2024 Shared E-scooter Season Data Analysis
End of Season Summary

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2023 vs 2024 Season Summary

Changes to the 2024 Season

- Same deployment zone: In the 2024 season, the deployment area where the service providers operated the shared e-scooters was bounded by St. Laurent Blvd. in the east, Rideau River / Carling Avenue in the south, Churchill Avenue in the west and the Ottawa River in the north. This was the same deployment zone from 2023.
- A longer season: The 2024 season started in mid-April while the 2023 season started in mid-May. Both seasons ended on November 15.

Season Length

- The 2024 season started on April 18 and ended on November 15 (**212** days), for both Bird Canada and Neuron.
- The 2023 season started on May 18 (Bird Canada) and May 19 (Neuron) and ended on November 15 (**183** days).
- The 2024 season was **29** days longer than the 2023 season.

Daily Rental Period

- Shared e-scooters' operational hours were extended and available to rent from 5 am to 1 am in 2024 (3 hours longer) compared to the 6 am to 11 pm period in the 2023 season.
- The extended hours were not implemented in the ByWard Market area.

Fleet Size

- 2024 season permitted a maximum fleet size of **1000** e-scooters with a maximum of **500** to Neuron, and **500** to Bird Canada. The season started a maximum fleet size of **900** e-scooters and increased by **50** for each provider on Sep. 3, 2024.
- This was a **11%** increase of the permitted fleet size compared to 2023.
- Table 1 shows the statistics about the maximum number of e-scooters deployed by the service providers during the 2024 season.

- There was an improvement in the deployment of service providers' allotment of e-scooters most of the season with approx. **100%** deployed, compared to approx. **88%** deployed during the 2023 season.

Table 1: Description of Daily Maximum Vehicles by Service Provider

Service Provider	Mean	Standard Deviation	Min.	25% Perc.	50% Perc. (Median)	75% Perc.	Max.
Bird Canada	473	37	159	454	467	503	537
Neuron	465	63	1	460	466	506	524
All Service Providers[1]	936	94	261	912	930	1005	1053

- Figure 1 provides an overview of the number of vehicles available per day during the 2024 season.

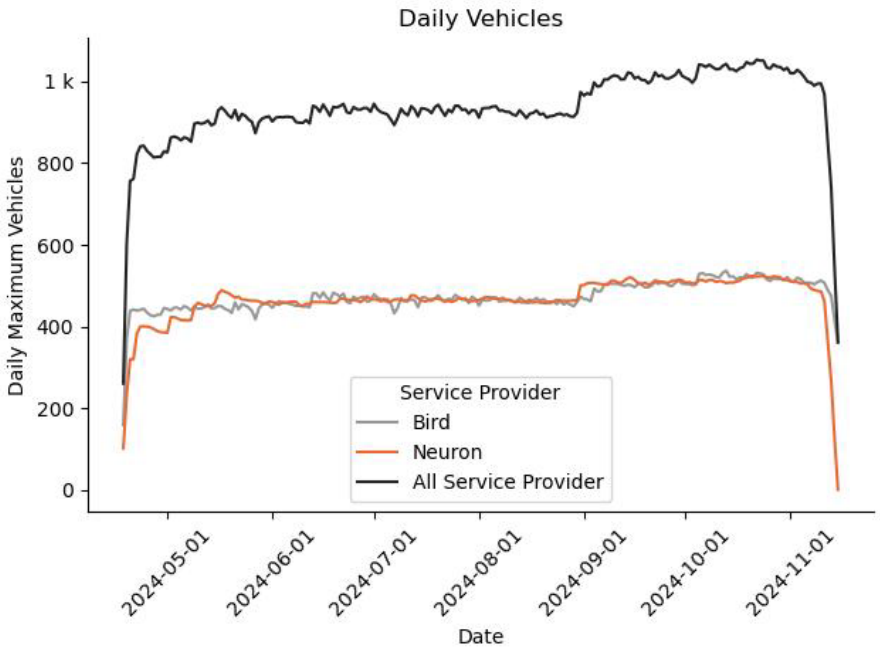

Figure 1: 2024 Daily Maximum Vehicles

Deployment Area

- A permitted deployment zone describes an area of the City where the service providers are allowed to operate.

[1] Note that the bottom row is not a total. It is a description of the overall service delivery across both service provider. For example, there a day during the season where Bird Canada had a minimum of 159 vehicles deployed. Similarly, there was a day during the season were Neuron had a minimum of 1 vehicles deployed. These days did not occur on the same day.

- Service providers may choose to not fully utilize the permitted deployment zone during the season.
- Figure 2 provides a map of the permitted deployment zone to start the 2024 season (full blue line); and the final deployment zone to finish the 2024 season (blue fill). The permitted deployment zone was the same as in the 2023 season.

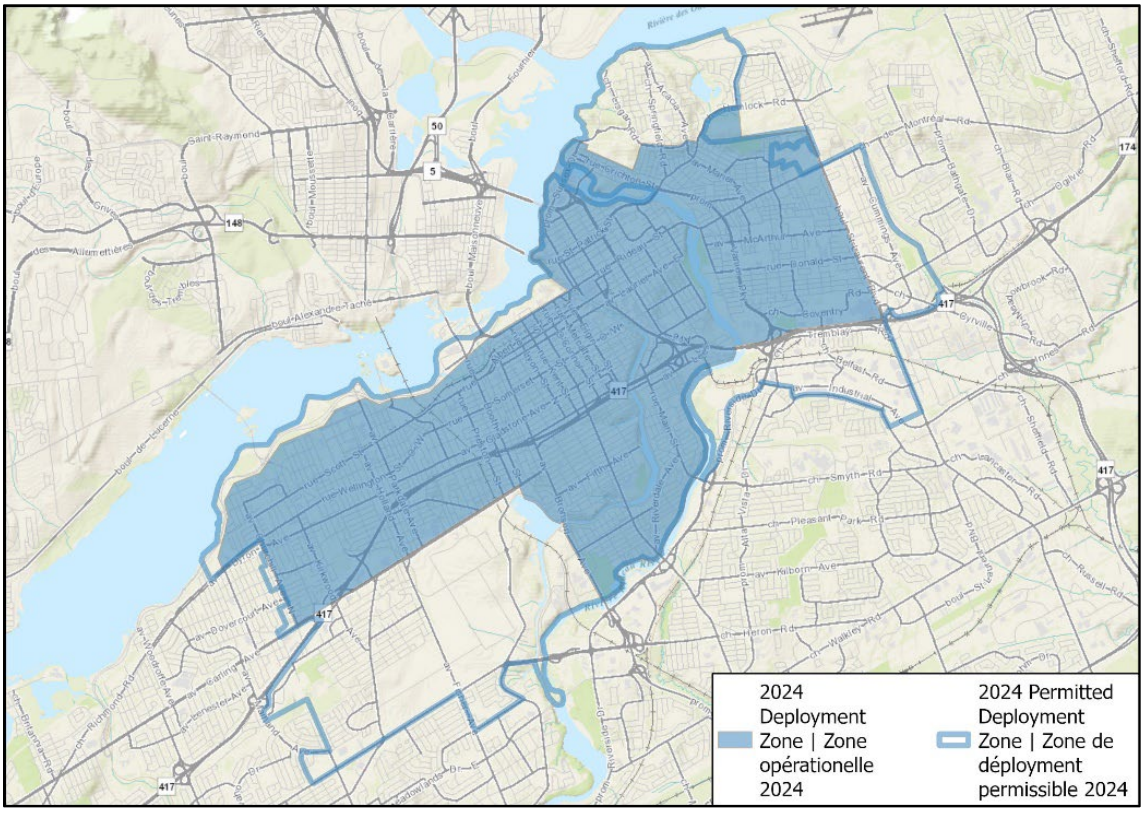

Figure 2: Deployment Zone

Unique Riders

- Total Approx. unique riders during the 2024 season were roughly **55,000** (Neuron 27,139 and Bird 27,856) **51%** with Bird Canada, and **49%** with Neuron.
- This is an increase of approx. **5,000** unique riders from the **50,000** unique riders serviced during the 2023 e-scooter season.
- Note that these numbers could double count riders that took a ride with both service providers.
- A unique rider is a user who logged into the application and rode an e-scooter at least once.

Total Trips

- Approx. **252,000** e-scooter trips were completed during the 2024 season: closely split between Bird Canada **131,000** and Neuron **121,000**.
- This is an increase of approx. **73,000** trips compared to approx. **179,000** trips in the 2023 e-scooter season. Overall, the 2024 season was **16%** longer than the 2023 season and had approx. **41%** increase in trips. Additionally, operating hours in 2024 were approx. **18%** longer compared to 2023.
- An average of approx. **1,200** trips per day were completed from April 18 to November 15, 2024.
- During the busy season in **July** 2024, daily e-scooter trips averaged approx. **1,500** on weekdays and **1,900** on weekends, with some weekends as high as **2,600** daily trips.
- This compares with an average of **1,200** weekday and **1,800** weekend daily trips in July 2023 (busiest month of the season), representing an increase of approx. **25%** and **6%**, respectively.
- During the 2024 season, the busiest day for e-scooter trips was Monday, July 1 (Canada Day) with approx**. 3,600** trips.
- Table 2 includes a breakdown of the 2024 monthly trip averages.

Table 2: 2024 Monthly Trip Data

Month	Average E-Scooter Trips per Day	Average E-Scooter Weekday Trips per Day	Average E-Scooter Weekend Trips per Day
April 2024	508	471	590
May 2024	1,099	961	1,497
June 2024	1,379	1,247	1,641
July 2024	1,606	1,490	1,941
August 2024	1,252	1,152	1,497
September 2024	1,325	1,253	1,493
October 2024	1,024	996	1,104
November 2024	643	640	652
All Season	1,188	1,100	1,410

- Figure 3 provides an overview of the number of trips per week during the 2024 e-scooter season.

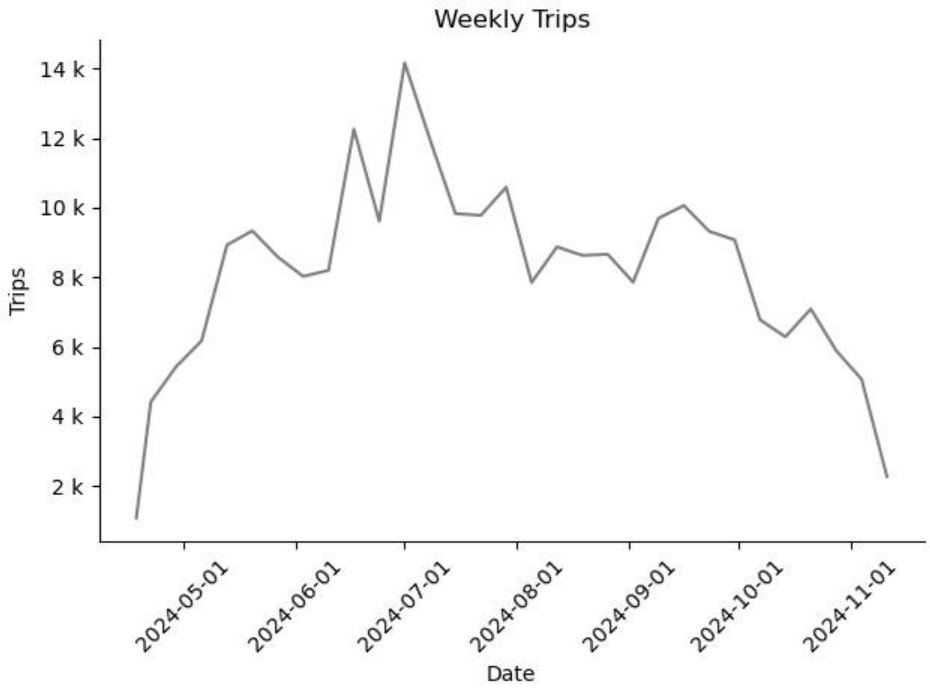

Figure 3: 2024 Weekly Trips Numbers

Key Origins and Destinations

- The heat map below (Figure 4) illustrates the most popular origins and destinations for the pilot, with a concentration of trips starting and ending in the ByWard Market and along commercial streets such as Elgin, Bank, and Wellington.

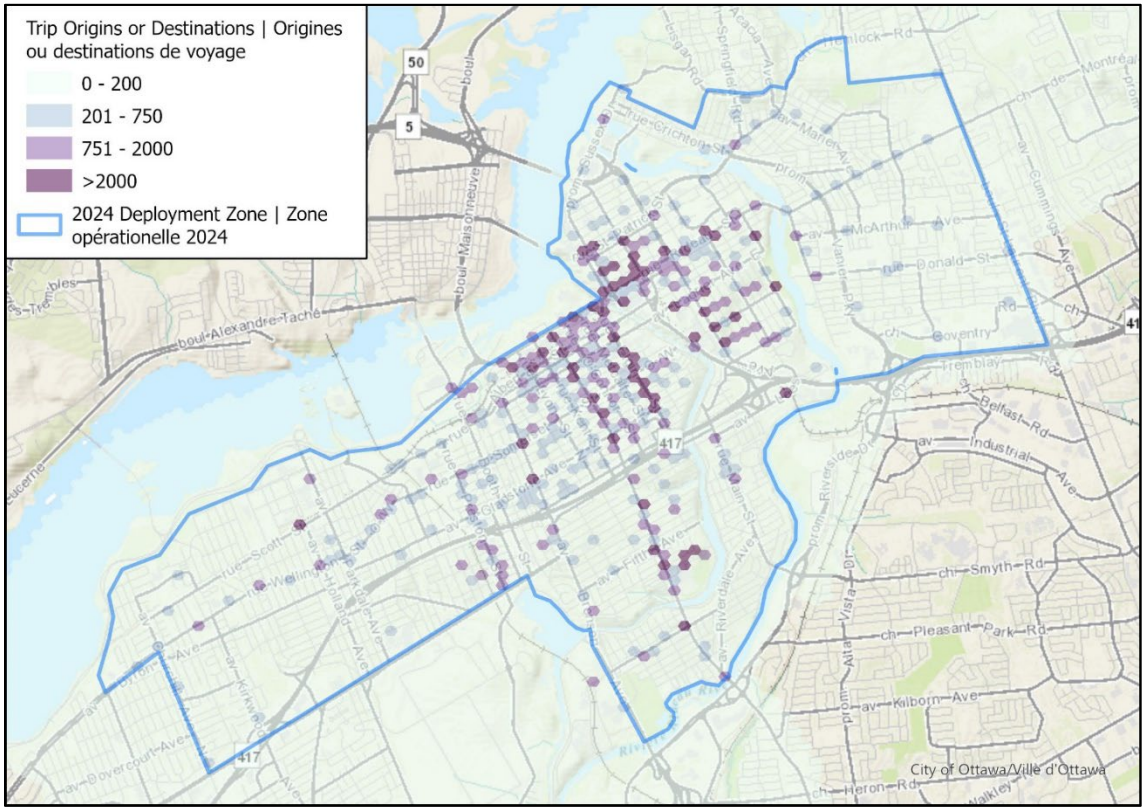

Figure 4: 2024 Origins and Destinations Heat Map

Trip Distance, Duration and Speed

- The total distance travelled in 2024 was approx. **493,000 km** compared to **368,000 km** in 2023 (increase of approx. **125,000 km** or **34%**). This resulted an estimated reduction in CO_2 emissions of between 11,500 to 16,000 kg-CO_2eq.
- The average trip duration in 2024 was **13.23 min**. and the average trip distance was **1.96 km**. The average trip duration dropped by about **11%** in 2024 compared to 2023 season during which average trip duration was **14.84** min.
- There were approx. **2,400** trips with a recorded distance of over 10 km. The maximum recorded trip distance was approx. **40 km**.

- Although the province allows the maximum speed of up to 24 km/h, the maximum allowable speed for the shared e-scooters in the City of Ottawa is set at 20 km per hour. The 95th percentile speed of e-scooter trips is **16.3** km/h hour, and the maximum recorded trip was **19.6 km/h**.
- These metrics will vary slightly depending on the treatment of outliers. Table 3 and Figure 5, Figure 6, and Figure 7 below do not include trips with speeds greater than the 99.9% speed percentile.

Table 3: 2024 Trip Duration, Distance and Speed

Value	Trip Duration (mins)	Trip Distance (km)	Trip Speed (km/h)
Average	13.23	1.96	9.93
25% Percentile	5.32	0.86	7.02
50% Percentile (Median)	8.87	1.45	10.32
75% Percentile	15.53	2.41	13.20
95% Percentile	38.55	5.32	16.30

** Excludes outlier trips with a trip speed greater than the 99.9% percentile.*

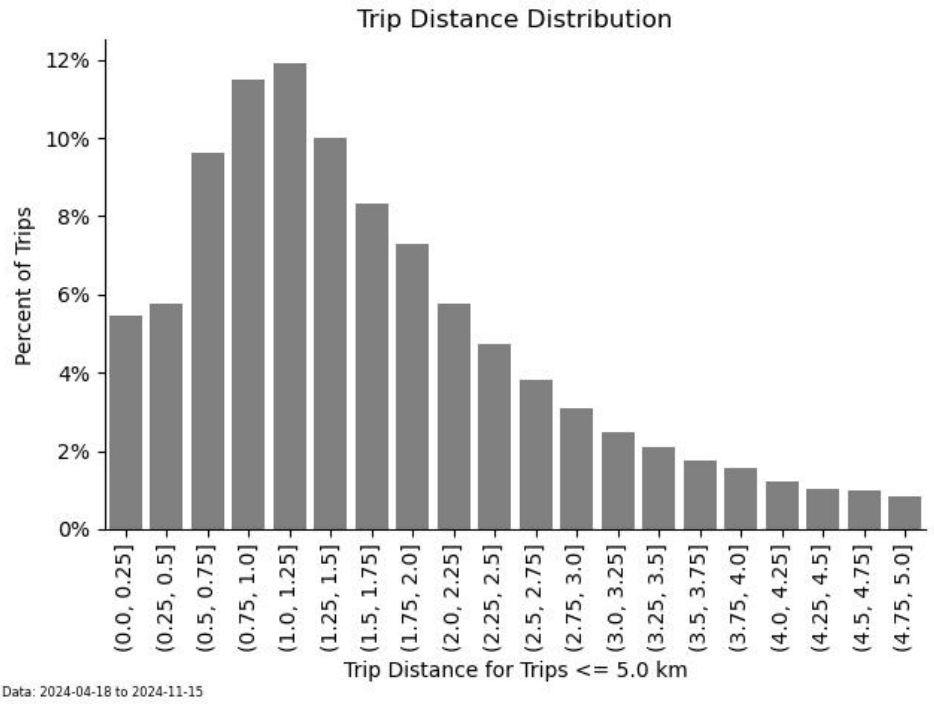

Figure 5: 2024 Trip Distance Distribution[2]

[2] Left parentheses indicate that the left bounds are open (i.e. they **do not** include the values). Right square brackets indicate that the right bounds are closed (i.e., they **do** include the values). See Closed Interval / Open Interval: Definition - Statistics How To.

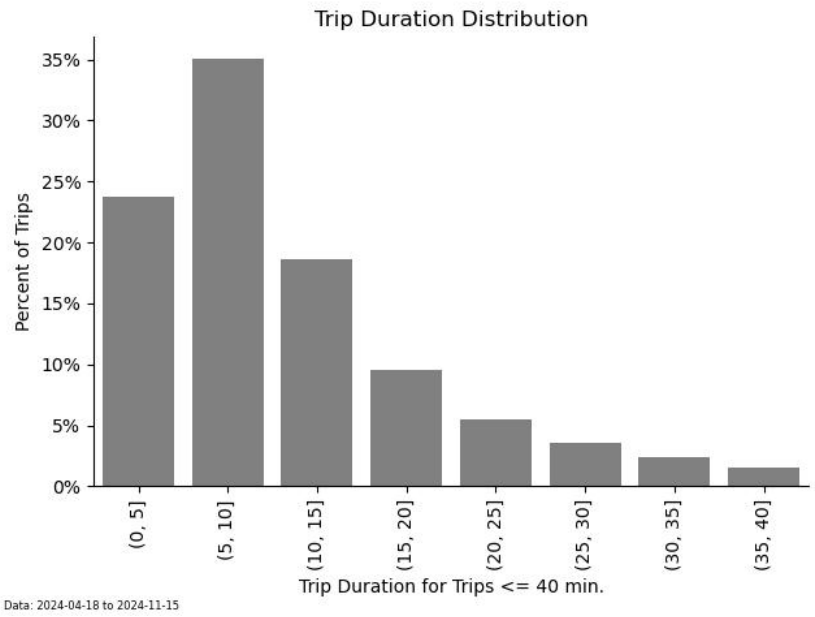

Figure 6: 2024 Trip Duration Distribution

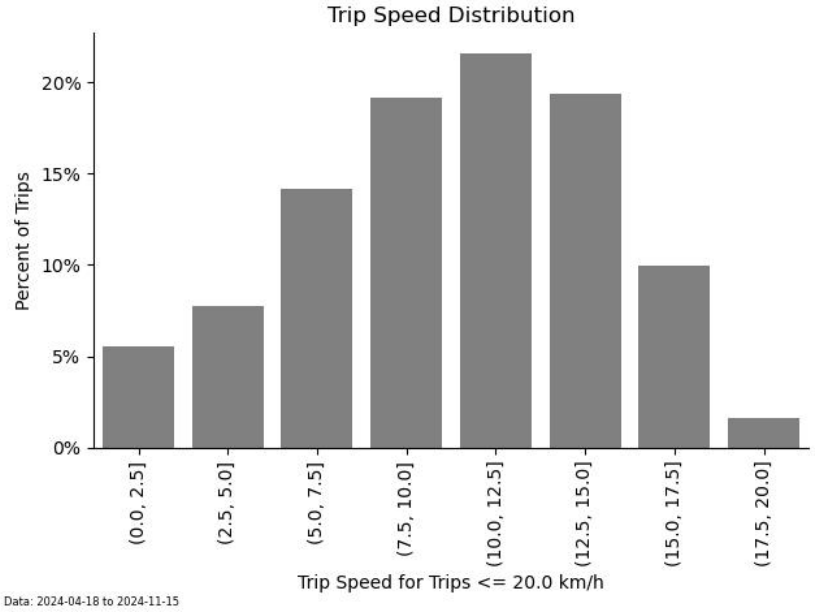

Figure 7: 2024 Trip Speed Distribution

Trip Purpose

- As part of the evaluation of the 2024 pilot, staff conducted an end of the season online survey which provided insight on the benefits and issues associated with e-scooters. The City's E-Scooter end of the season survey ran from October 8 to November 30, 2024.
- A total of **493** respondents completed the survey[3]. Respondents to the 2024 survey included both e-scooter users and non-users:
  - E-Scooter Non-Users: 1) **68%** of respondents did not ride an e-scooter in the 2024 season.
  - E-Scooter Users: 1) **32%** of respondents rode an e-scooter in the 2024 season; and 2) **31%** of respondents have ridden an e-scooter in previous seasons.
  - "New" E-scooter Users: **10%** of respondents did not ride an e-scooter in previous seasons but did ride one in 2024.
- The survey collected data on trip purpose as outlined in Table 4.

Table 4: Trip Purpose

What were the most common reasons for using a shared e-scooter?	2020	2021	2022	2023	2024	Change (2023 to 2024)
Get to/from work	18%	34%	27%	39%	53%	14%
Get to/from school	5%	12%	9%	4%	10%	6%
Run errands/appointments	36%	48%	33%	39%	41%	2%
Get to/from social activities	49%	63%	71%	70%	59%	-11%
Get to/from dining	33%	49%	46%	43%	35%	-8%
Get to/from shopping/local business	34%	47%	38%	33%	36%	3%
For fun/leisure	76%	57%	50%	40%	41%	1%
To try out the service	51%	34%	33%	26%	22%	-4%
Other	1%	3%	4%	5%	9%	4%

[3] For survey results, calculated percentages depend on the number of responses which vary from year to year and question to question. For further analysis of survey results see the "Public Engagement Feedback Report".

What were the most common reasons for using a shared e-scooter?	2020	2021	2022	2023	2024	Change (2023 to 2024)
Faster/more efficient than other modes of transportation	-	-	47%	48%	53%	5%
To reduce vehicular emissions/pollution	-	-	32%	21%	26%	5%
Sightseeing/tourism	-	-	32%	22%	22%	0%
To get to/from another mode of transportation	-	-	27%	25%	28%	3%

Time of Day Usage

- The busiest period for e-scooter usage occurs in the evening. Figure 8 shows the distribution of e-scooter trips throughout the day.
- Extended availability of e-scooters by one extra hour in the morning, and extra two extra hours at night comprised **11.84%** of total trips during the season. Specifically, **0.45%** in the morning for 5 am to 6 am and **11.39%** for the 11 pm to 1 am – showing a total of approx. **29,800** rides during these new extended time periods. According to the data given by the providers, during the extended period, there were 3 safety incidents reported, 1 of which required hospital visit.
- The distribution of trips between the 2023 and 2024 seasons are similar with most trips started during the 22:00 hour (approx. **19,900** trips in 2024). Of note, the 2024 season highlight an increased number of trips during the afternoon peak (**30%** growth in trips started during the 17:00 hour from 2023 to 2024).

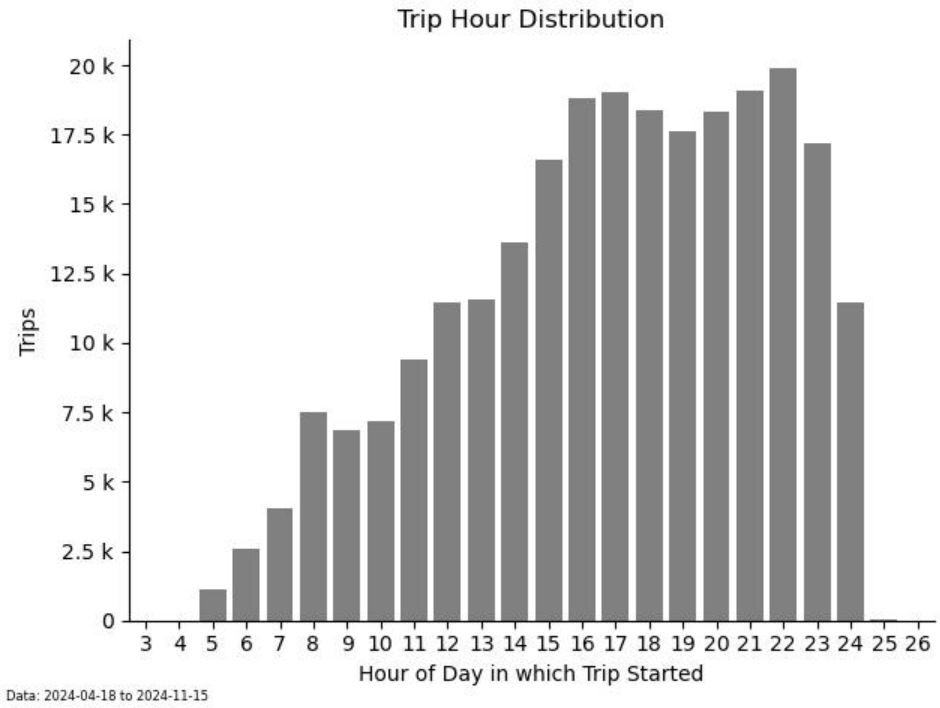

Figure 8: 2024 Trip Distribution by Time of Day[4]

[4] The x-axis of this plot starts at 03:00 (3 am) to represent the start of a service day that has an overnight break in service. Therefore, trip start times with hours after midnight are expressed in hours greater than or equal to 24, i.e., 24 is midnight, 25 is 01:00 on the next service day, etc.

Demand for E-Scooters

- The number of daily trips versus the average number of available e-scooters was analyzed to assess the average vehicle utilization. As shown in Figure 9, there was a minimal decrease in the average vehicle utilization in the 2024 season compared to the 2023 season, with the average utilization decreased to **1.32** trips per vehicle per day in 2024 compared to **1.35** in 2023**.**
- Based on discussion with the providers, the City should consider the target of 1-2 daily trips per vehicle. Based on their nationwide and historical data, any city averaging above 2 daily trips per vehicle per day likely has some unmet demand.
- Based on the results from the E-Scooter end of the season survey, **78%** of respondents found it easy to find an e-scooter when they wanted to use one, an increase from **68%** from the 2023 end-of-season survey. See Table 5 below.

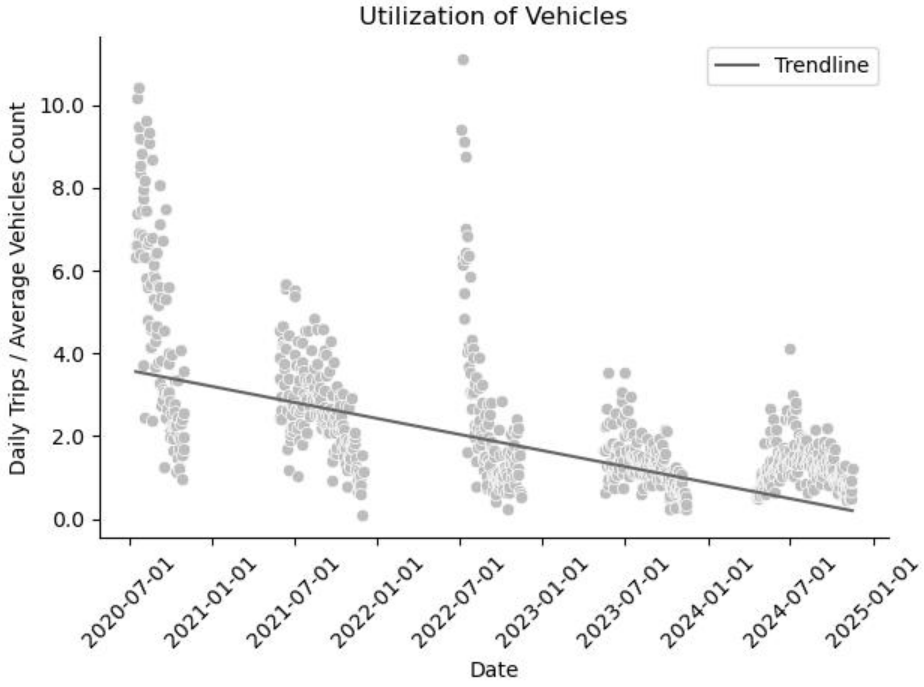

Figure 9: 2020 to 2024 E-scooter Vehicle Utilization

Table 5: Difficulty Finding an E-Scooter

How easy was it to find a shared e-scooter when you wanted to use one?	2020	2021	2022	2023	2024	Change (2023 to 2024)
Difficult	7%	4%	23%	13%	6%	-7%
Easy	85%	84%	58%	68%	78%	10%
Neutral	8%	11%	17%	17%	16%	-1%

- The Survey also asked about how many e-scooter trips each respondent completed. As shown in Table 6, most respondents who used an e-scooter in 2024 did so more than once.
  - The number of respondents reported having completed a single trip dropped from **15%** to **13%** from the 2023 survey to the 2024 survey.
  - The number of respondents who completed several trips (10+) increased from **35%** to **51%** from the 2023 survey to the 2024 survey.

Table 6: Number of Trips per Rider

How many e-scooter trips have you taken this season?	2020	2021	2022	2023	2024	Change (2023 to 2024)
One	13%	10%	27%	15%	13%	-2%
2-5	42%	29%	47%	34%	25%	-9%
6-10	22%	18%	14%	16%	11%	-5%
+10	23%	43%	12%	35%	51%	16%

Alignment with Mobility Objectives

- A detailed breakdown of the changes in travel behaviour reported by respondents is presented in Table 7 and Table 8.
- Overall, in the 2024 season, majority of riders responding to the survey noted a decrease in their use of personal vehicles, whether as a driver, passenger, or car sharing.
- In the 2024 season **69%** of respondents indicated an increase in the use of e-scooters (private + shared) in comparison to other modes of transportation.

Table 7: Changes in Travel Behaviour

How did the introduction or availability of shared e-scooters change the way you travel?	**2024**		
	Increased	**Decreased**	**No Change**
Passenger in a private vehicle	2%	40%	32%
Driving a vehicle	3%	47%	25%
Public transit	13%	26%	42%
Walking	16%	23%	52%
Cycling	3%	15%	55%
Shared e-scooters	62%	4%	16%
Private e-scooters	7%	3%	30%
Carpool/taxi/rideshare	2%	47%	28%

- Table 8 shows the difference of previous seasons survey responses to the question: “Why did you take a shared e-scooter instead of another mode of transportation?”
- In the 2023 survey, 46% of respondents indicated that they took an e-scooter to avoid the cost and hassle of parking a car. In the 2024 survey, this slightly decreased to **44%** of respondents.
- The response to ‘trying out e-scooters’ has decreased year over year throughout the e-scooter pilot project seasons.

Table 8: Factors Influencing E-Scooter Use

Why did you take a shared e-scooter instead of another mode of transportation?	2020	2021	2022	2023	2024	Difference (2023 to 2024)
Easier	50%	63%	48%	43%	47%	4%
Faster	54%	62%	59%	62%	63%	1%
More convenient	65%	73%	70%	73%	69%	-4%
More affordable	35%	49%	31%	30%	33%	3%
To reduce greenhouse gas emissions	27%	40%	31%	26%	33%	7%
More fun	76%	66%	72%	67%	60%	-7%
To try out e-scooters	57%	44%	42%	31%	30%	-1%
To be physically separate from others	21%	17%	10%	8%	9%	1%
To avoid the cost/hassle of parking a car	33%	39%	42%	46%	44%	-2%
Other	2%	4%	6%	8%	10%	2%

Facilitating Transit and Multimodal Trips

- Based on the number of individual e-scooter trips starting or ending close to transit stations within the e-scooter operating area, it is roughly estimated that approx. **10.6%** of all e-scooter trips were combined with transit trips in 2024. It has increased from approx. **9.1%** in 2023.
    - The **10.6%** estimate is based on trips starting or ending close to the transit stations. Transit related e-scooter trips could also be defined as trips ending within a larger distance buffer from the transit station but that may over represent the number of transit related e-scooter trips (approx. **19.6%** for 150m compared to **17.7%** in 2023) particularly for downtown stations where a large trip generator/attractor such as the Rideau Centre is located close-by. The true number of transit related e-scooter trips may be between **10.6%** and **19.6%.**
- Potential replacement of e-scooters by service providers might influence trip origin/destinations within the transit area.

- First/last mile trips to/from transit stations averaged between 1.5 and 3.52 km, with longer distance trips tending to occur at Westboro Station, outside the downtown core.
- Results from the survey provide additional insight on multimodal trips.
    - **73%** of survey respondents reported taking a shared e-scooter to connect to or from another form of transportation (walking) at least once.
    - **82%** of respondents who reported connecting to another mode indicated that they connected to transit (bus or train).
    - Most survey respondents (**82%**) indicated that having access to shared e-scooters did make them more likely to use the mode to which they connected.

Health and Mobility Considerations

- **16%** of survey respondents reported that they walked more with the introduction of shared e-scooter.
- E-scooters continue to provide greater mobility. Riders who would have walked without the e-scooters were able to travel farther to access additional shops and services, accomplish their daily tasks more efficiently and conveniently, reach destinations that may not be convenient by transit, include family members with limited mobility in their outings, and feel more comfortable with evening travel options.

Support for Local Businesses

- **44%** of trips started in a Business Improvement Area (slight decrease from 2023 at **45%).**
- **40%** of trips ended in a Business Improvement Area (slight decrease from 2023 at **42%**).
- Of the survey respondents who used e-scooters to travel to or from dining and local businesses, **16%** indicated they spent $20 or less on average (**14%** in 2023), **41%** spent $21-50 (**30%** in 2023), **20%** spent $51-100 (**33%** in 2023), and **23%** spent over $100 (**23%** in 2023).

Issues Management

Sidewalk Riding

- Sidewalk riding was monitored using automated sidewalk counts at various locations throughout the city.
- Counts were completed between 15:00 and 21:00 on Friday or Saturday every month during the e-scooter season using Miovision cameras.
- The monitoring of sidewalk riding was limited by the available budget and the locations that could be monitored was limited by vandalism in years past[5].
- Figure 10 provides an overview of the locations that were counted at least once over the course of the 2024 e-scooter season. Ten locations were monitored in 2024. These are the same locations that were monitored in 2023.

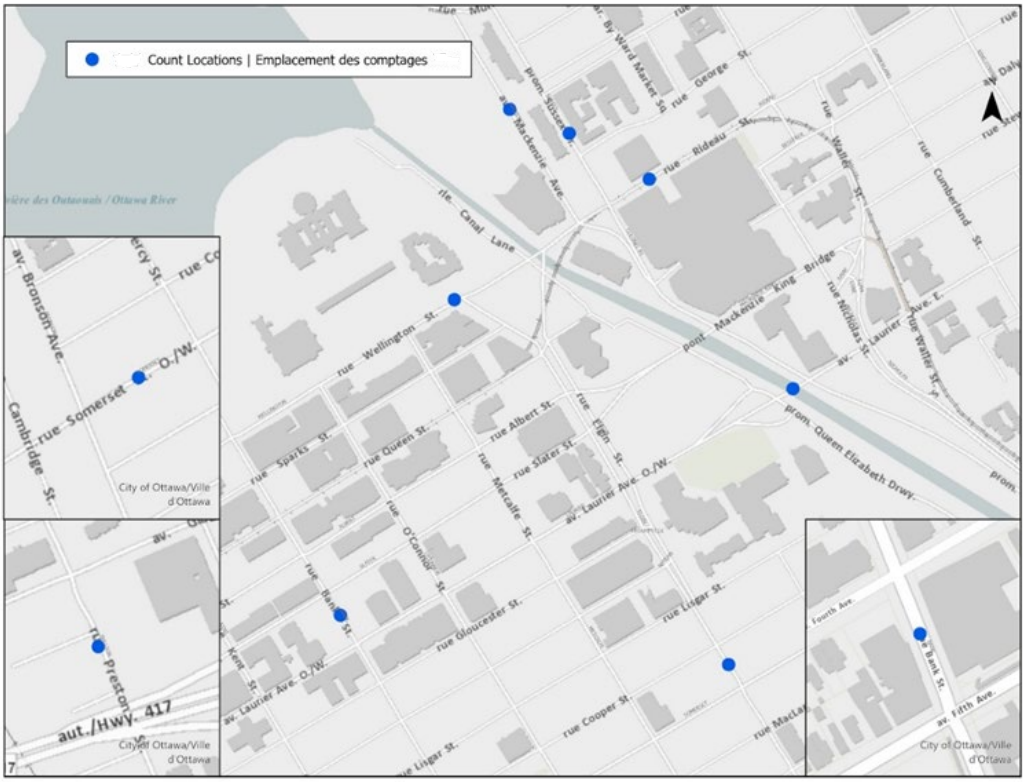

Figure 10: Miovision Count Sites

[5] During the 2021 season, interference with the count equipment occurred in locations near the Byward Market making it necessary to select alternative count sites to avoid damage to the equipment. In addition, over the course of the seasons, locations where a low number of e-scooters were counted were dropped from the regular count program to reduce costs.

- Table 9 and Figure 11 provides a summary of the number of e-scooters operating on the sidewalk as measured by the count equipment. Caution should be taken in interpreting this figure, as there is a lot of variability in the data which is affected by the specific count location and the time of year.
- The number of sidewalk-riding e-scooters per study averaged **4.25** in 2023. This decreased to **3.51** in 2024. Most studies noted few observations.

Table 9: Sidewalk Riding Counts Description

Year	Samples	Mean	Std Dev.	Min.	25% Perc.	50% Perc. (Median)	75% Perc.
2023	59	4.25	7.16	0	1.00	3.00	5.50
2024	**55**	**3.51**	**3.37**	**0**	**1.00**	**2.00**	**5.00**

- Since there were fewer e-scooter trips during the final months of the season, we would typically expect the amount of sidewalk riding to decline as well. To account for this effect, an attempt has been made to calibrate the number of sidewalk riding e-scooters as a function of the number of e-scooter trips each day. This scaling is not included within Table 9 above but is included within Figure 11 below.

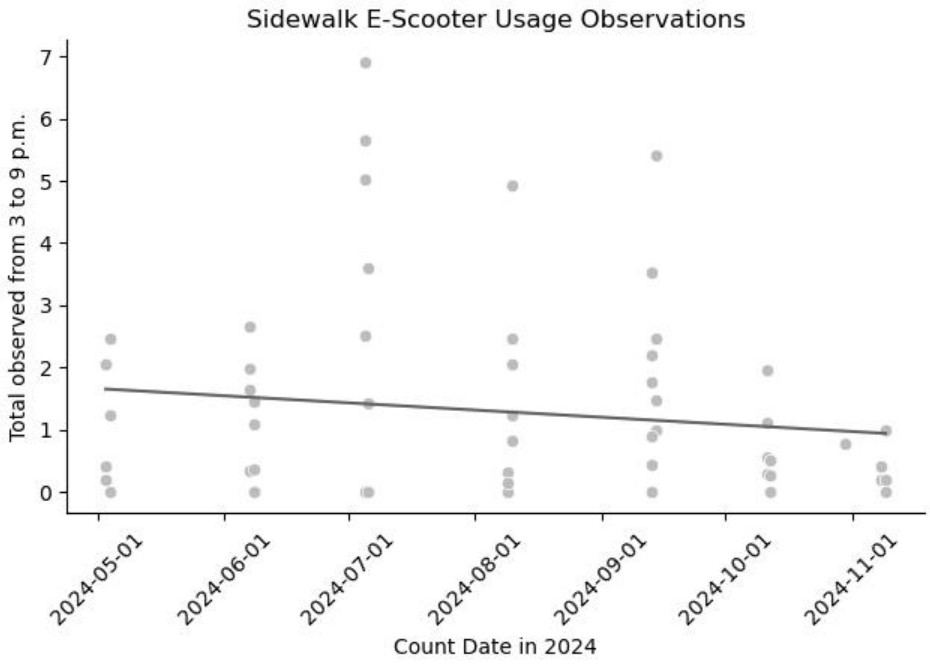

Figure 11: Sidewalk Riding Counts (Miovision)

- Counting technology does not distinguish between shared e-scooters from the service providers and privately-owned e-scooters, which may not support sidewalk detection technology.

- Counting technology may mis-identify as e-scooters other modes such as e-bikes, skateboards, other scooters, or pedestrians.
- City staff conducted verification counts during the automated sidewalk count studies in **9** of the **10** locations where the automated cameras were deployed to distinguish between shared and privately-owned e-scooters and to confirm the validity of the studies. Figure 12 showcases the difference between the study results and validation results.
    - The verification counts showcased following split of sidewalk riding: **56%** by shared e-scooters (Bird and Neuron) and **44%** by private e-scooters.
    - The automated sidewalk counts identified **29** instances of sidewalk riding during the **9** count studies that were validated.
        - The validation identified **6** instances of incorrect classification as part of the **29** instances of sidewalk riding. These include **2** e-bikes/bikes, **2** skateboards, **1** manual scooter, and **1** pedestrian.
        - The validation identified **3** instances of e-scooters not being identified as part of the automated count studies.
    - Out of **9** studies and locations that were validated, **8** were found to have sidewalk riding during the period where automated counts were completed. This explain the missing bar in Figure 12 where no sidewalk riding e-scooters were reported for October 12, 2024.

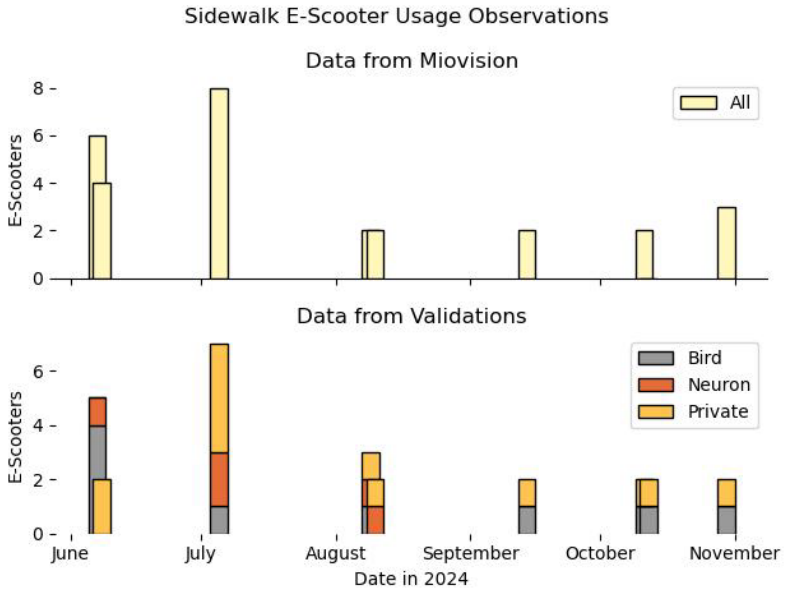

Figure 12: Sidewalk Riding Counts In-person Validations

- City staff conducted random tests of the sidewalk riding limitation technology across the city guided by mis-parks routes, 311 residents' inquiries about specific problematic areas, and by-law reports outlining major areas of concern.
    - Sidewalk riding limitation technology is supposed to first warn the rider that they are operating on the sidewalk, automatically slow down with an alert then stop the e-scooter if sidewalk riding continues.
- Figure 13 showcase the instances where an alert was sent to the staff when conducting sidewalk riding test. Alert indicators depend on the service provider, e-scooter model, and site conditions.
    - Neuron alert indicators: Voice alert coming from the e-scooter's speaker, a phone notification coming from the app, and a text or figure in the e-scooter's front panel screen that advises users to stop riding on the sidewalk.
    - Bird Canada alert indicators: A text or figure in the e-scooter's front panel screen that advises users to stop riding on the sidewalk. Different operating sound compared to correct on street riding.
    - **250** e-scooters were tested with the sidewalk alert technology functioning for **148** (**59%**) and not functioning for **102** (**41%**).

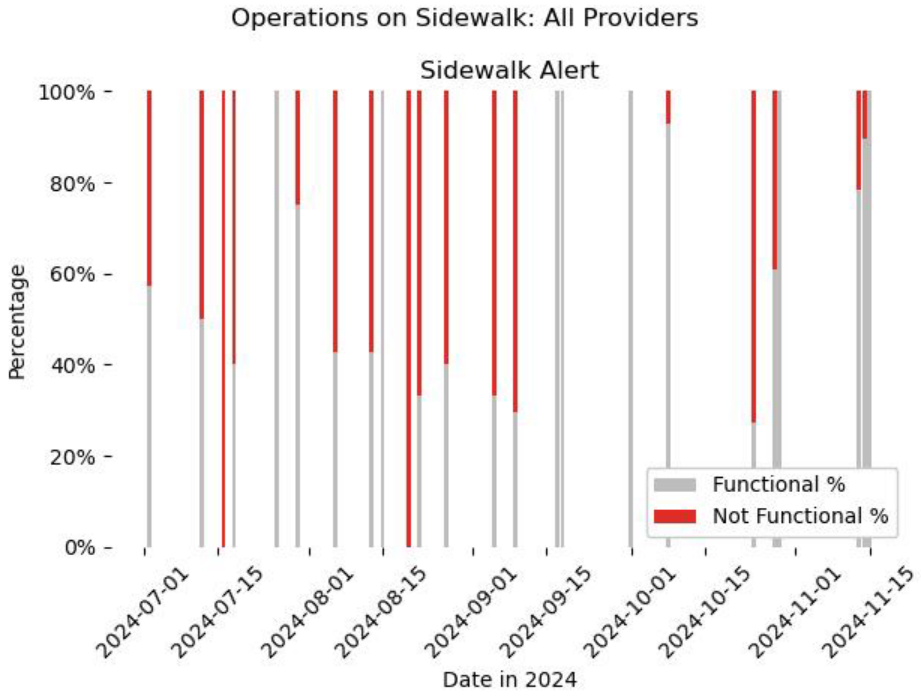

Figure 13: Sidewalk Alert Tests

- Figure 14 shows the instances where the tested e-scooters shut down their motor as they were ridden on the sidewalk. This was a verification of the geo-fencing accuracy along various sidewalks across the city.
    - Staff proactively checked these sidewalks and reported them to service providers to recalibrate the geofencing accordingly.
    - **300** e-scooters were tested with the sidewalk stopping technology functioning for **125** (**42%**) and not functioning for **175** (**58%**).
    - The dataset also shows the return visits that were done after the sidewalks were sent to the providers to calibrate geofencing concerns. This may explain the slight improvement seen in the final months of the season.

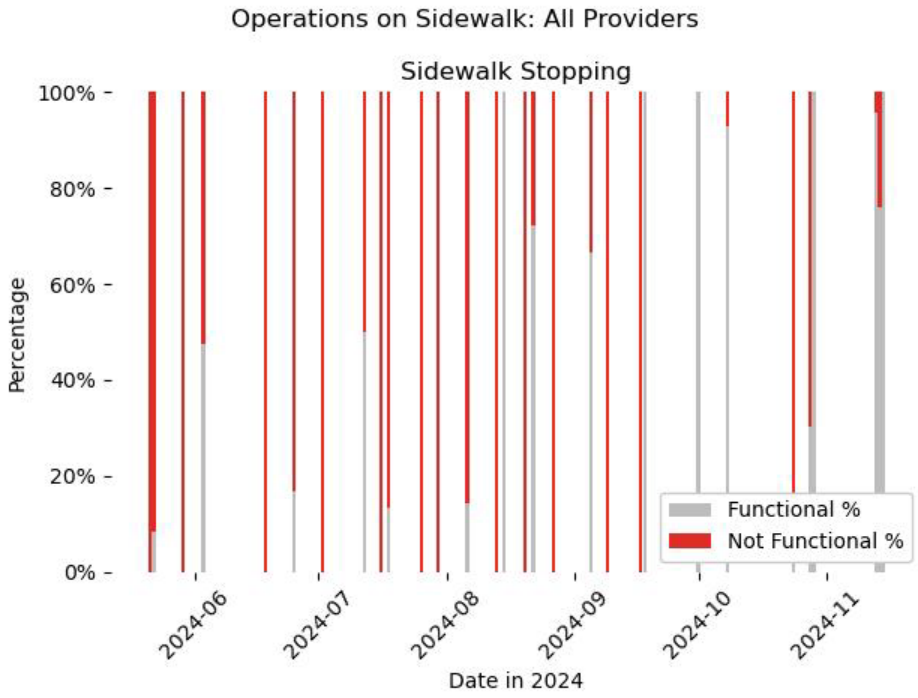

Figure 14: Sidewalk Stopping Tests

- The end-of-season survey included questions about e-scooter sidewalk riding.
    - **64%** of respondents indicated that they have encountered people riding e-scooters on the sidewalk. These respondents were asked a series of follow up questions:
    - Survey respondents indicated the following frequency of encountering sidewalk riding: rarely (**18%),** monthly (**13%**), weekly (**36%**), daily (**22%**), and multiple times a day (**11%**).

- Most respondents (**96%**) did not report it to the City of Ottawa, e-scooter service providers or the Ottawa Police Service.
- **27%** of the respondents indicated that it changed their walking route.

Mis-parked Shared E-scooters

- Mis-parked e-scooters were monitored during the 2024 pilot through on-site surveys. Staff surveyed retail and commercial corridors in the ByWard Market, Downtown, the Glebe, Chinatown, and Wellington West. Figure 15 shows the path taken each week to observe parking behaviours.

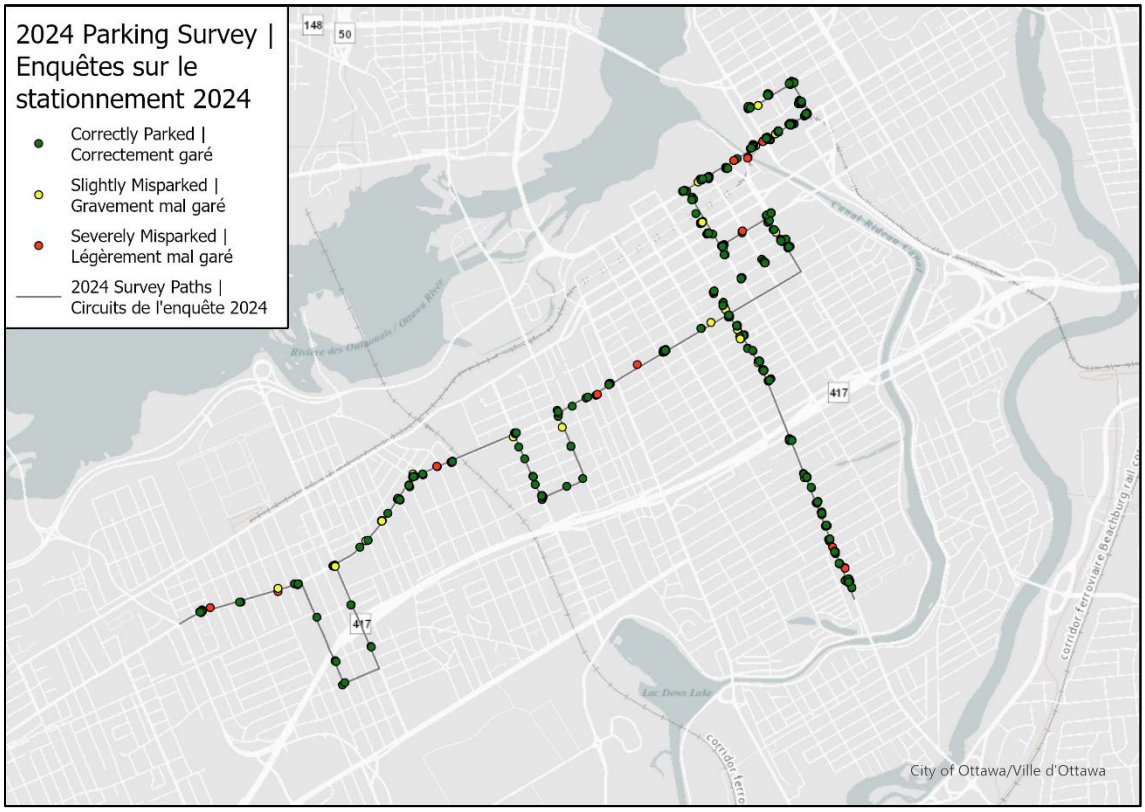

Figure 15: Weekday E-scooter Parking Observation Route (Monday to Friday)

- The scope of the monitoring was limited by budget and staff time. Resource limitations did not allow for monitoring of residential streets.
- The number of mis-parked e-scooters is generally proportional to the level of e-scooter activity. With fewer e-scooter trips occurring in the fall months, this affects the number of observed mis-parked e-scooters.

- Figure 16 provides an overview of the mis-parked scooters that were surveyed over the course of the 2024 season as a percentage of the total number of parked scooters.
    - 'Slightly mis-parked' refers to scooters that are parked incorrectly or outside of the designated parking spots but not blocking the area from pedestrian access.
    - 'Severely mis-parked' refers to scooters that are parked incorrectly or outside of the designated parking spots and blocking the area from pedestrian access, requiring movement of the e-scooter.
- Approx. **3,200** parked e-scooters were surveyed over the course of the season.
- For the 2024 season an average of **95.3%** of e-scooters surveyed were parked correctly, **3.4%** slightly mis-parked, and **1.3%** severely mis-parked.

Figure 16: 2024 Mis-parked E-Scooters Survey Results

- Staff also conducted tests/audits to identify whether the service provider's app would allow users to park on the sidewalk or on other non-permitted areas as shown in Figure 17.
- The locations for these tests were based on distribution of locations subject to 311 inquiries, the survey routes, and parking demand.

- The effectiveness of the parking zone limit is influenced by weather conditions, building height and density, as well as other external influences.
- **122** e-scooters parking attempts were completed with the parking technology functioning for **70** (**57%**) and not functioning for **52** (**43%**).
- This dataset is highly dependent on the parking area as some parking zones are smaller than others. This would affect the way the parking zones are shaped to accommodate users to park.

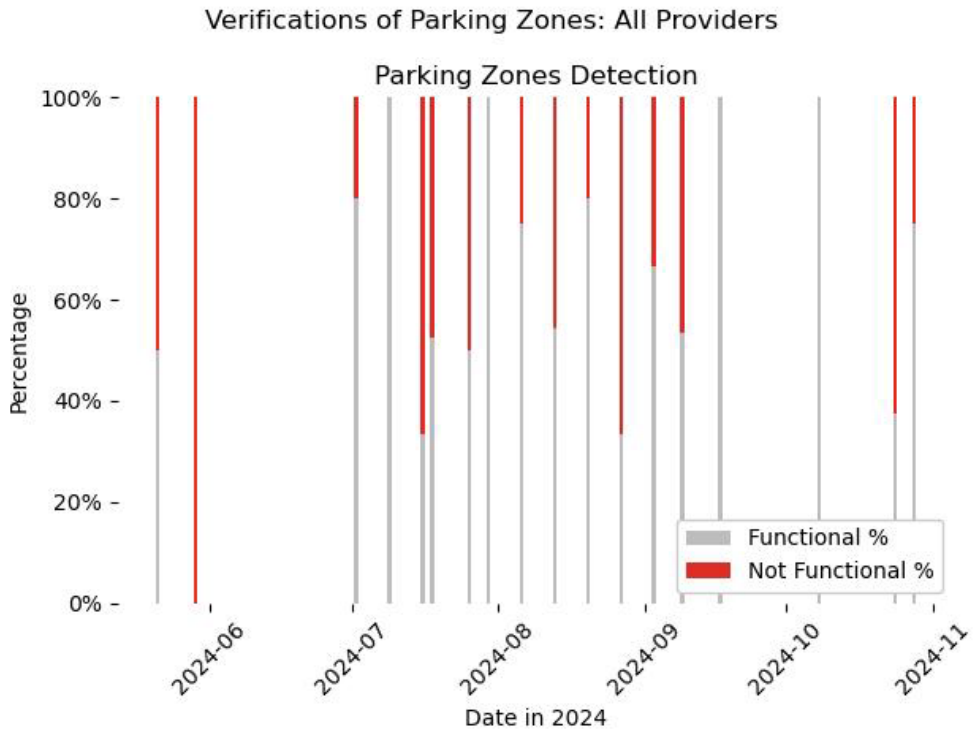

Figure 17: Parking Zone Tests

311 and By-law Service Requests

- Residents were encouraged to submit their complaints regarding e-scooters through the City's online e-scooter complaint e-form, in addition to the City's 311 phone service. All complaints regarding issues such as mis-parked scooters were directed to by-law officers who would then forward the complaints to the appropriate e-scooter providers.
    - During the 2024 season, there were **460** reported inquiries to 311.

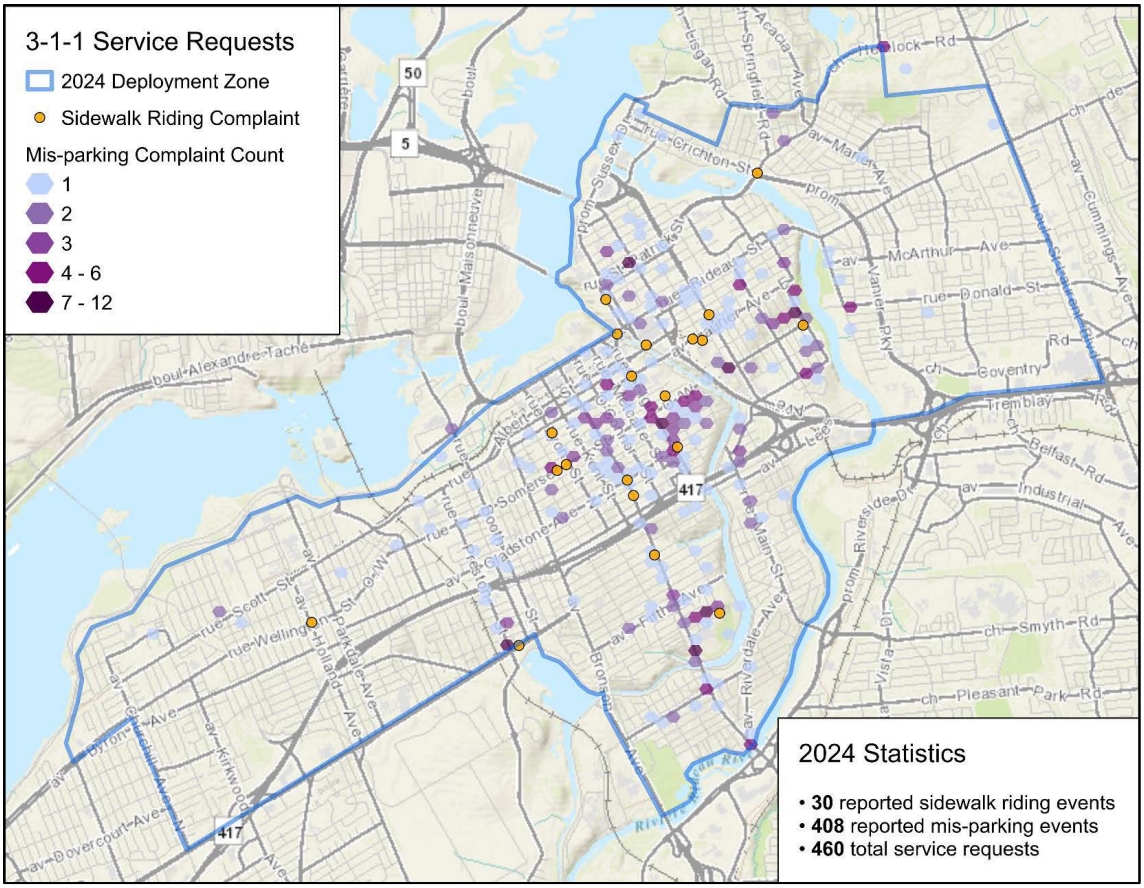

Figure 18: 311 Service Requests in 2024

- Figure 19 provides a breakdown of the number of complaints to 311 (by phone and/or e-form) classified under the different subjects[6] that were recorded after the start of the current season.
- Approximately **80%** of complaints were received by 311 through the self-serve e-forms (desktop web or mobile web site), while **20%** of complaints were direct calls or visits by 311 agents.

[6] There is a possibility that some service requests were mis-classified as an e-scooter. For example, bicycle or e-bike related.

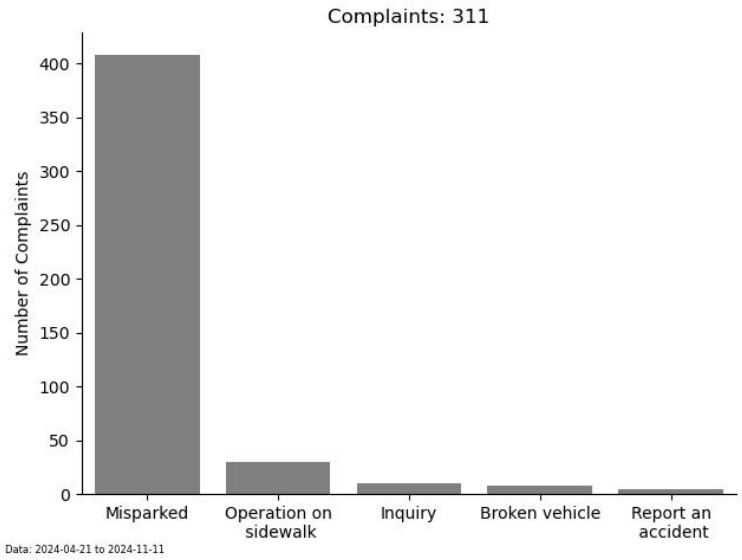

Figure 19: 2024 311 Complaints by Subject

- Table 10 provides the breakdown of service requests received from 311 each month. Most complaints were regarding mis-parked scooters. Approximately **62%** of the service requests received by 311 originated from By-law staff.

Table 10: 311 Monthly Service Requests Received by 311

Month	Broken Vehicle	General Inquiry	Mis-parked	Sidewalk Riding	Report an Accident	Total
April	1		6	3		10
May	2	2	28	3		35
June		4	65	5	1	75
July	2	3	155	5	1	166
August	3	1	122	6	1	133
September			15	5		20
October			10	3	1	14
November			7			7
Total	8	10	408	30	4	460

- The total number of complaints received through 311 increased by approximately **38%** to **460** complaints for the 2024 season compared to the 2023 season (333 complaints). However, the 2024 season was **29** days longer and had an additional **3** operating hours per day when compared with the 2023 season.

- The proportion of 311 received complaints labelled as mis-parking complaints of all complaints increased by **8%** from **81%** in 2023 to **89%** in 2024.
- The proportion of 311 received complaints labelled as sidewalk-riding complaints dropped by **1%** from **8%** in 2023 to **7%** in 2024.

Table 11 provides the summary of data recorded by Bylaw each month. These include service requests received by 311, and others generated by internal Bylaw staff actions[7]. Therefore, the totals are greater in Table 11 than Table 10 (total of **482** from Bylaw vs **460** from 311).

- Of Bylaw recorded data, **90%** were labelled as a mis-parking issue and **6%** were labelled as a sidewalk riding issue (other issues accounting for the remainder).

Table 11: Monthly Data Recorded by Bylaw

Month	All Service Providers			Bird	Neuron	Unknown
	All Issues	Mis-Parked	Sidewalk Riding	All Issues		
April	11	6	4	5	4	2
May	40	36	1	20	18	2
June	81	73	4	26	48	7
July	166	157	4	49	113	4
August	142	131	5	61	64	17
September	19	12	6	1	9	9
October	12	7	5	3	6	3
November	7	7	0	3	1	3
Total	478	429	29	168	263	47

- Residents were encouraged to direct all comments directly through City communication lines. Nonetheless, some complaints were directed directly to the service providers.

[7] This does not include proactive staff observations from outside Bylaw.

- Figure 20 illustrates the number of weekly complaints to 311 and each service provider.

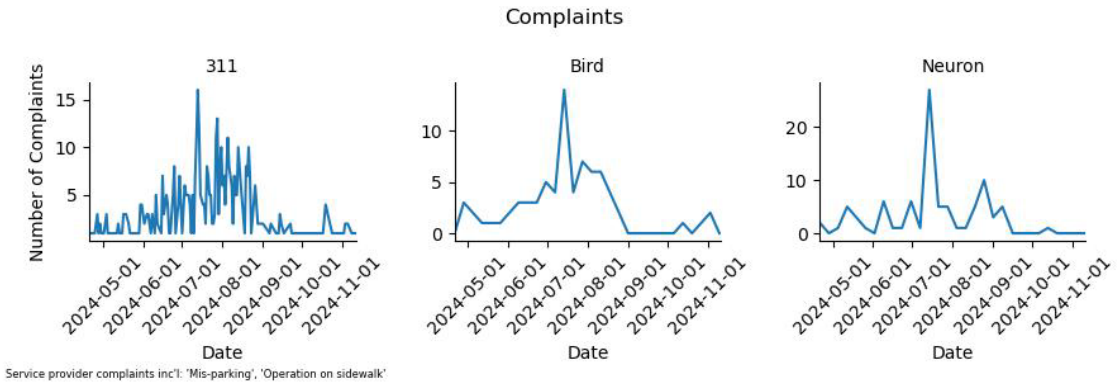

Figure 20: 2024 311 and Service Providers Complaints

- Figure 21 illustrates the location of several city designated physical parking areas at the end of the season and the geospatial density e-scooter parking events for the season.
- The busiest parking areas were in the ByWard Market and along commercial streets in the Centretown region such as Elgin, Bank, and Wellington.
- Planning for new seasons allow the designation of additional areas, and the relocation of underutilized areas. The same **22** physical parking areas were maintained in 2024.

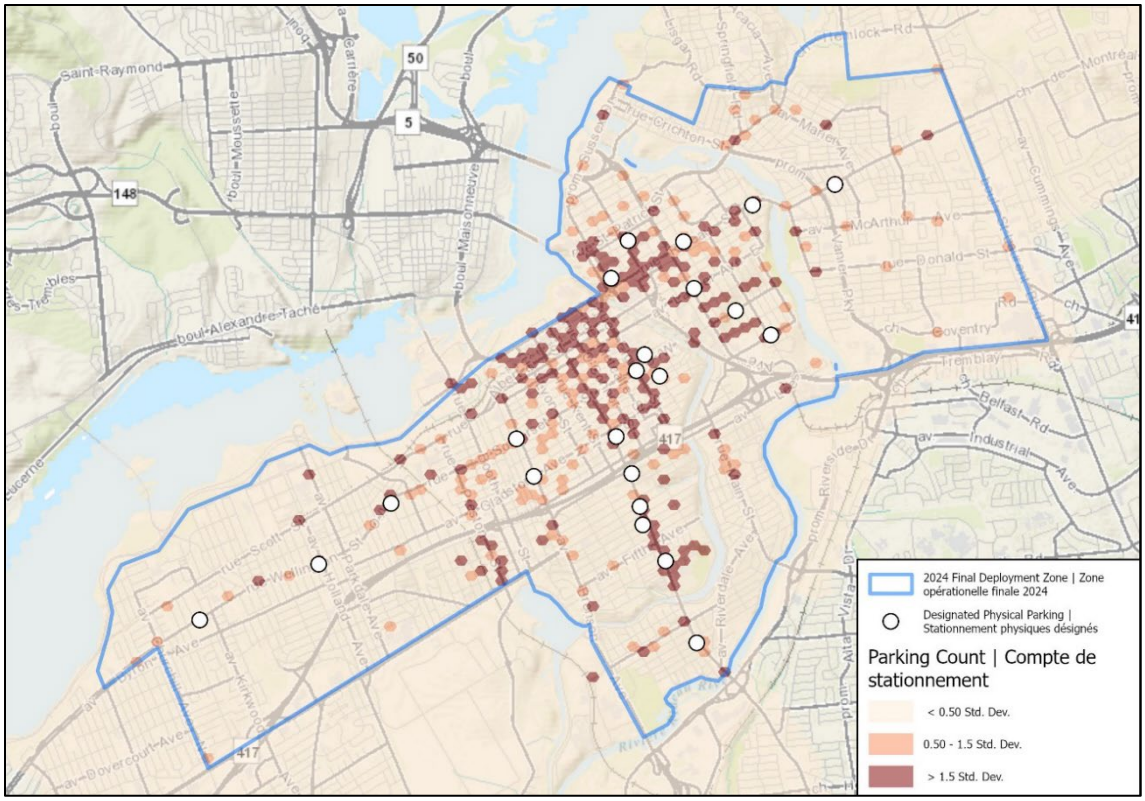

Figure 21: Total Parking Events and City Designated Physical Parking

- The end-of-season survey also included questions about e-scooter parking.
    - **61%** of respondents indicated that they had encountered a mis-parked e-scooter. This is an increase compared to the rate from the 2023 survey (**56%**). These respondents indicated that they encountered mis-parked e-scooters at the following frequency: rarely (**21%**), monthly (**14%**), weekly (**32%**), daily (**21%**), and multiple times a day (**12%**).
- For the 2024 season, a cohesive set of City designated virtual parking areas[8] was provided to both services providers. Figure 22 illustrates the location of these 594 virtual only parking areas[9] and the geospatial density e-scooter parking events for the season.

[8] A virtual parking area is defined only as a polygon within the service provider's application and **does not include** any physical on-street signage.

[9] In addition, the 22 physical parking area are also shown virtually in the service provider applications and there are a few service-provider specific parking areas within the deployment zone. Changes due to construction, etc. during the season may have impacted total number of virtual parking areas throughout the season.

- A high concentration of trips ended in the parking spots in the ByWard Market and along commercial streets in the Centretown region such as Elgin, Bank, and Wellington.

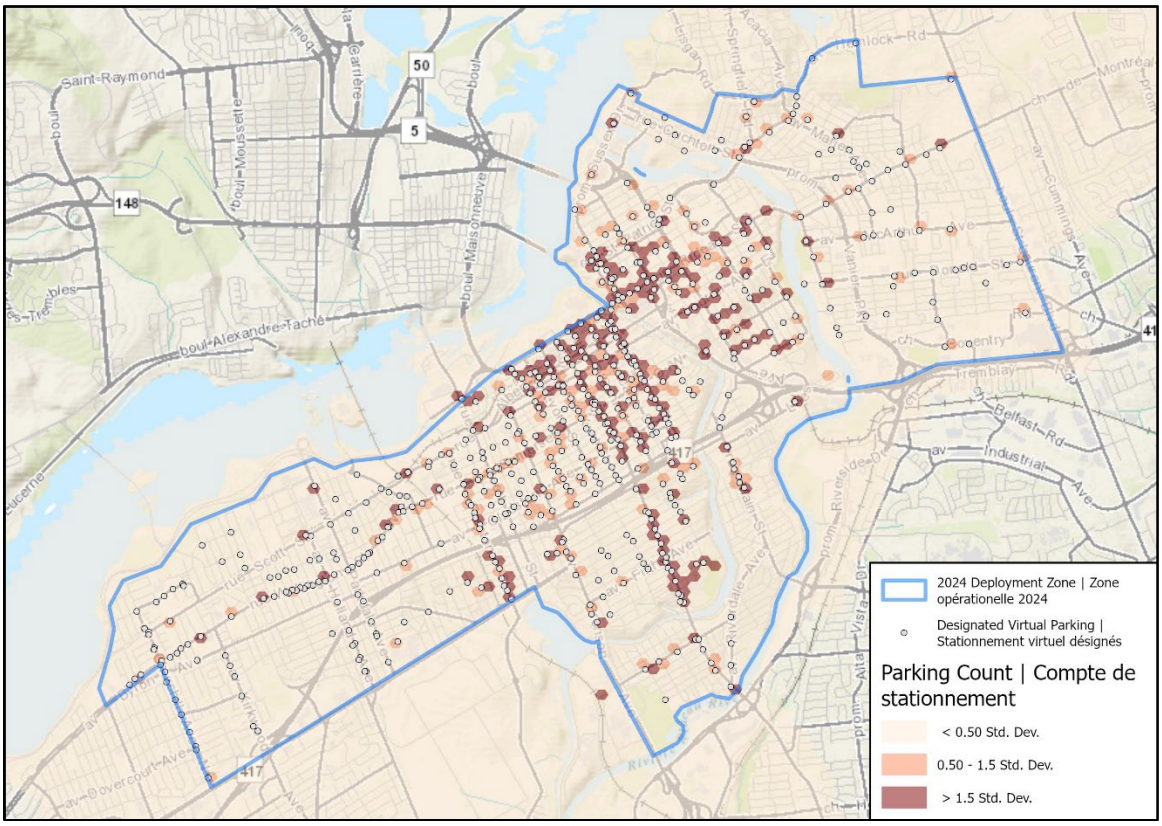

Figure 22: Total Parking Events and City Designated Virtual Parking

Effective Injury Prevention

- The E-Scooter Service Providers provided the number of injuries reported to them during the 2024 season: Bird Canada (7**: minor injuries and did not require hospital visit**), and Neuron (45**: 31 unverified, 14 verified of which 8 required medical attention).**
- The end-of-season survey included questions about e-scooter collisions:
  - 10 out of 379 (3%) respondents indicated they were involved in a collision with an e-scooter.
  - 4 of the 10 respondents indicated they were injured and required medical attention.
  - 1 out of 10 respondents indicated that an additional person was injured but did not require medical attention.

- As of April 1st, 2021, e-scooter related injuries were to be coded in hospital data systems using the International Statistical Classification of Diseases and Related Health Problem (ICD) code of *W02.08* "fall involving other specified sports equipment"[10]. This code includes all falls from a scooter, including electric, motorized, and non-motorized vehicles used for sports, leisure, or locomotion.
    - More detailed coding was added in the 2022 ICD coding for W02.08 to discriminate between electric e-scooters (W02.080), other motorized conveyances like hoverboards and Segways (W02.087) and non-motorized scooters (W02.088).
    - Emergency Department visits with the W02.08 code totalled **16** for April to June 2024 and **54** if partial data to September 2024 is included, the most recent month with available data. The number of visits was 34 from April to June in 2023 season.
- Table 12 below provides the number of collisions identified in the City's collision records that involved e-scooters.
    - The total number of accidents is separated based on the classification of the accident.
    - This data does not distinguish between shared e-scooters from the service providers and privately-owned e-scooters. Certain accidents with privately-owned e-scooters could have occurred before the start of the seasons.

Table 12: City Collision Data Involving E-Scooters

Category	Number of Collisions				
	2020	2021	2022	2023	2024
Property Damage Only	1	3	0	1	5
Non-Fatal Injury	3	3	3	8	7
Total	4	6	3	9	12

[10] Canadian Institute for Health Information. Updated ICD-10-CA coding direction: Homelessness, and falls from an electric scooter (e-scooter), mobility scooter, Segway® or hoverboard. Available from: https://www.cihi.ca/en/bulletin/updated-icd-10-ca-coding-direction-homelessness-and-falls-from-an-electric-scooter

By-Law, Ottawa Police Services, and Service Provider Support

- For the season, all e-scooter incidents reported to 311 via the e-form or call were transferred to a designated team at By-Law and Regulatory Services who would forward issues to the appropriate e-scooter service provider.
- By-Law reported 3 impounded e-scooters each with $75 impound fees and issued 5 extra citations charging $825 over mis-parked scooters resulting total $1025 worth of provider fines during the 2024 season.
- Service providers were required to respond to mis-parked scooters within 15 minutes. The following were the stated response time from the service providers:
  - Bird Canada: majority of response time was under 30 minutes.
  - Neuron: daily average response time was 34 minutes.
- Ottawa Police Services reported the following number of tickets and warnings under the City's e-scooter bylaw (Ottawa Bylaw 2020-174) for each season. A summary is provided in Table 13.

Table 13: Number of Tickets and Warnings Given by Ottawa Police Services

Year	2020	2021	2022	2023	2024	Difference (2024 to 2023)
Ticket	9	14	0	3	3	0
Warning	5	10	0	0	7	+7
Total	14	24	0	3	10	+7

- Fines and/or suspensions reported by the service providers in the end of year report:
  - In 2024 Bird Canada issued **0** fines, **5** suspensions (account bans) and **168** warnings/educational emails. Neuron issued **0** fines, **7** suspensions (account bans) and **94** warnings/educational emails. In 2023, between both providers there were 0 fines, **4** suspensions and **23** warnings/educational emails.
  - In 2024 for Bird Canada, there were a total **24** incidents of thefts or vandalism recorded. For Neuron, there were a total **25** Incidents. Total combined incidents on record for 2024 are **49** compared to **93** total incidents of thefts or vandalism in 2023 — a much lower number despite a longer season duration and larger overall fleet size.