Introduction

Shared e-scooters first came to Edmonton, the fifth largest city in Canada, in August 2019 with operators Bird Canada and Lime, following neighbouring Calgary’s launch of shared e-scooters. E-scooters were permitted after the Edmonton City Council changed its bylaws in July 2019, enabling licensed e-scooter companies to operate in the City. Lime and Bird Canada both have e-scooter deployment limits (caps) approved by the City, and are able to apply for changes in fleet size quarterly.
The purpose of this report is to look retrospectively at shared e-scooter operations in Edmonton since the onset of COVID-19, and derive insights and key takeaways from the operations. We seek to understand shared e-scooter usage, travel patterns, and the general effect of e-scooters on the Edmonton transport system. This report analyzes shared e-scooter data from June 1, 2020, to October 31, 2020, when shared e-scooters relaunched following the unanticipated COVID-19 shutdown, and compares key metrics to operations in 2019.

Bird Canada and Lime have partnered with Ride Report, a third-party, independent micromobility data platform and policy advisor, to analyze their trip data. Ride Report works with municipalities such as the City of Denver; Brisbane, Australia; and Auckland, New Zealand to provide a Software-as-a-Service data dashboard to manage micromobility on the public right of way. Ride Report displays data on the aggregate level only to reduce risks to privacy and security; in addition, for the purpose of this report, Bird Canada and Lime data are combined, so as not to divulge competitive information between the two operators.

**Trips over time**

From June 1, 2020, to October 31, 2020, there were 611,995 e-scooter trips between both operators with an average of 1,638 vehicles available for rent per day. The combined fleet between both vendors reached a maximum of 2,693 vehicles on September 14, 2020. As more vehicles were available for rent, more trips occurred, illustrating steady adoption of this new mobility option (see Figures 1 and 2). The program had a decrease in ridership and available scooters in October, as weather began to cool significantly, and people were not as apt to use outdoor active transport. During the program, trip counts rose throughout the week, peaking on Fridays and Saturdays, likely when people were leaving weekday work-from-home and renting e-scooters to get around the City safely, as illustrated in Figure 3.

**Figure 1: Trips vs Available Vehicles**

![Trips vs Available Vehicles](image-url)
Figure 2: Total Trips vs Average

Figure 3: Average Trips Per Day
**Trips per vehicle per day**

Even during the pandemic, Edmonton witnessed strong trips per vehicle per day (TVD). Ride Report advises cities that two or more trips per vehicle per day signals a healthy system, with over three TVD likely signaling unmet rider demand and the need for operators to deploy more e-scooters. **Edmonton averaged 2.44 trips per vehicle per day** from June 1, 2020, to October 31, 2020. As seen below in Figure 4, when Lime and Bird Canada first re-launched there were a combined four TVD with 545 vehicles available. As the operators deployed more e-scooters to meet rider demand, ridership remained strong, only falling below two TVD in October during the colder weather. **Edmonton’s TVD signals a strong market for e-scooters, despite the ongoing COVID-19 pandemic.**

**Figure 4: Trips per Vehicle Per Day vs Available Vehicles**

![Graph showing trips per vehicle per day vs available vehicles](image)
“Edmonton has had one of the most well-used e-scooter programs in North America,” Jonathan Hopkins, Lime's Director of Strategic Development for Canada & North West United States, said. “During a year where everything seemed to change, people are turning to e-scooters for more essential trips, and longer trips, than they ever have before.”

Usage around the City

Lime and Bird Canada deployed e-scooters around the City throughout the program; Ride Report’s tools revealed where trips took place in 2020:

- Over 55% of all trips (or 342,049 trips) started in Edmonton's Business Improvement Areas (BIAs).
- The Downtown BIA received 34% of trip starts and Old Strathcona about 15%.
- Over 10% of trips started within 100 metres of a light rail transit (LRT) line, and 6% within 200 metres of a station.

From this data, we see that riders may be using e-scooters as a first-and-last-kilometre solution to the LRT and that the areas around the LRT stations are desirable visitation destinations. Even more importantly, e-scooter usage helped drive access to businesses and BIAs, promoting commerce and economic growth as Edmonton businesses managed during COVID-19.

Figure 5: Trip Starts in Business Improvement Districts
Edmonton Business Improvement Area

Business Improvement Area: Old Strathcona

Business Improvement Area: Downtown
Trip distance and time

The majority of trips in Edmonton are shorter trips, at less than 1 kilometre, and are on Fridays and Saturdays. This short trip distance, combined with the day of the week, signals spontaneous e-scooter trip making -- notable as there is likely less spontaneity around other forms of travel during COVID-19. From the 2019 data analysed, we see that 54% of trips were 0 to 1km, with only 0.5% of trips being longer than 10km. However, in 2020, 21,708, or 4%, of trips were longer than 10 kilometres, showing that e-scooter trips were also used for longer trips. In a 2020 survey, when Bird Canada riders were asked, “If e-scooters didn’t exist, how would you have gotten to your destination?”, Edmonton riders responded that they would have taken a personal car or Uber/taxi, with 30% using a car. These longer trips are replacing other forms of transportation, which is particularly important during COVID-19 as fewer essential workers, as an example, may be able to utilize public transport due to social distancing requirements or concerns.

Figure 6: 2019 vs 2020 distance traveled

“Having worked with Alberta Health Services and the City of Edmonton to make e-scooters available during COVID-19, we are pleased to see growing numbers of Edmontonians embracing this alternative way to move around their city,” Bird Canada CEO Stewart Lyons said. “E-scooters have truly become an additional travel option relied upon by residents.”
Shared e-scooters are helping Edmonton meet its sustainability goals by providing sustainable mode-shift options.

As seen in Figure 7, in 2019, more rides occurred in the morning, whereas in 2020, during COVID-19, there is higher ridership in the evening, with over 10% of rides occurring during the 8 o'clock hour (PM). This trend supports two travel hypotheses during the pandemic: 1) later trips may be occurring as many people do not have a morning commute because they're working from home during the pandemic, and 2) more spontaneous trips, or recreational trips, were occurring during the pandemic, which is positive given the restraint on other forms of safe recreational activities. In summary, travelers most frequently used e-scooters over the weekend (see Figure 3), primarily in the afternoon and evening, and in BIAs. Trips could be to go out to dinner or to get home instead of using an Uber or personal car.

Figure 7: 2019 vs 2020 Time of Day of Trips
Travel patterns

To show origin and destination travel patterns, Ride Report aggregates all trip data and displays them using a hexagonal grid approach. Ride Report’s tool displays trip starts and ends, all filterable by dates and times of day to view more granular analysis or origin and destination travel patterns. As seen in Figure 8, the majority of trips started in downtown Edmonton and in Old Strathcona.

Figure 8: Heatmap of Popular Trip Starts*

Trips started most frequently in and around Jasper Ave NW and 102 Ave NW, with 7,961 trips starting in this area. Most of the trips that started in this area ended close by, with 3,086 trips ending within a kilometre of the trip start, consistent with the trip length analysis in Figure 6.

*Ride Report uses Uber’s H3 Hexagonal Hierarchical Geospatial System# (https://h3geo.org/), using size 9 bins, while also including a privacy filter of a minimum of 30 trips. To protect user privacy, Ride Report does not provide or display disaggregated trip data or any raw Mobility Data Specification data.
The second-most populous destination of trip starts was in the Old Strathcona neighbourhood, pictured below, with most trips starting and ending near Whyte Ave and 84 Ave NW.
Additionally, the tool displays the most frequent routes chosen by e-scooter riders, illustrated below in Figure 11, which reinforces the primary areas of usage being Old Strathcona and the BIAs.

**Figure 11: Overview of Routes**

The most popular route travelled was Jasper Avenue NW between 109 and 110 Streets, with nearly 5.5% of all trips utilizing this street during the program. Other very popular routes are through Kinsman Park and on Whyte Avenue NW. Most riders traveled through Downtown and Old Strathcona, and their associated BIAs. In a positive development, Edmonton City Council recently approved reducing the city-wide default speed limit from 50 km/h to 40 km/h, including speed reductions on the main street portions of Whyte Avenue, Jasper Avenue, and other high pedestrian areas. These speed limit reductions will be a big step to help Edmonton achieve its goal of Vision Zero - zero traffic related fatalities and serious injuries - by 2032 and help make streets calmer, quieter, and safer for all mobility options, including shared e-scooters. Reviewing the routes more in depth can help the City determine where it may be useful to have other speed reductions, more bike or multi-use paths, and/or locate new parking corrals.
Conclusion & recommendations

Edmonton, the fifth largest city in Canada, has seen strong adoption of shared e-scooters, even during COVID-19. Analyzing data from June 1, 2020, to October 31, 2020, Ride Report found strong adoption and use of e-scooters in the city. Bird Canada and Lime have provided an average of 1,638 e-scooters available for rent each day and seen a total of more than 611,995 trips during this timeframe. With a peak of four trips per vehicle per day and an average of 2.44 trips per vehicle per day, residents are adopting e-scooters and using them frequently.

Edmontonians primarily rode e-scooters in and around business improvement districts, particularly downtown and Old Strathcona. E-scooters presented a viable alternative to driving, including nearly 22,000 trips over 10 kilometres long taken during this same time period. Surveys suggest that riders used e-scooters instead of personal cars or Ubers/taxis, reducing CO2 emissions and helping Edmonton reach its sustainability goals. Riders primarily took advantage of e-scooters in the afternoon and evening and on weekends, even more so than in 2019, likely because COVID-19 created new trip purposes that were less tied to traditional commuting hours.

The strong adoption of e-scooters in Edmonton, even during COVID-19, indicates the value of shared e-scooters in the City. E-scooters are providing a sustainable alternative to cars and a viable option for travel in Edmonton. Bird Canada and Lime have witnessed strong e-scooter usage and high activity in business districts, providing residents with a fun, easy-to-access, and sustainable transportation option that supports the local economy during this challenging time.
About Ride Report

Ride Report is a Portland, Oregon-based software company. We work with cities, municipal planning organizations, transit agencies, other government entities, and shared mobility operators to successfully implement shared mobility solutions. Ride Report enables micromobility planning, permit compliance, and municipal revenue collection through audited, data-driven insights and analysis.

Ride Report ingests and validates data via the Mobility Data Specification (MDS) and the General Bikeshare Feed Specification (GBFS) for dozens of operators, from e-scooters to e-bikes to other forms of new mobility. The dashboard provides a common operating view from which cities and operators align on current and historical data and metrics in report, map, and graphical views. Ride Report is your source of truth for performance, response, and invoicing, trusted by cities and operators alike to provide audited data.

19 team members contribute to our work developing a shared mobility software solution and supporting rapid innovation for our city partners. Ride Report serves cities across North America, Europe, and Asia-Pacific. Learn more at ridereport.com.

About Lime

Lime’s mission is to foster people-first cities by empowering residents with more affordable, reliable, and sustainable transportation options. As the global leader in micromobility, Lime partners with cities to deploy electric bikes and scooters enabled with GPS and self-activating locks. Lime has powered more than 200 million rides in more than 135 cities across five continents, spurring a new generation of clean alternatives to car ownership. Learn more at li.me.

About Bird Canada

Bird Canada Canada Inc. is a first KM / last KM, electric scooter sharing company dedicated to bringing affordable, environmentally-friendly transportation solutions to Canadian municipalities, including the City of Edmonton. We are a Canadian owned and operated venture that provides – in conjunction with Bird Canada Rides Inc. in the United States – e-scooter sharing programs globally. Learn more at: www.birdcanada.co.