

Understanding Parking User Needs in Dundas, Ontario

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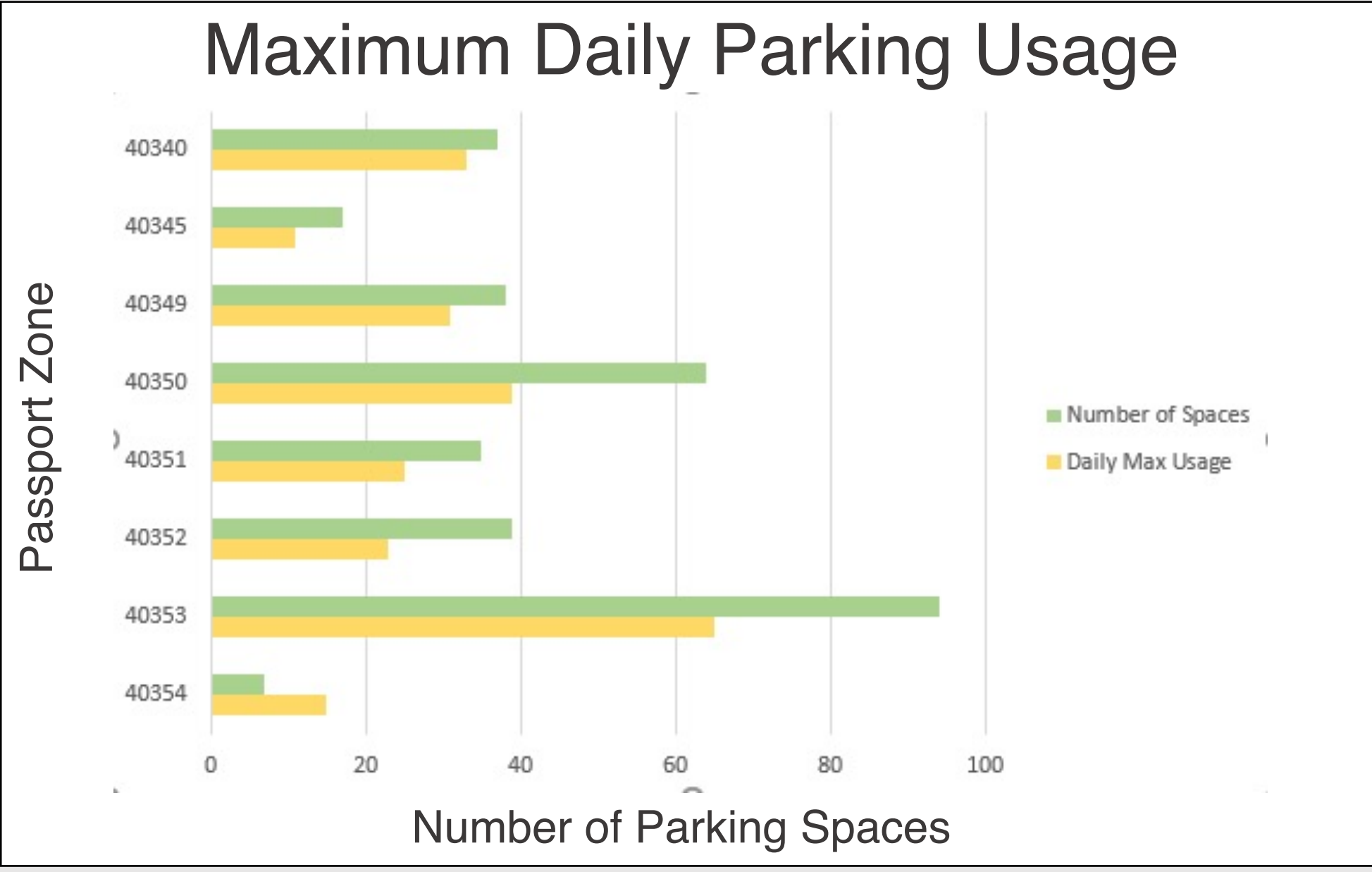
BACKGROUND

New live parking data is now available through the use of the Passport Parking app. This presents an opportunity to analyze parking behaviour with the objective of improving customer experience. While only making up a small number of the parking lots in the data, Dundas accounts for 25% of all the parking records for Hamilton. The model created from this subset can be utilized to gain insight about parking behaviour in the greater Hamilton area. The figure to the left shows the lots of interest for this study.



IS PARKING SUFFICIENT IN DUNDAS?

SPACE AVAILABILITY



Among all the lots in Dundas, daily maximum capacity never exceeded 90%, indicating that a spot is available for anyone who is looking to park.

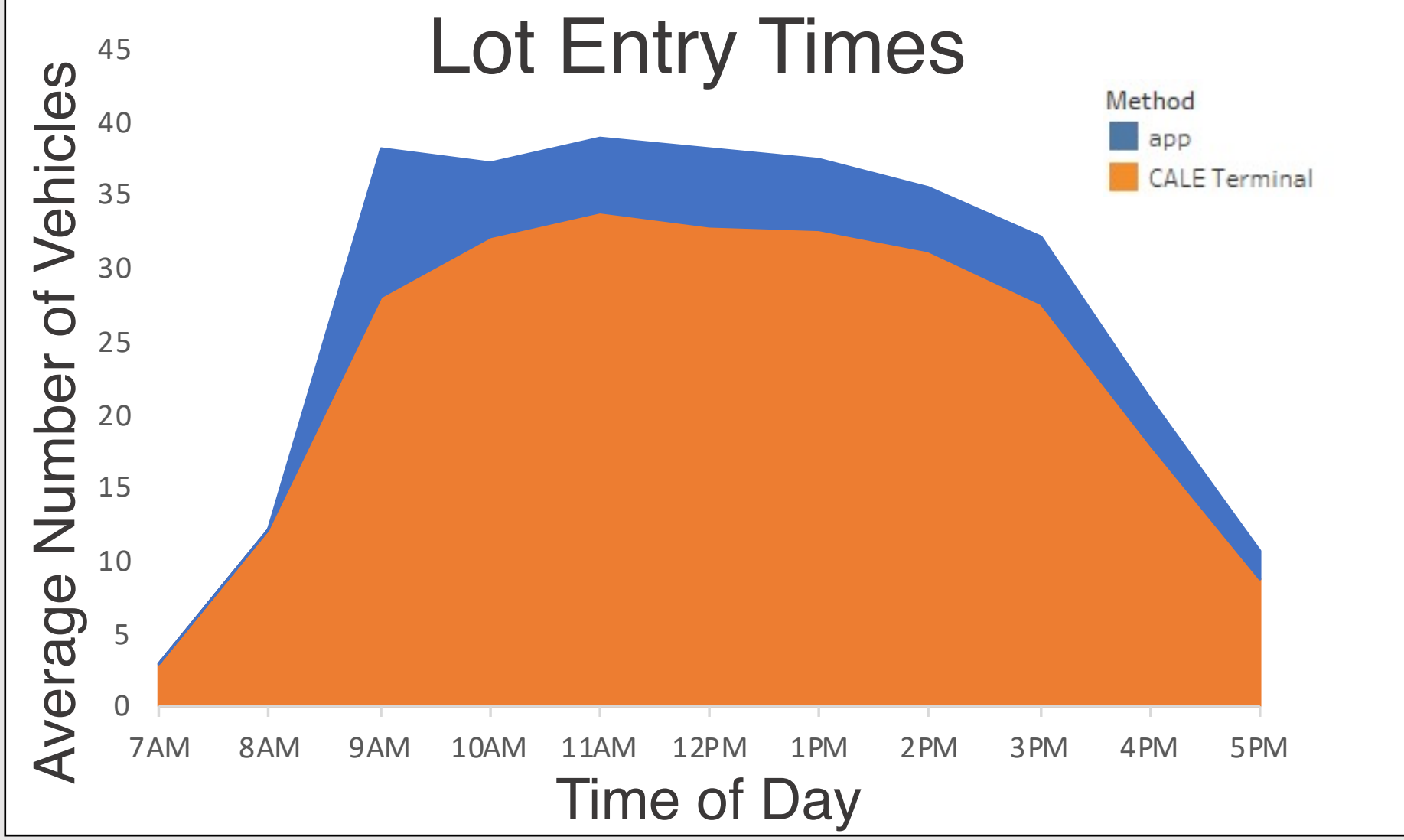
PARKING DURATION

Average App Duration
2Hrs 30Min

Average CALE Terminal Duration
1Hr 50Min

The average amount of time parked by Passport Parking app is higher on average than CALE Terminal users. On average, app users spend an additional 40 mins parks than users of the CALE Terminals.

PEAK ENTRY TIMES

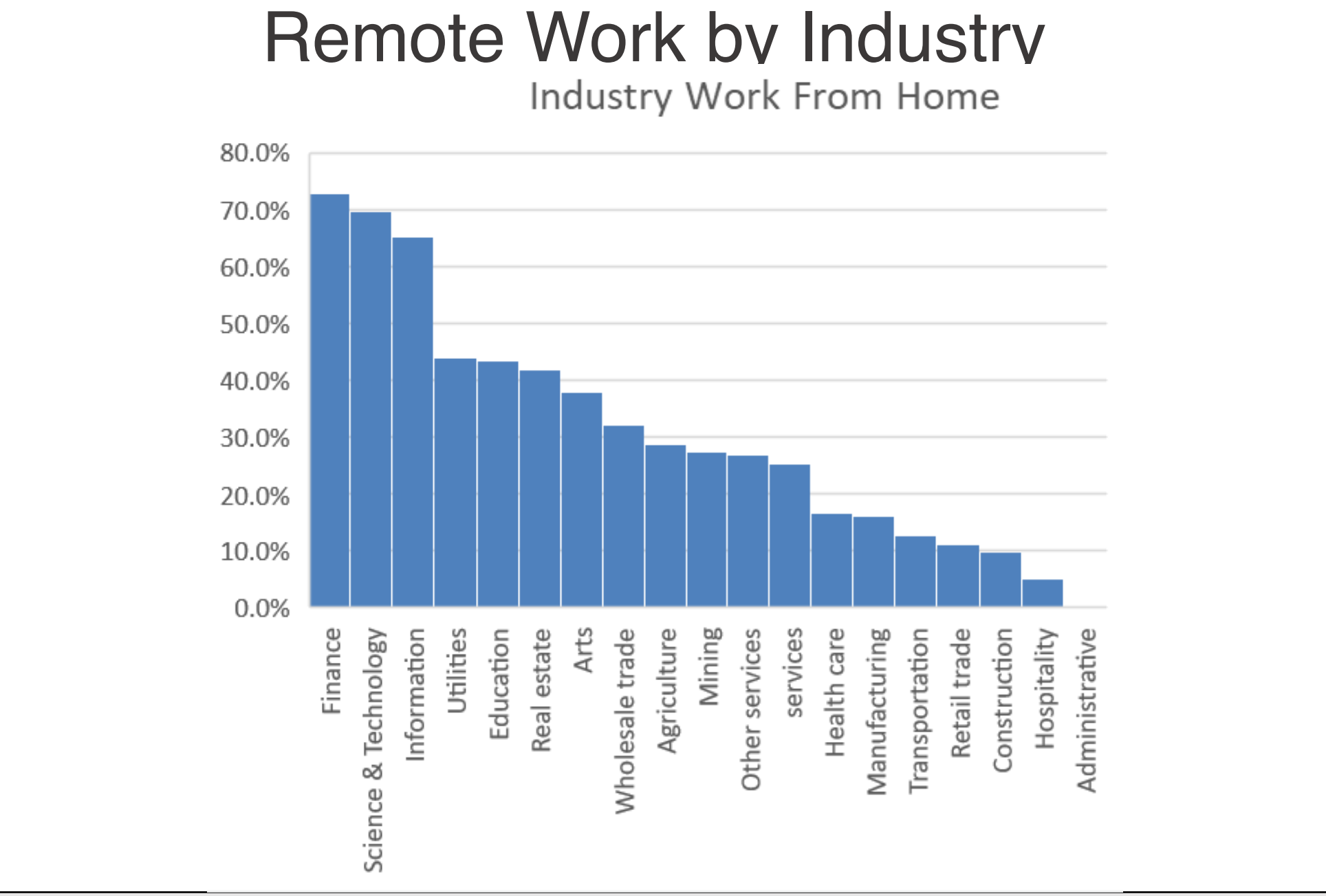


Most users enter the lots between 9-11am. As users park for around 2 hours on average, peak lot usage times are between 11am and 1pm. This turnover will help alleviate congestion during peak times.

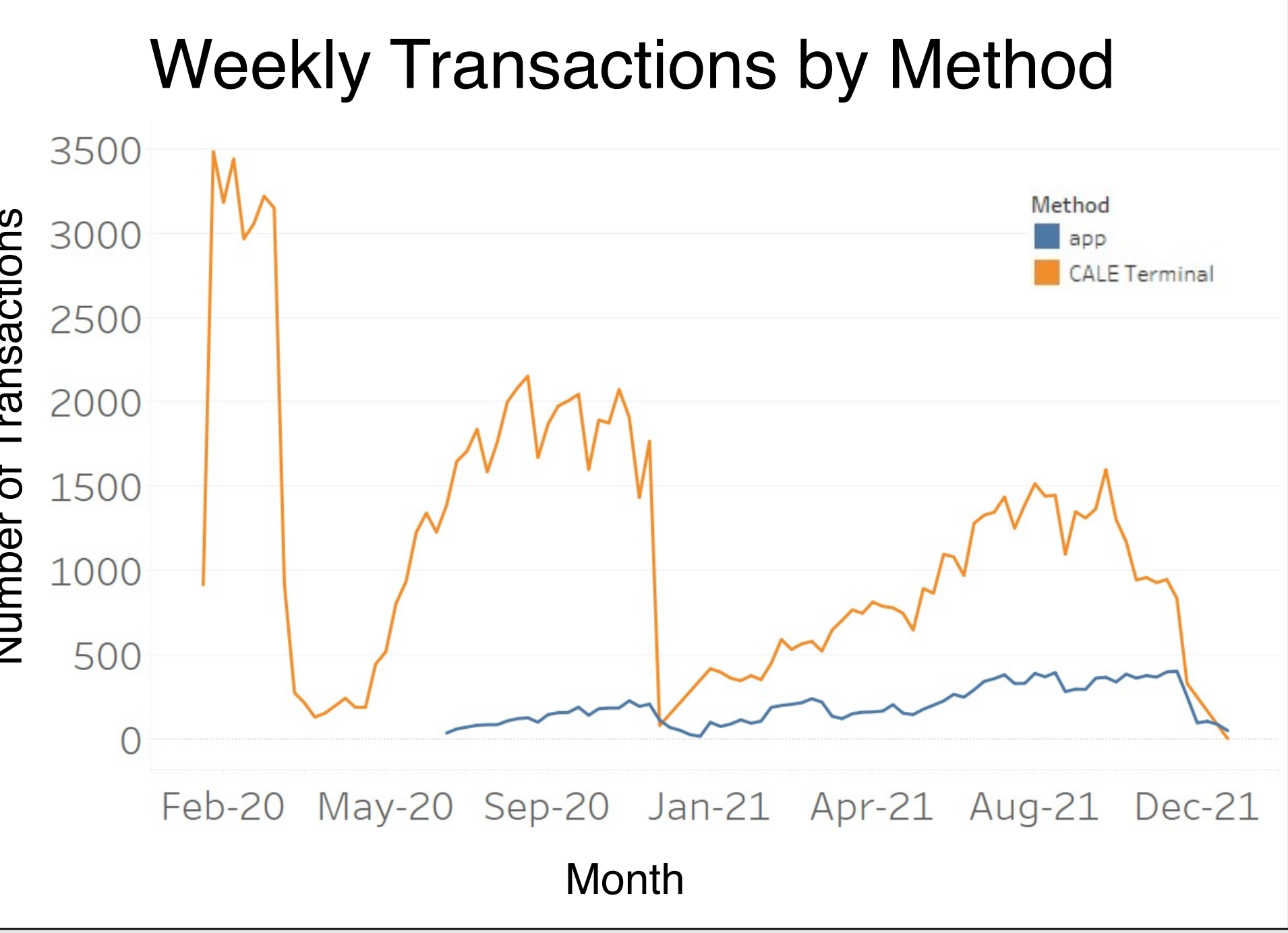
PROJECT GOALS

1. Determine if current parking is sufficient
2. See if users' needs are satisfied
3. Make recommendations for improvement

IMPACT OF COVID-19



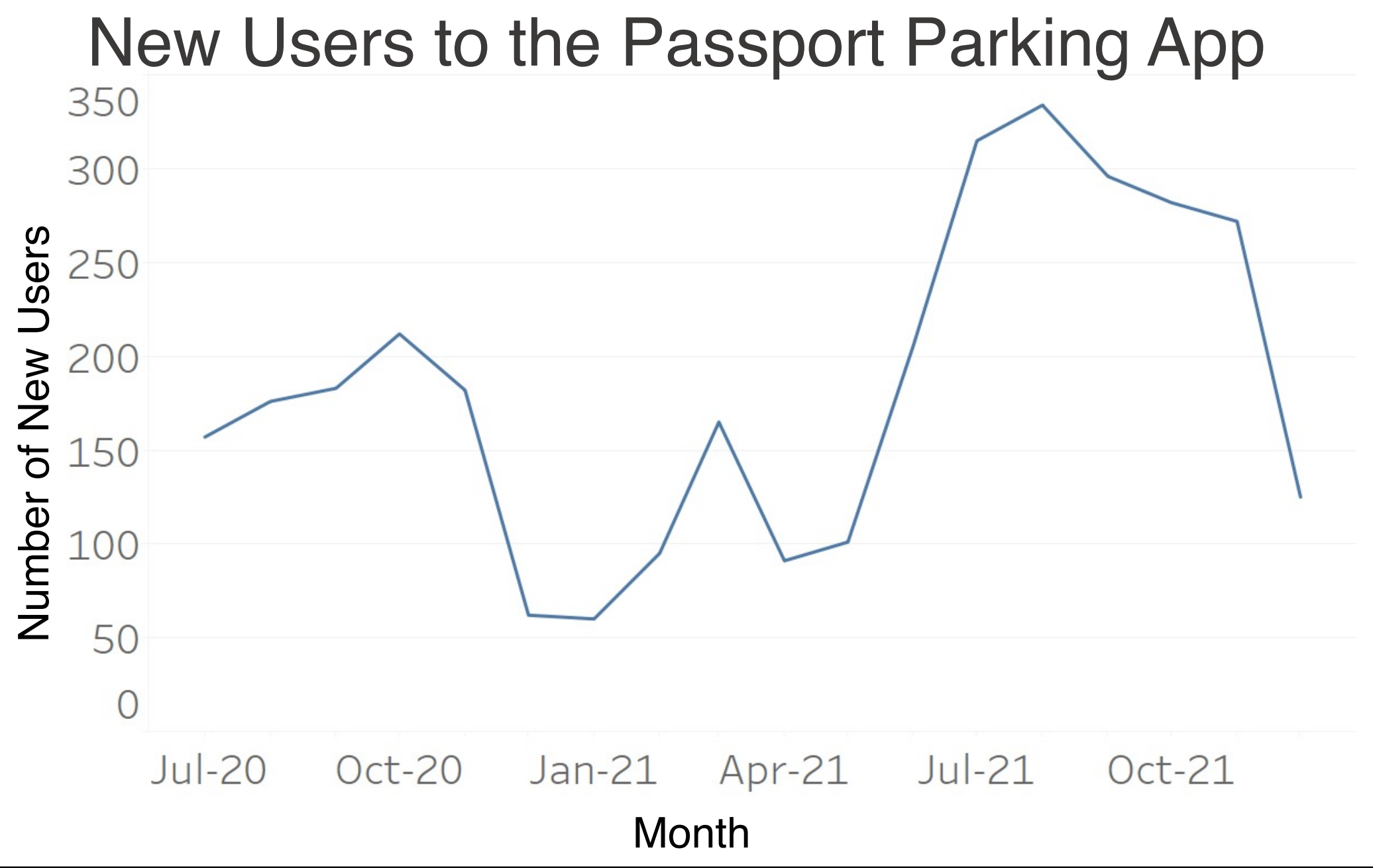
Due to the COVID-19 pandemic, more people are working remotely than ever before, with 50% from the Finance, Science & Technology, Information, Utilities, and Education industries. This will impact parking behaviours as these individuals will not have to park while at work. As the data for this study consisted of transactions from 2020 to 2021, the observed behaviours could be influenced by the pandemic and could change as life returns to a pre-pandemic state.



During the pandemic, the amount of parking has been decreasing in Dundas. While the maximum number of daily transactions reached 3,483 at the beginning of 2020, they dropped to 1,965 in 2021. There is a major drop in early 2020 because the city temporarily suspended parking enforcement, and dips in December of both years are due to free Christmas Parking. However, the number of vehicles using the app for parking has been slowly increasing since its launch in July 2020.

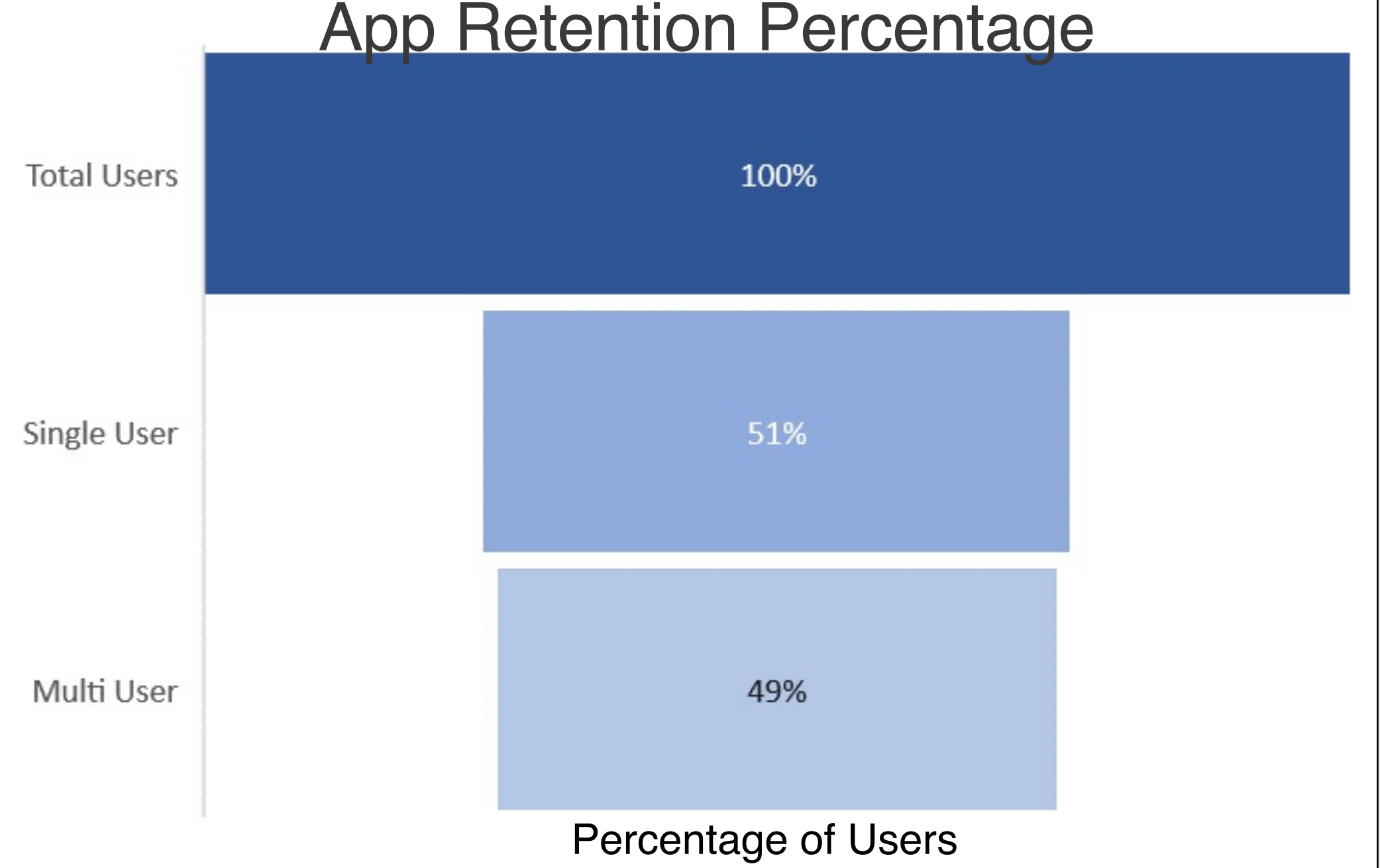
APP UTILIZATION

NEW USERS



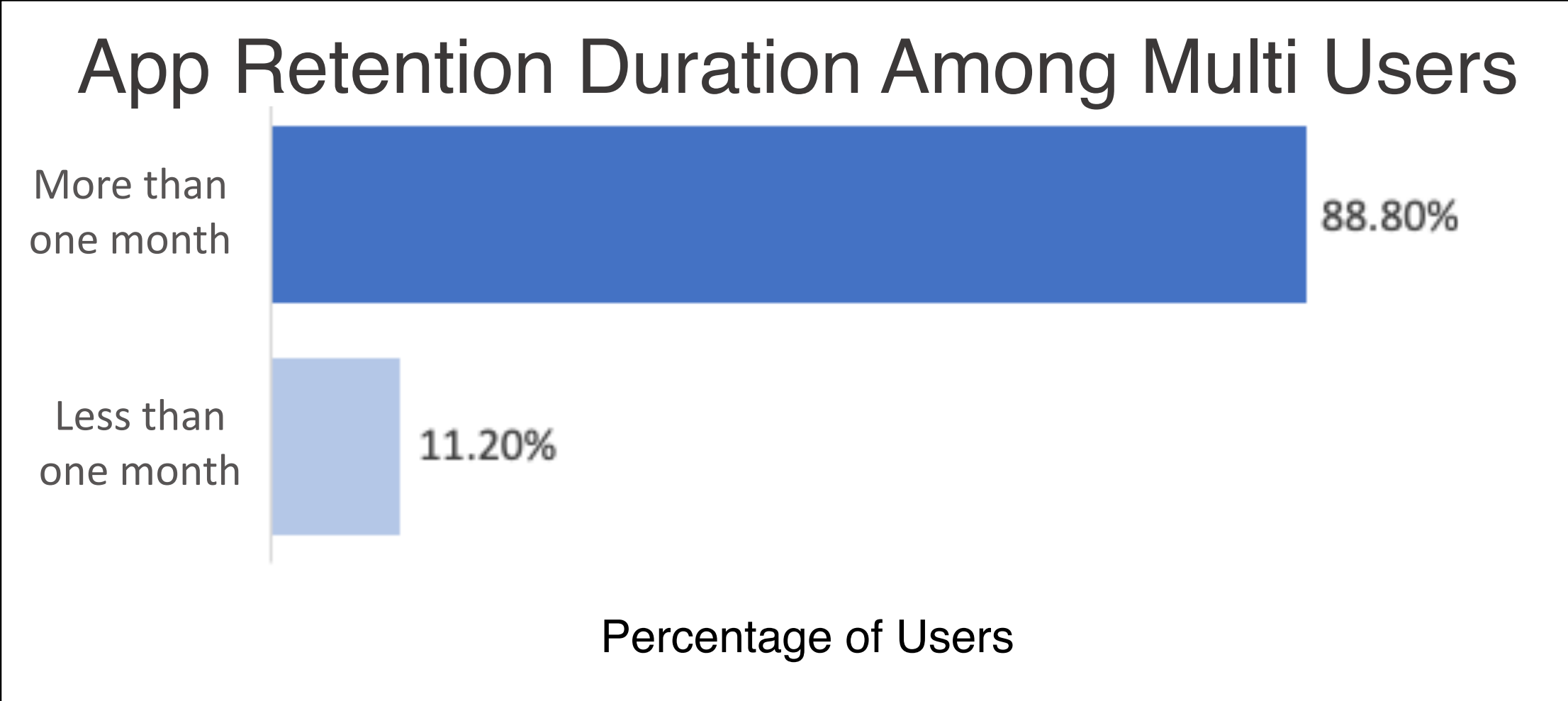
Despite the COVID-19 pandemic and a downward trend in overall parking transactions, the Passport Parking app has continued to gain new users, with the number of new users increasing in 2021. In fact, the app saw a growth in new users of 67% between the same time period of 2020 and 2021.

USER RETENTION

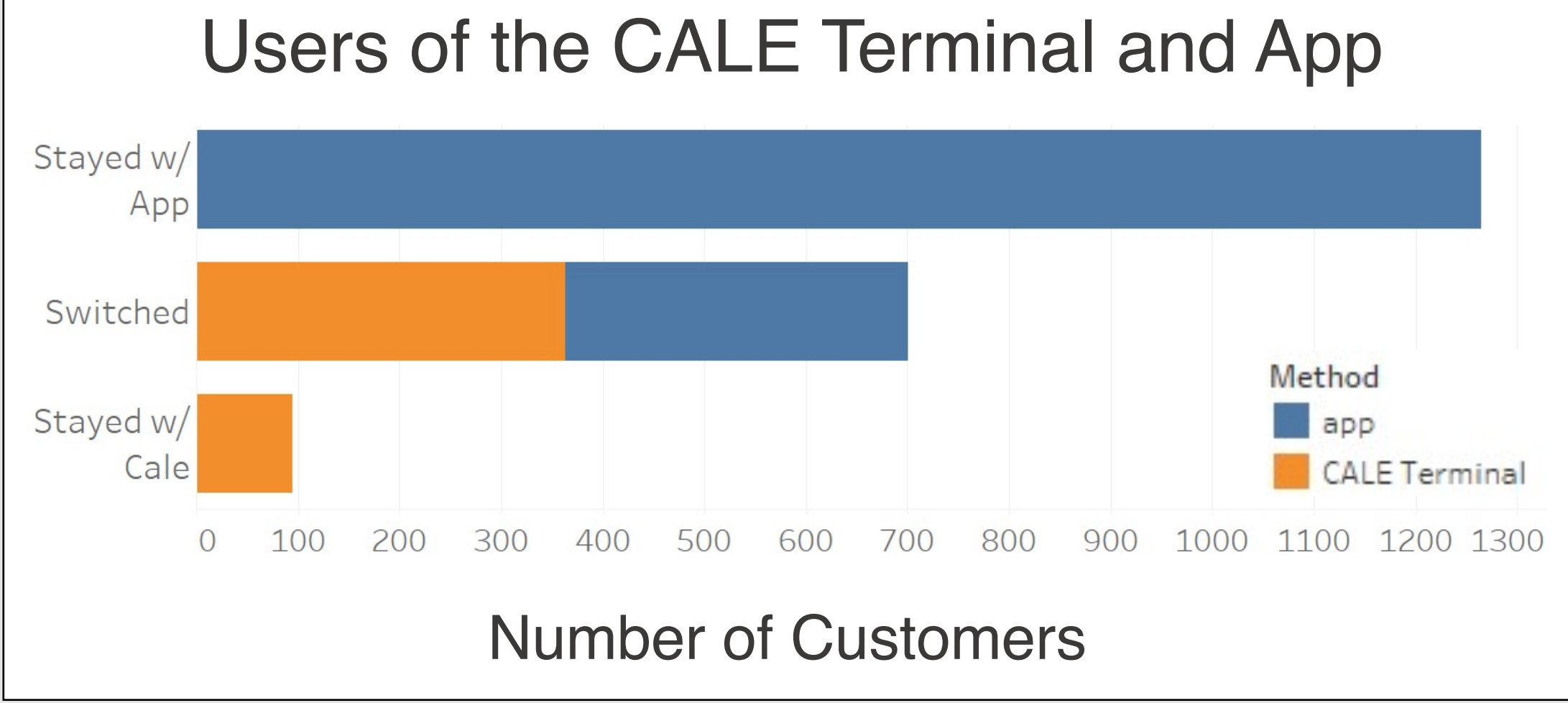


The majority (88.80%) of users who have used the Passport Parking app more than once continue to use the app for more than one month. On average, those who have used the app multiple times continue to use the app for 3.76 months.

Customers who have used both the CALE Terminal and the Passport Parking app are approximately 50% likely to continue to use the app more than once.

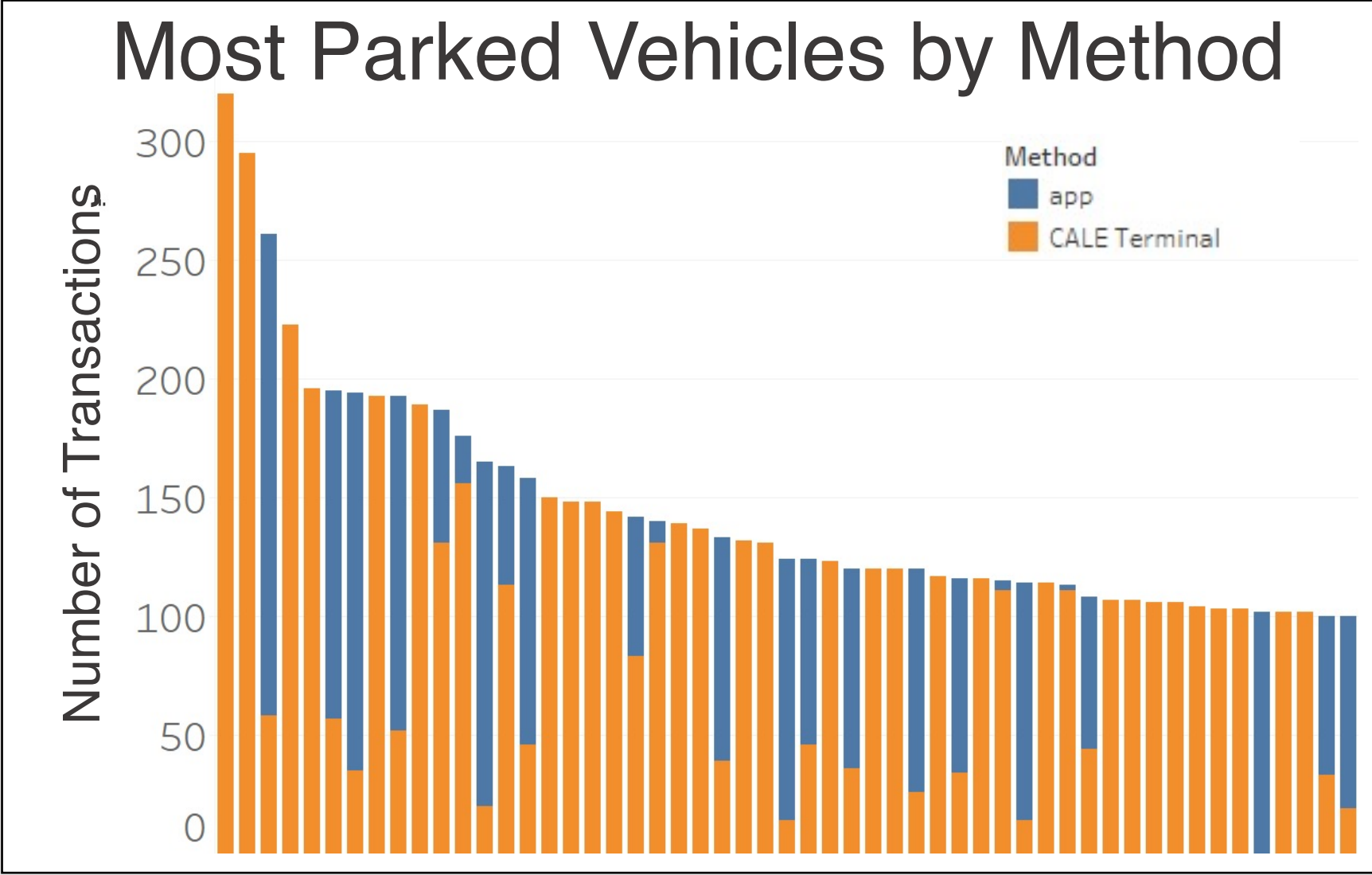


APP LOYALTY



The figure to the right shows the top 52 most frequently parked vehicles in Dundas from 2020 to 2021. Almost half (45.28%) of these users have used the Passport Parking app at least once. In comparison, only about 30% of all Hamilton drivers have tried the app. Of those who have used both, the app tends to be preferred over the CALE Terminal.

Among those customers who have used the CALE Terminal and the app, the majority of those who switched to the app after using the terminal stayed with the app and did not go back to using the terminal.



RECOMMENDATIONS

First, as there appears to always be sufficient parking spaces available, new parking technology and live space availability features are not necessary. Since users who have switched from the CALE Terminal to the Passport Parking app tend to use the app multiple times, awareness and advertising of the app should be increased. This could be accomplished through advertisements placed on the CALE Terminals. An area of focus for future development of the app is the addition of new features and user incentives to keep users on the app for a longer period of time. These include a reduced fee, a multiuser discount, find a lot capabilities, and directions to parking lots.

CONCLUSION

The current amount of parking lots and spaces in Dundas is sufficient to meet customers' needs. Customers should have no trouble finding a spot as the number of total spaces is greater than occupancy in almost all cases.

Overall, users who use the Passport Parking app tend to be satisfied. The app has continued to gain new users since its launch. Additionally, those who have used both the CALE Terminal and the app tend to stay with the app. The app also tends to be preferred among those who make the most transactions. If someone uses the app once, they are likely to return and use the app again. The majority of those who have used the app multiple times stayed on the app for more than one month. However, strategies should be developed to obtain new users of the app and to keep customers on the app for extended periods after they have downloaded it.

REFERENCES

- Covid-19 Employment: <https://www150.statcan.gc.ca/n1/daily-quotidien/210804/dq210804b-eng.htm>
- City of Hamilton Parking: <https://datacompetition.mohawkollege.ca/2022-data-links/>
- Free Holiday Parking: <https://urbanicity.com/hamilton/city/2020/11/hamiltons-free-holiday-street-parking-starts-today-in-select-areas/>
- Lack of Parking Enforcement during Pandemic: <https://globalnews.ca/news/6942418/paid-parking-returns-hamilton-may-16/>

