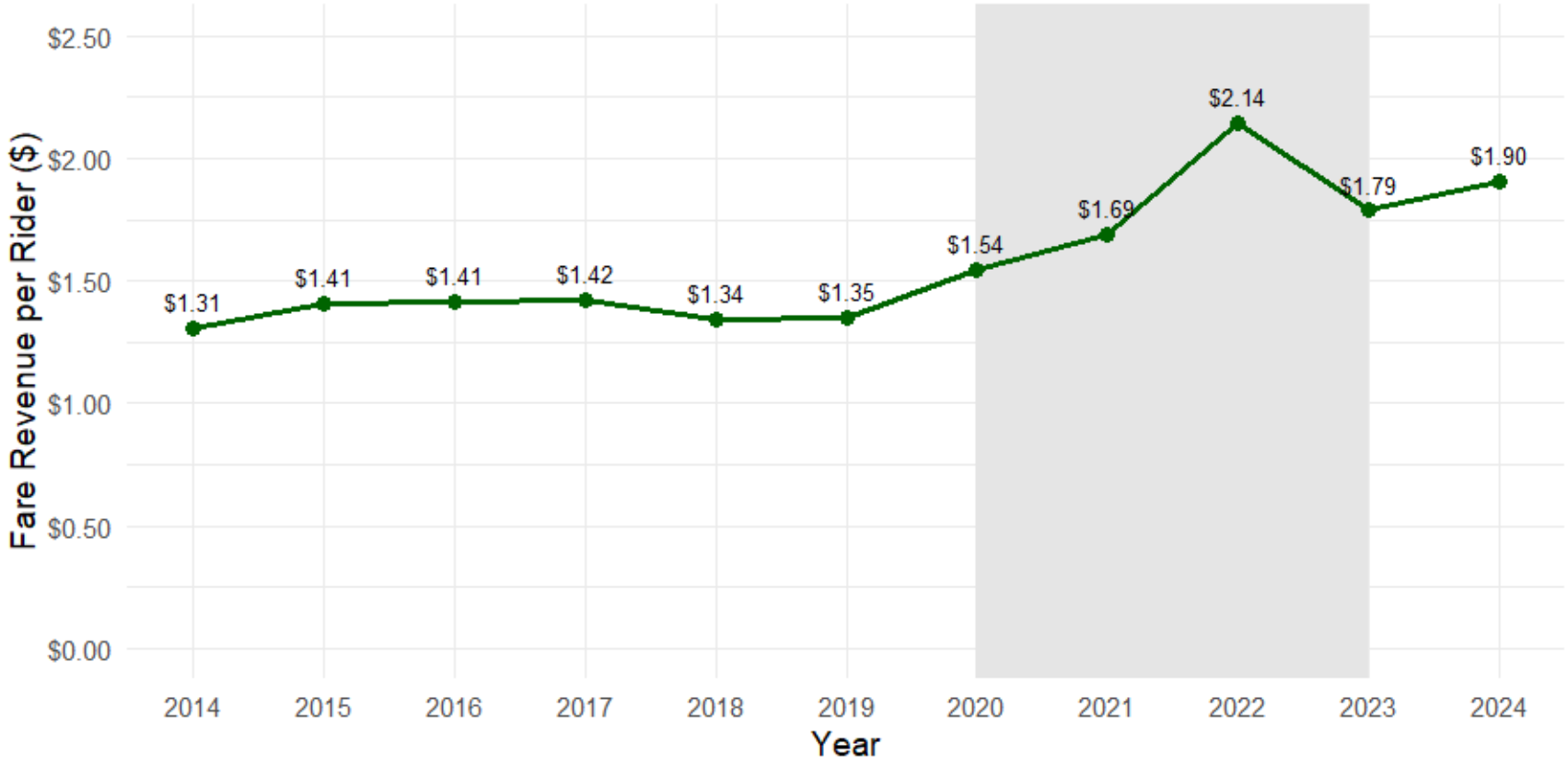

Figure 3B-8: Saskatoon Transit Adult Monthly Pass Revenue (2014-2024)

The shaded area indicates the primary COVID-19 impact period (2020-2022)

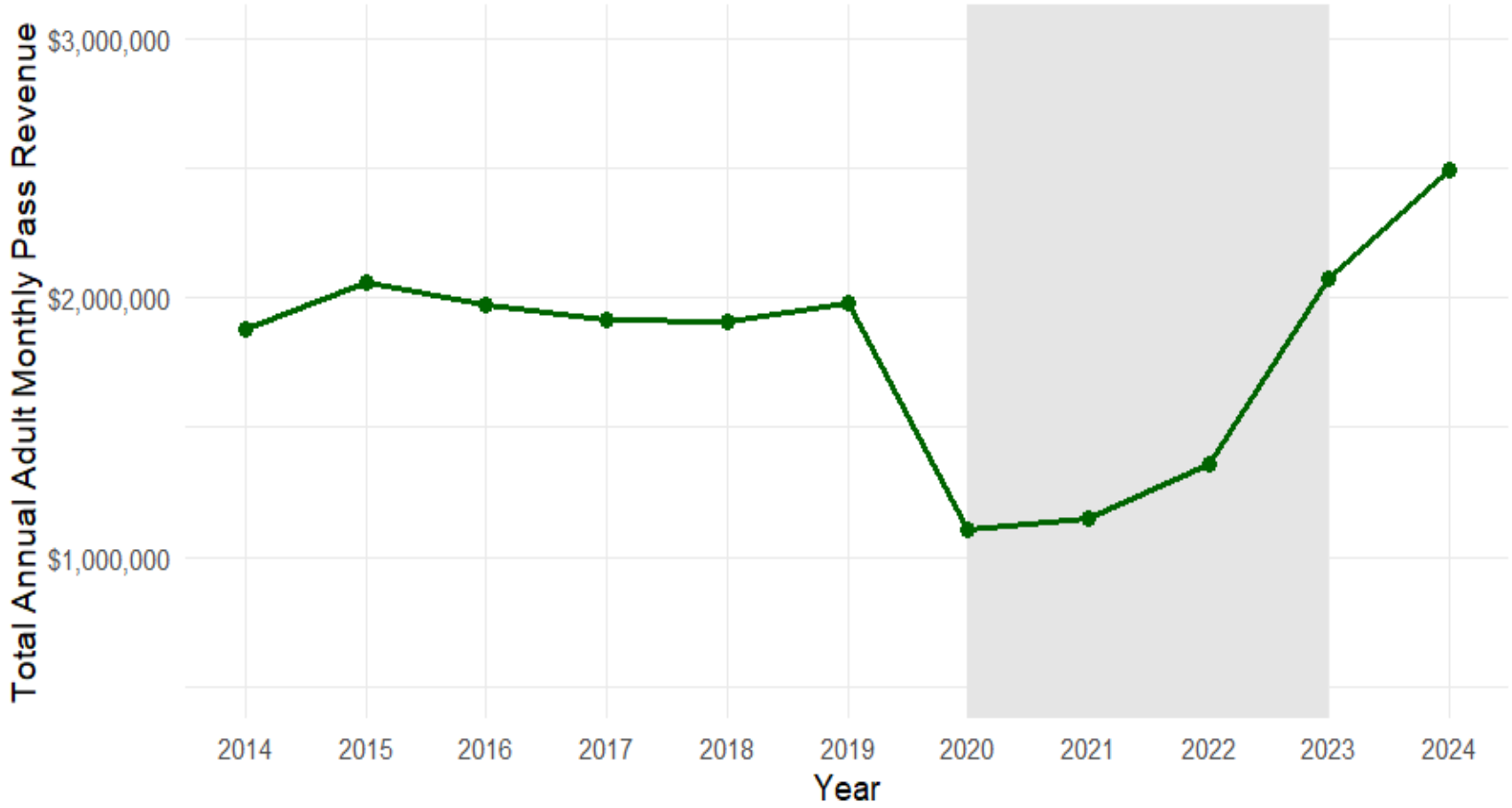

Figure 3B-9: Saskatoon Transit U-Pass Revenue (2014-2024)

The shaded area indicates the primary COVID-19 impact period (2020-2022)

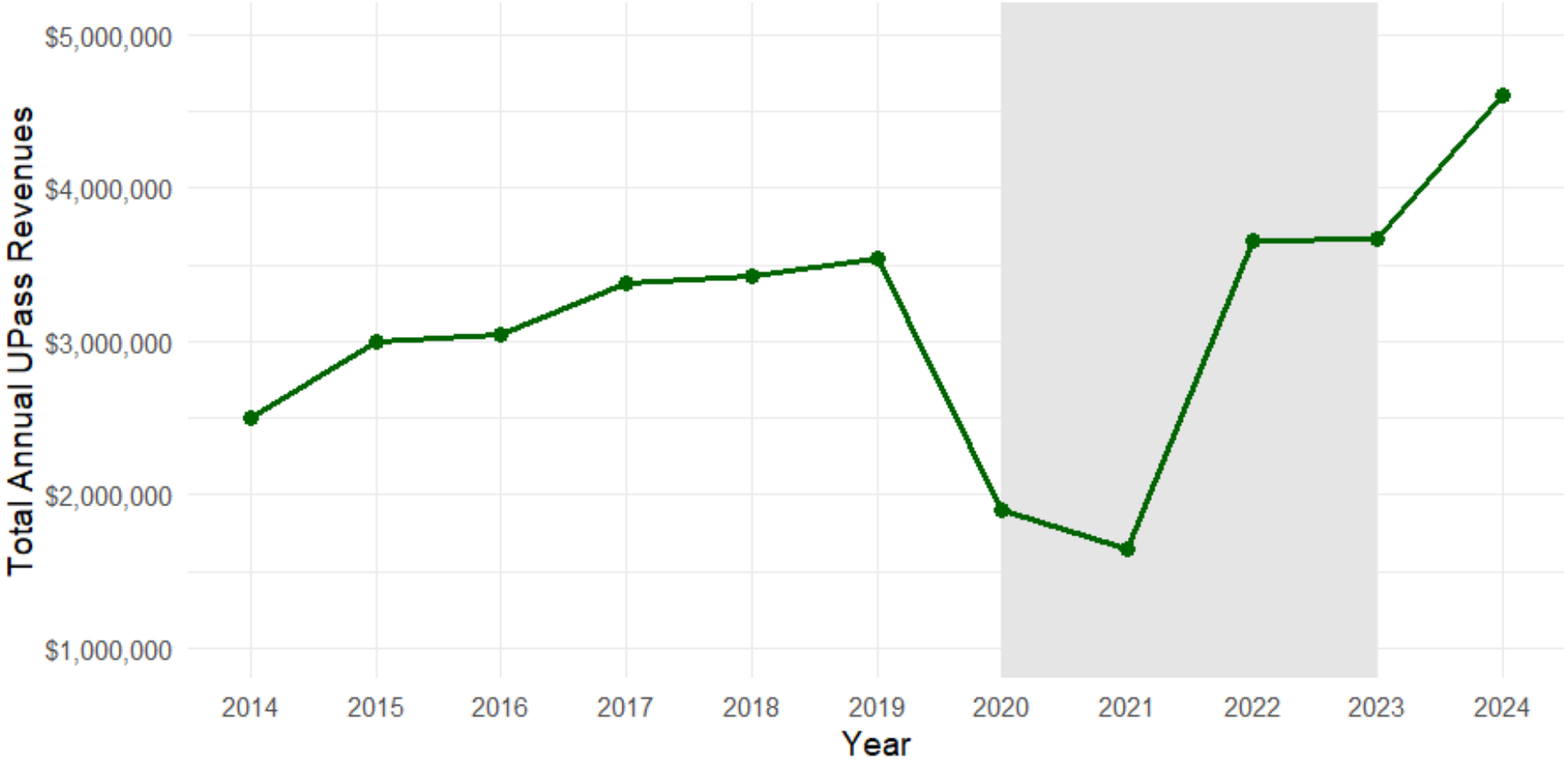

Figure 3B-10: Composition of Saskatoon Transit Fare Revenues (2014-2024)

Share of total annual fare revenues by major fare category (Grey shaded area represents COVID-19)

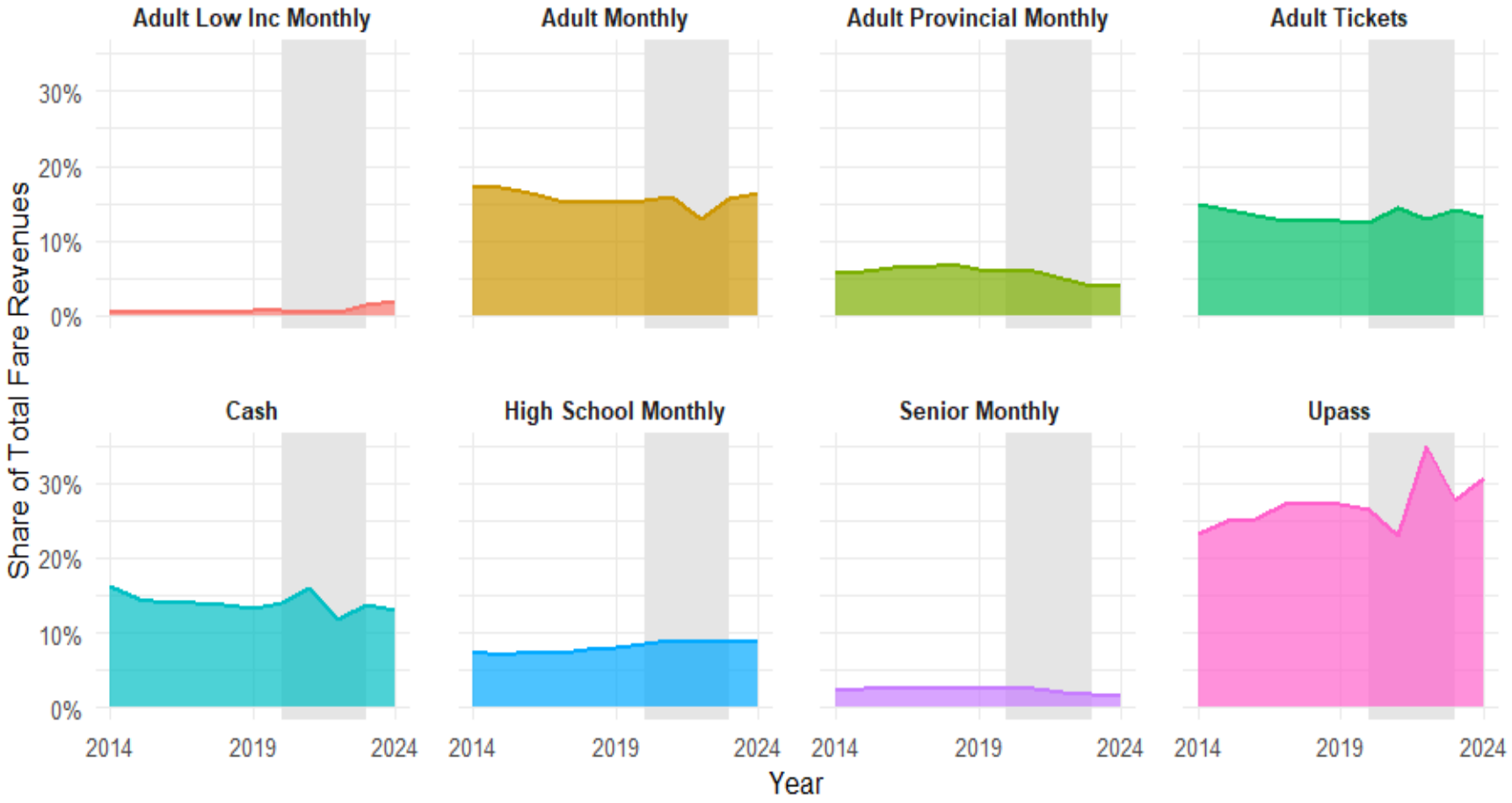

Figure 3B-11: Saskatoon Transit Fare Revenue per Rider by Fare Category (2014-2024)

Illustrates the effective price paid per trip for key rider segments (Grey shaded area represents COVID-19)