

November 2024

Research & Analysis

The Transportation Impacts of Vehicle-for-Hire in the City of Toronto

Executive Summary

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City of Toronto

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Executive Summary

In December 2021, City Council directed staff to evaluate the impact of the vehicle-for-hire (VFH) industry on Toronto's mobility landscape. These impacts include effects on traffic flow, emissions, transit ridership and revenue, road safety, and equitable access to transportation for all residents. In addition, Council requested staff to develop a framework that optimizes VFH operations, focusing on balancing supply and demand for rides, ensuring economic fairness for drivers, enhancing passenger service, and minimizing disruptions to public transit, traffic, and the environment.

This report provides an analysis of the VFH sector's effects on Toronto's transportation network. Toronto's transportation system is constantly evolving due to factors such as roadwork, evolving street infrastructure, and changing commuting trends, which makes isolating the specific impact of VFH challenging. However, this report aims to examine and evaluate these effects as thoroughly as possible.

The VFH sector in Toronto includes Private Transportation Companies (PTCs), taxis, and limousines. Limousines are a small proportion of the sector and are not a focus of this report and analysis.

Comprehensive data is available from all PTCs (Lyft and Uber) operating in the City, covering each vehicle's entire shift, including times with and without passengers. Detailed trip data from six taxi brokerages, representing 62% of all active taxi licenses, has been used in this analysis. While this is more data than have been available for previous studies, it is still not as comprehensive as PTC data, and does not include street hailed trips or data from independent taxicabs.

In addition to analysis conducted by the Transportation Data and Analytics Unit, the City also commissioned two additional studies to provide additional insights on the sector:

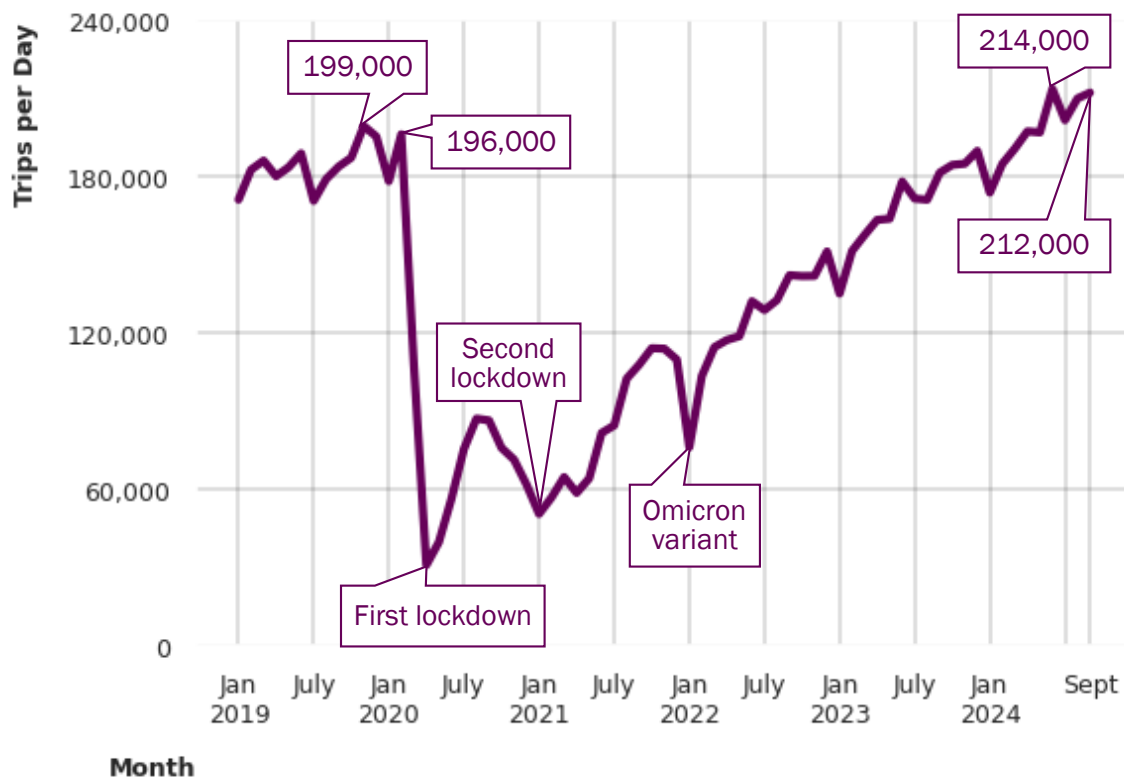
1. The City retained HDR in collaboration with market research firm Maru/Blue to complete a survey of VFH users in the City, and
2. The City engaged with the University of Toronto Mobility Network to conduct a research and modelling study to understand supply, demand and travel behaviour trade-offs in the VFH sector.

The findings are intended to provide City Council with insights to guide effective policy-making for the VFH sector and to build a foundation for informed decision-making in this sector.

PTC trips have continued to grow and are 7% higher than pre-pandemic peak levels as of September 2024

During the COVID-19 pandemic, the average daily PTC trips declined sharply from a peak of 199,000 in November 2019 to a low of 31,000 in April 2020. Since then, the number of trips has steadily increased, with only minor declines related to various pandemic stay-at-home orders and seasonal fluctuations, reaching a peak of 214,000 trips in June 2024. In September 2024, the average daily trips were at 212,000, approximately 7% above November 2019 peak levels.

Figure 1 Average daily trips by month from January 2019 to September 2024



These 212,000 daily trips are completed by 26,300 active PTC vehicles per day in Toronto

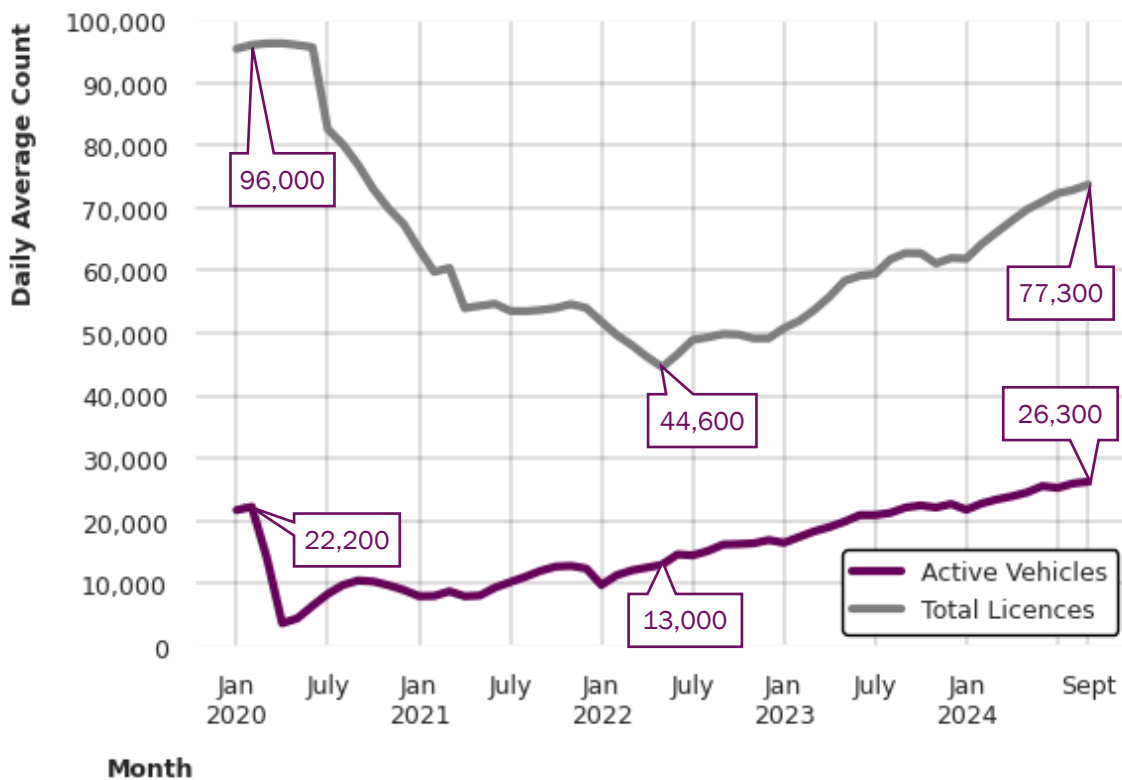
Due to the flexible nature of PTC driving, the number of licences does not always directly correlate with the actual number of vehicles in service at any given time. For this analysis, an active vehicle is defined as one with a driver who has accepted at least one customer trip. This measure provides a more accurate measure of the sector's impact on the road network.

As of September 2024, there were an average of 26,300 active PTC vehicles operating daily in the City out of the 77,300 total active PTC

licences. Licences have been growing since May 2022 at a rate of about 1,000 new PTC driver licences per month on average. This growth in licenced drivers has coincided with a monthly growth of 470 additional active vehicles on the road on an average day.

Due to the low barrier to entry and variable nature of PTC driving, there is a wide variety in activity levels among drivers as some work full time hours, while others may only complete a handful of trips per month. Further analysis has shown that the top 50% most active PTC vehicles are responsible for 96% of the overall trip making, further demonstrating the large range in activity levels between different licence holders.

Figure 2 Active licences and daily average active vehicles by month from January 2020 to September 2024



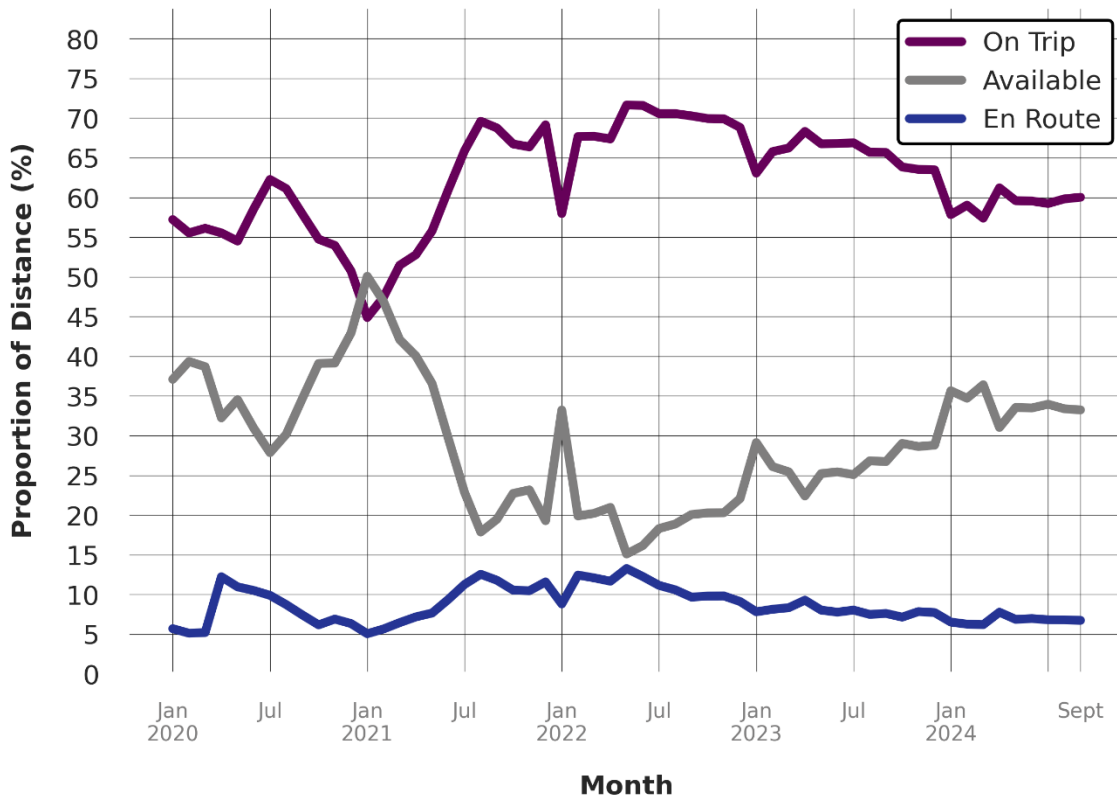
PTC vehicles are travelling an increasing amount empty since March 2022

One way to measure the efficiency of the sector is by measuring the distance travelled by PTC vehicles when they are carrying a passenger versus when they are empty waiting for their next customer. As shown in Figure 3, the percentage of distance travelled by PTC vehicles cruising for a passenger has steadily increased from 15% in May 2022 to 33% in September 2024. While this high degree of availability leads

to higher service quality and lower wait times for PTC customers, it also results in increased vehicles on the road for the same amount of trips.

The increase in empty travel is partially due to the number of active PTC vehicles growing faster than the number of trips, leading to a trend of fewer trips per active vehicle since 2022. In September 2024, a PTC vehicle completed an average of 8.1 trips per day, a decrease from the peak of 9.4 trips in March 2022 (and 8.8 trips per day prior to the pandemic).

Figure 3 Breakdown of PTC vehicle distance spent in each period



The annual distance travelled by vehicles for hire has increased since the emergence of PTCs, while the proportion driven by taxis has fallen

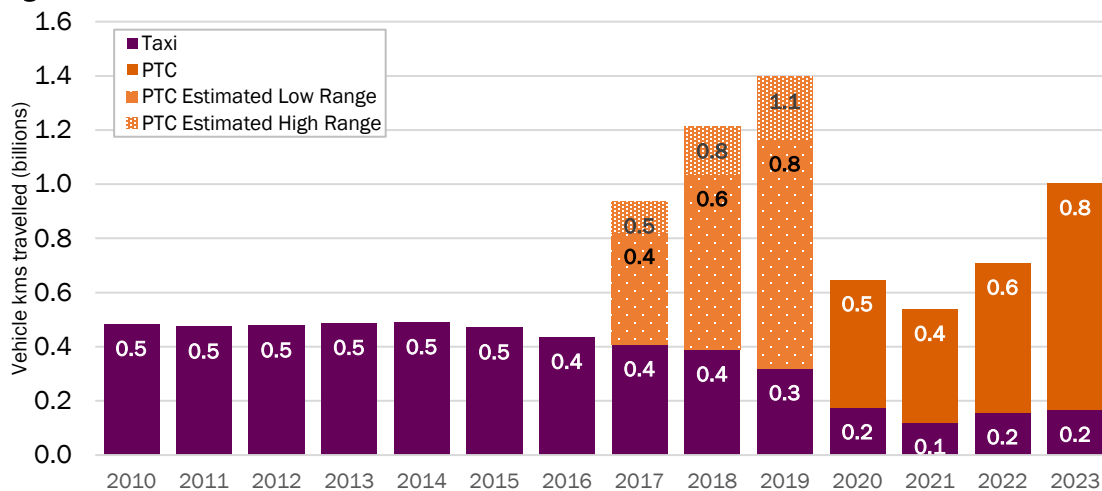
Distance travelled is used as an indicator of activity in the sector as complete trip records are not available for the taxi sector. PTC distances are measured based on trip and shift records while taxi distance travelled is measured based on taxi odometer readings that are collected annually.

There has been a significant shift in the distance travelled by licenced vehicles for hire in the City. The distance travelled by taxis has declined sharply, dropping from 484 million kilometres in 2010 to just under 167 million kilometres in 2023.

The City began receiving sufficiently complete data on distance travelled by PTC vehicles in 2020. However, estimates were made for earlier years when PTCs were legally operating. At its peak in 2019, PTC distance travelled was estimated to range between 0.85 and 1.08 billion kilometres, combining with taxis to reach a maximum of 1.40 billion kilometres travelled on City streets.

By 2023, as the sector recovered from the pandemic, PTC vehicles logged just under 837 million kilometres. Combined, taxis and PTC vehicles travelled a total of 1.00 billion kilometres on City streets in 2023.

Figure 4 Estimated annual distance travelled in kilometres for PTCs and taxis from 2010 to 2023



PTCs make up 14.2% of vehicle travel in the downtown core in 2024

The impact of PTCs on the transportation network is largely a function of the amount of driving its vehicles are adding on to the City’s road network, measured in vehicle-kilometres travelled (VKT). Together with any potential impacts on traffic volumes and congestion, additional VKT can also directly affect the City’s ability to meet its climate change goals under the TransformTO Climate Action Strategy. Increased VKT has also been found to have adverse impacts on air quality, health, safety, and noise.

An analysis of PTC supply on Toronto streets shows that their share of total distance traveled varies widely across different areas of the city with much higher concentrations in the downtown core. In September 2024, PTCs accounted for 14.2% of total traffic in the downtown core, compared to 3.6% in the suburban areas, and 4.5% city-wide. Comparable data is not available for taxis until digital meters are rolled out, but taxi VKT was estimated as being 27% of the VFH mix in 2023.

A key concern is the impact of these vehicles on traffic congestion in Toronto which has been particularly relevant in the context of the increases in downtown congestion observed in 2024. These increases have largely been driven by extensive road and development construction projects such as the reconstruction of the Gardiner Expressway and various Ontario Line-related construction sites and lanes closures. As PTCs are operating within this congested downtown, they make up 14.2% of this traffic and as a result play a role in the overall congestion levels in the downtown. There is however no specific evidence that these PTC volumes are driving acute growth in congestion, however they are a significant part of the mix of vehicles circulating in downtown Toronto.

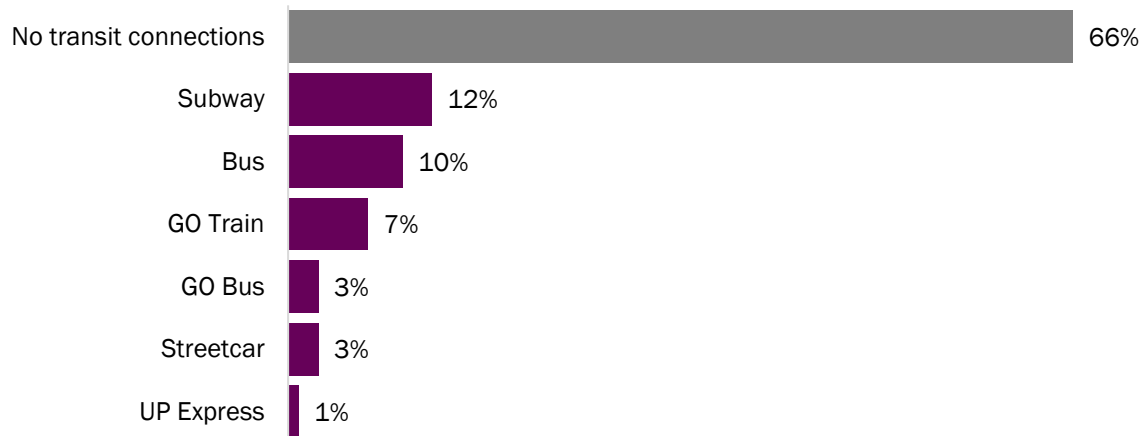
Figure 5 Vehicle kilometres travelled by PTC by different areas of the City in 2024

Average daily vehicle kilometres travelled	Downtown TOCore	Toronto and East York Outside Downtown	Etobicoke, York, North York, and Scarborough	City of Toronto Overall
From PTC vehicles Sept 2024 weekdays	374,900	623,300	2,121,300	3,119,400
From all vehicles 2023 average daily values	2,645,300	7,626,500	59,573,200	69,845,000
% of PTC vehicles	14.2%	8.2%	3.6%	4.5%

34% of PTC users indicated they used it to connect to transit

In the survey of VFH users, 34% of PTC users and 40% of taxi users indicated that their trip involved a connection to public transit. This suggests that vehicles for hire play a complementary role in filling gaps in transit service coverage and frequency within the city.

Figure 6 Percentage of respondents indicating they connect to/from transit on their last PTC trip



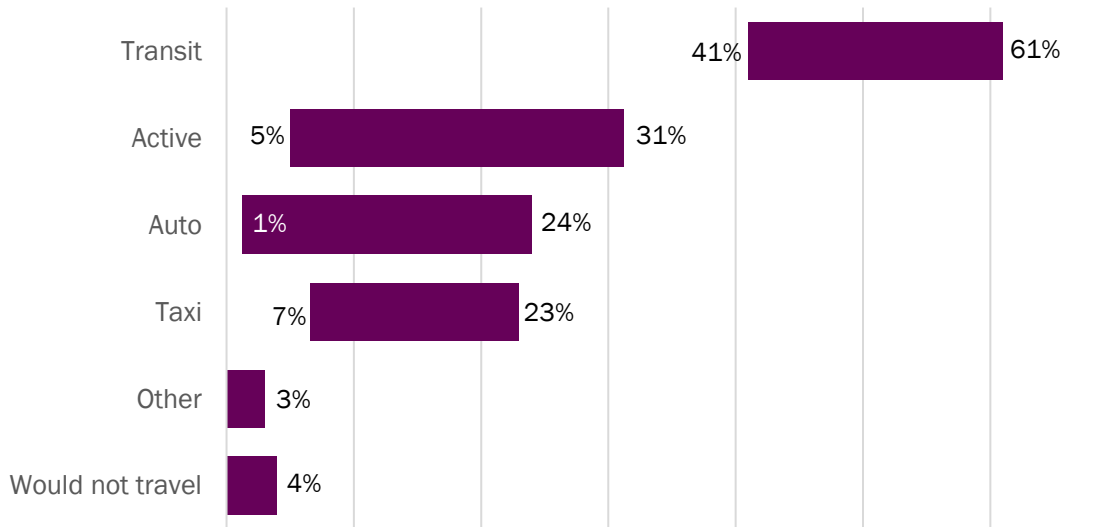
41% to 61% of PTC users would choose transit as an alternative if PTC services were not available

The introduction of PTCs has impacted transit systems in cities worldwide, including Toronto, with both positive and negative effects. To assess the influence of PTCs on transit in Toronto, the City employed two methods:

1. Conducted a VFH survey by HDR Corporation, in collaboration with market research firm Maru/Blue, to explore alternative transportation options to PTCs and taxis, and
2. Analyzed transportation impacts using a model developed by the University of Toronto, simulating a scenario in which PTC services were unavailable.

Based on this research, it was estimated that 41 to 61% of PTC users would choose transit as an alternative, while 5 to 31% would opt for cycling or walking if PTCs were not available for their trip. Additionally, 1 to 24% would either drive themselves or rely on a ride from someone else. While these ranges are broad, it is clear that a significant proportion of PTC trips are competing with transit services for riders. The VFH user survey noted similar response for taxi trips as well, with 37% of taxi trips selecting transit as their first alternative.

Figure 7 Alternative modes chosen by PTC users if service was not available based on the VFH user survey and University of Toronto's transportation model



These figures can be contextualized against TTC's daily riders, with the more recent data published for 2024 as part of the TTC's corporate KPIs¹. Based on an average weekday PTC trip volume of 193,000 (July 2024 figures) and applying the 41% to 61% rate of PTC users stating they would use transit as the alternative if PTC is not available, approximately 79,000 to 118,000 of these trips would have used transit for at least part of the journey. The TTC's daily number of revenue rides was 1,300,000 on a typical weekday in July 2024. After accounting for the 24% of PTC trips that would still connect to TTC services such as subway, bus, or streetcar routes, the shift from PTC trips to transit would represent approximately 4.6% to 6.9% in weekday TTC ridership. It is challenging to estimate which routes are most impacted, however previous research on the topic indicated that ridehailing from 2016-2018 in Toronto generally improved subway ridership while reducing surface transit ridership².

Beyond the numbers, it is important to note that PTC users are also transit users, according to data from the VFH user survey. The survey shows that 37% of VFH users reported using transit frequently (several times a week or more), while only 14% of VFH users reported using PTC services at the same frequency. As a result, while PTC use may contribute to some shifts away from transit, it also serves to

¹ [Corporate KPIs Toronto Transit Commission for July 2024. Published in September 2024](#)

² Li, Wenting, A. Shalaby, and K. N. Habib. "Exploring the Ridership Impacts of Ride-Hailing on Multimodal Public Transit in Toronto." *Transportation Research Record: Journal of the Transportation Research Board* (2018).

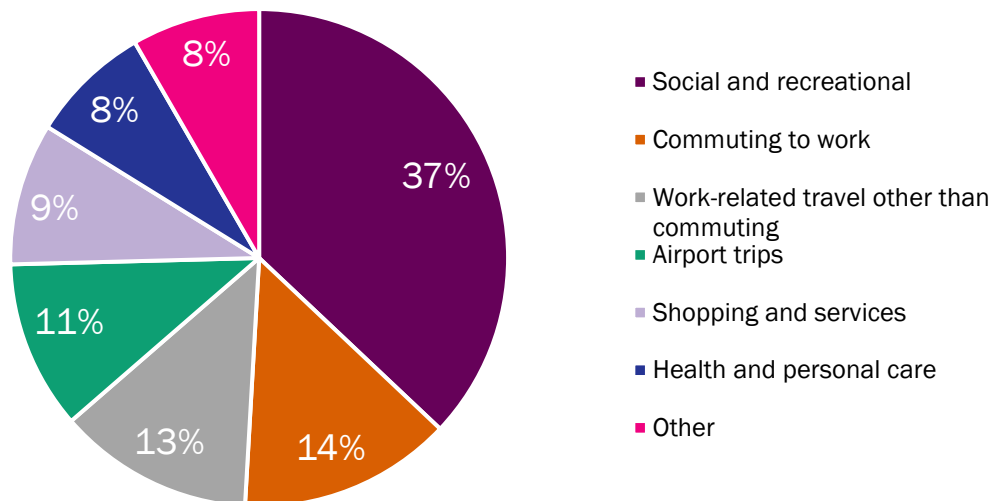
complement transit particularly when there is greater urgency for speed and reliability of travel, for example during subway disruptions where PTCs can complement bus bridging to help passengers get to their destinations³.

Vehicles for hire serve a wide range of trip purposes

VFH services have been found to have a unique role in Toronto's transportation system and are used regularly for a wide range of trip purposes. The most common purposes for using vehicles for hire are as follows:

- **Social and recreational trips (37%):** A large proportion of users depend on VFH services for social and leisure activities such as visiting friends, going to bars and restaurants, attending events, and recreational outings. VFH services are recognized as being an important option for residents to be able to access entertainment options while drinking responsibly.
- **Work-related travel (27%):** Many rely on taxis and PTCs for commuting to and from work (14%) as well as other work-related travel (13%)
- **Airport trips (11%):** A significant number of respondents use these services for airport transportation

Figure 8 Primary trip purpose of user's last trip based on VFH user survey



³ Liu, Rick, et al. "A social equity lens on bus bridging and ride-hailing responses to unplanned subway disruptions." *Journal of Transport Geography* 88 (2020): 102870.

User satisfaction with PTC and taxi services is high

Satisfaction levels were found to be high among both PTC and taxi users, with **80%** of PTC users and **72%** of taxi users reporting they were "satisfied" or "very satisfied" with the services. The ratings were based on seven customer service indicators, including service availability, customer support, vehicle comfort, travel information, ease of requesting service, and cost. Satisfaction was high across all categories, with lower satisfaction for cost.

Figure 9 Percentage of users reporting 'Satisfied' and 'Very satisfied' on major quality of service measures in the VFH user survey

Major quality of service measures	Taxis	PTCs
Cost	54%	59%
Ease to request service	80%	86%
Knowing the fare in advance	63%	85%
Receive real-time pick-up information	70%	83%
Safety	80%	83%
Service availability	79%	82%
Vehicle comfort	78%	84%

Wait times for trips in wheelchair accessible vehicles (WAVs) are higher than for non-WAV trips

Wait times are an indicator of service quality for passengers, and the Accessibility for Ontarians with Disabilities Act, 2005 (AODA) requires municipalities to meet local needs for on-demand accessible taxicabs. The AODA also requires PTCs with more than 500 drivers on their platforms are required to provide wheelchair accessible services to the public. The bylaw requires that the average wait time for this service must be the same as the average wait time for non-accessible taxicab service.

From 2023 to 2024, wait times for taxis improved across all trip types (WAV and non-WAV). However, data from January 2023 to March 2024 indicates that wait times for taxi and PTC WAV trips remain 60% to 160% higher than for their non-WAV counterparts. This disparity underscores the need for continued efforts to address the service gap in accessible transportation.

Figure 10 Taxi wait times comparison between WAV and non-WAV trips, January 2023 to March 2024

	Taxi trips*	PTC trips
WAV trips	24 minutes Representing on average 14 trips per day	13 minutes Representing on average 28 trips per day
Non-WAV trips	15 minutes	5 minutes

*Based on data available from six taxi brokerages representing 62% of all taxicabs. Figures do not include WAV taxi trips under contract with the TTC to provide Wheel-Trans services. In March 2024 Wheel-Trans did an average of 5100 WAV trips per day, of which 2800 were contracted taxis.

PTC WAV service quality has declined since 2020, with longer wait times and an increased proportion of cancellations by passengers

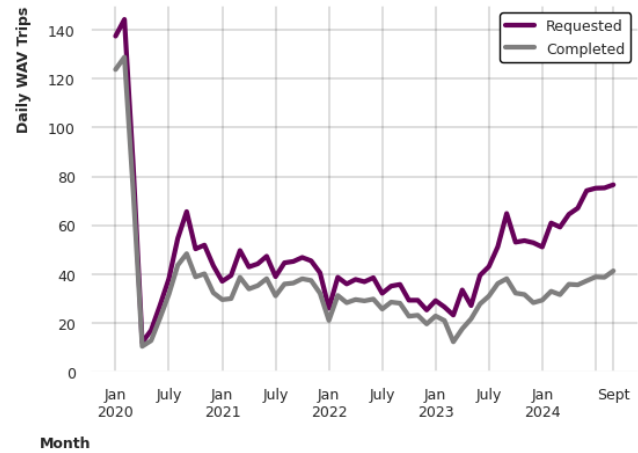
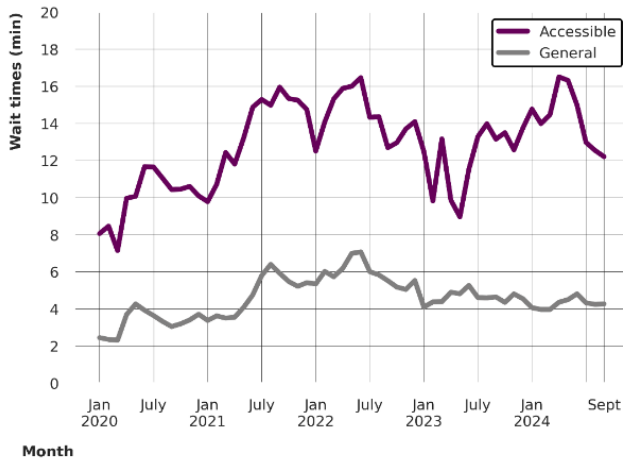
The quality of PTC WAV services has worsened since 2020, evidenced by longer wait times and a rise in passenger-initiated trip cancellations. Although changes in wait times for both WAV and non-WAV trips are somewhat related over time, wait times for PTC WAV trips remain consistently two to four times longer than for non-WAV trips. In September 2024, customers seeking WAV trips waited an average of 12 minutes, up from a pre-pandemic low of 8 minutes in February 2020. Due to data limitations, this average wait time does not include trips where the rider cancelled the trip before driver arrival.

Since March 2023, the demand for PTC WAV trips has increased, but the number of completed trips has not kept pace as riders cancelled 15% to 45% of trip requests while driver cancellations were consistently below 2%. From January 2020 to March 2023, 81% of requested PTC WAV trips were successfully completed. However, this completion rate dropped significantly to 57% between March 2023 and September 2024.

Figure 11 Wait times and unfulfilled trip rates for WAV and non-WAV services by month

Average wait times for PTC WAV and non-WAV services by month from January 2020 to September 2024

Average daily PTC trips requested and completed for WAV by month from January 2020 to September 2024

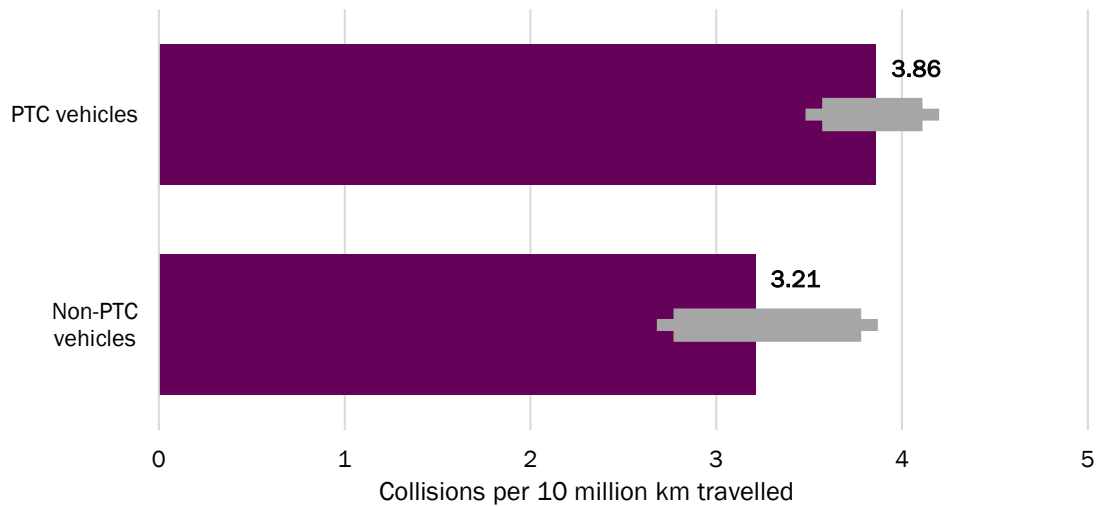


Collision rates are highly variable and PTC collisions rates are slightly higher than other vehicle types

To understand whether PTCs have a significant or outsized impact on road safety, a study of collision data was completed comparing PTCs with other vehicle types. Comparable rates for taxis could not be calculated due to data limitations. These rates are based on collisions and kilometres travelled within Toronto, excluding 400-series highways. For PTCs, only collisions that occurred while the vehicle was operating on a platform were included.

From 2020 to 2023, 666 PTC vehicles were involved in collisions resulting in minor, major, or fatal injuries. This equates to a rate of 3.8 PTC vehicle collisions per 10 million kilometres travelled. This can be compared to a rate 3.2 for other (non-PTC) vehicles. It should be noted that these estimates are highly variable, fluctuating annually, and therefore have significant uncertainty. In addition, there are significant challenges with reported PTC collision data that has resulted in difficulties linking VFH collision data to police collision data. To address this, this study is recommending further enhancements to the by-lawed PTC and taxi collision reporting requirements to require the inclusion of a police report number for all VFH collision records. Further monitoring and analysis will be required to better understand the collision rates of PTCs and taxis and what factors might drive differences.

Figure 12 PTC rate of collisions per distance travelled from 2020 to 2023



There are no significant differences in PTC service characteristics between equity-deserving communities and the rest of the City

Various trip and service quality characteristics were analyzed including average trip distance, fare, wait times, and cancellation rates of PTCs across equity-deserving communities and other areas in Toronto. The analysis specifically compared trips originating in Neighbourhood Improvement Areas (NIAs) with those from non-NIAs. NIAs are designated based on lower performance in economic opportunities, health, and social development.

The analysis showed no significant differences in PTC service provision and service characteristics between equity-deserving communities and the rest of the City. The analysis also considered variations between urban neighborhoods (Toronto and York) and more suburban areas (Etobicoke-York, North York, and Scarborough), but no significant differences between NIAs and non-NIAs were observed.

Summary and Recommendations

The key findings of the study are summarized as follows:

- **Record level of PTC trips:** PTC trips reached an all-time high in June 2024 with 214,000 average daily trips, surpassing pre-pandemic levels.
- **Decline in PTC utilization efficiency:** Since early 2022, the percentage of distance travelled by PTC vehicles with customers on-board and the number of trips per active vehicle have both decreased.

- **Record high distance travelled by vehicles for hire:** Vehicles for hire made up 1.12 billion kilometres of travel on City streets in 2023, with PTCs accounting for 74% of the total VFH distance travelled.
- **High PTC share of downtown travel distance:** In 2024, PTCs accounted for 14% of all vehicle travel distance in the downtown area on a typical day.
- **Transit as the main alternative for PTC users:** If PTCs were unavailable, 41% to 61% of trips would switch to transit, though a portion of these PTC trips already connect to transit.
- **An important transportation mode for VFH users:** Surveys conducted highlight the important role the mode plays within the transportation system, serving a wide variety of trip purposes and providing redundancy to resident's mobility choices.
- **Disparities in wait times between WAV and non-WAV trips:** Wait times for WAV trips remain significantly longer than for non-WAV trips, highlighting accessibility challenges.
- **Decline in PTC WAV service quality:** Since 2020, WAV trips have experienced longer wait times and decreasing trip completion rates.

The major recommendations drawn from the study include:

- **Consider licensing limits to address negative trends:** Some trends suggest that licensing limits may help address observed negative trends, though it remains unclear whether limits would notably reduce congestion.
- **Mandate digital meters for taxis:** Digital meters would enable more detailed analysis of the taxi sector and consistent reporting and monitoring of industry trends.
- **Incorporate collision identification numbers:** All PTC and taxi collision records should include the identification number provided by police or the Collision Reporting Centre.
- **Expand data fields for improved analysis:** Additional data fields, including driver number and quoted arrival time, should be provided to enable more detailed analysis of driver-specific metrics and overall service quality.