

Background

Downtown Hamilton like most cities serves as both a commercial and residential hub. The downtown area is particularly known for it's liveliness with varying activities. The demand for parking in this part of the city makes it important not just to have car parks but ensure efficient and effective system.

Objectives

Identify current trends and opportunities for parking in downtown Hamilton.

Identify various methods/systems of gathering relevant Data.

Problem statement

The public parking spaces is becoming less visible and harder to find.

Inadequacies of the data gathering method.

Business need

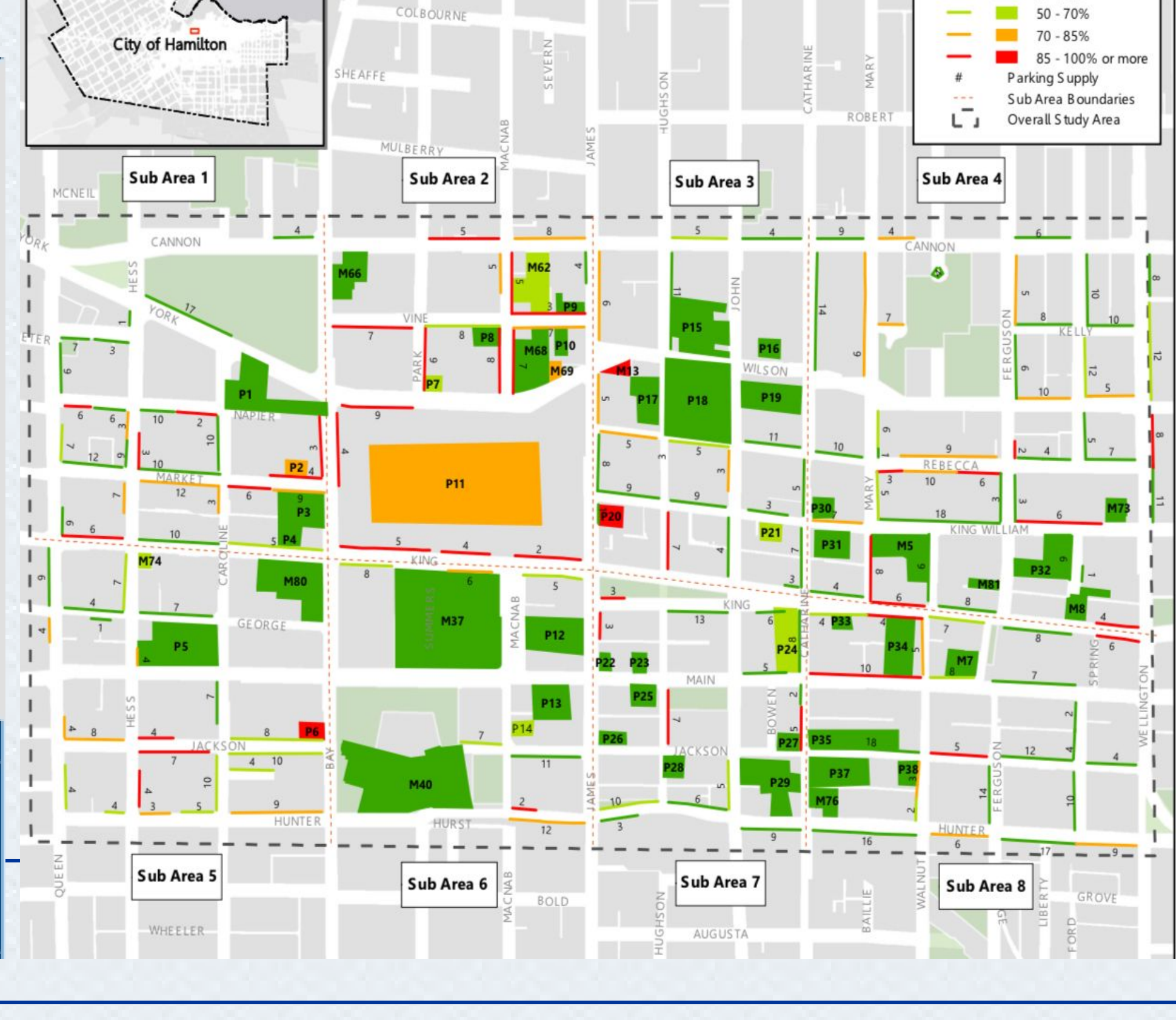
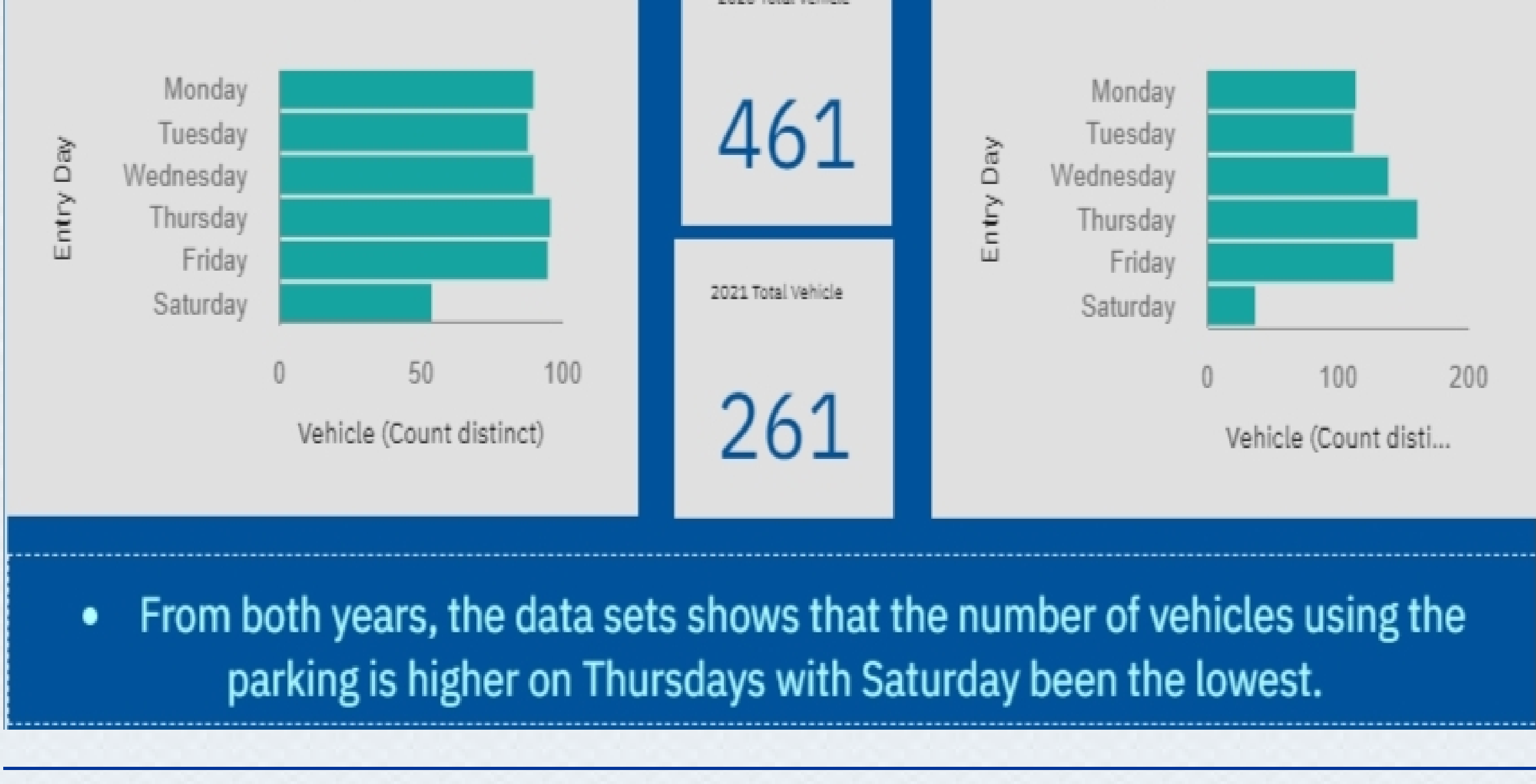
Improve Operational efficiency.

Improve the user experience.

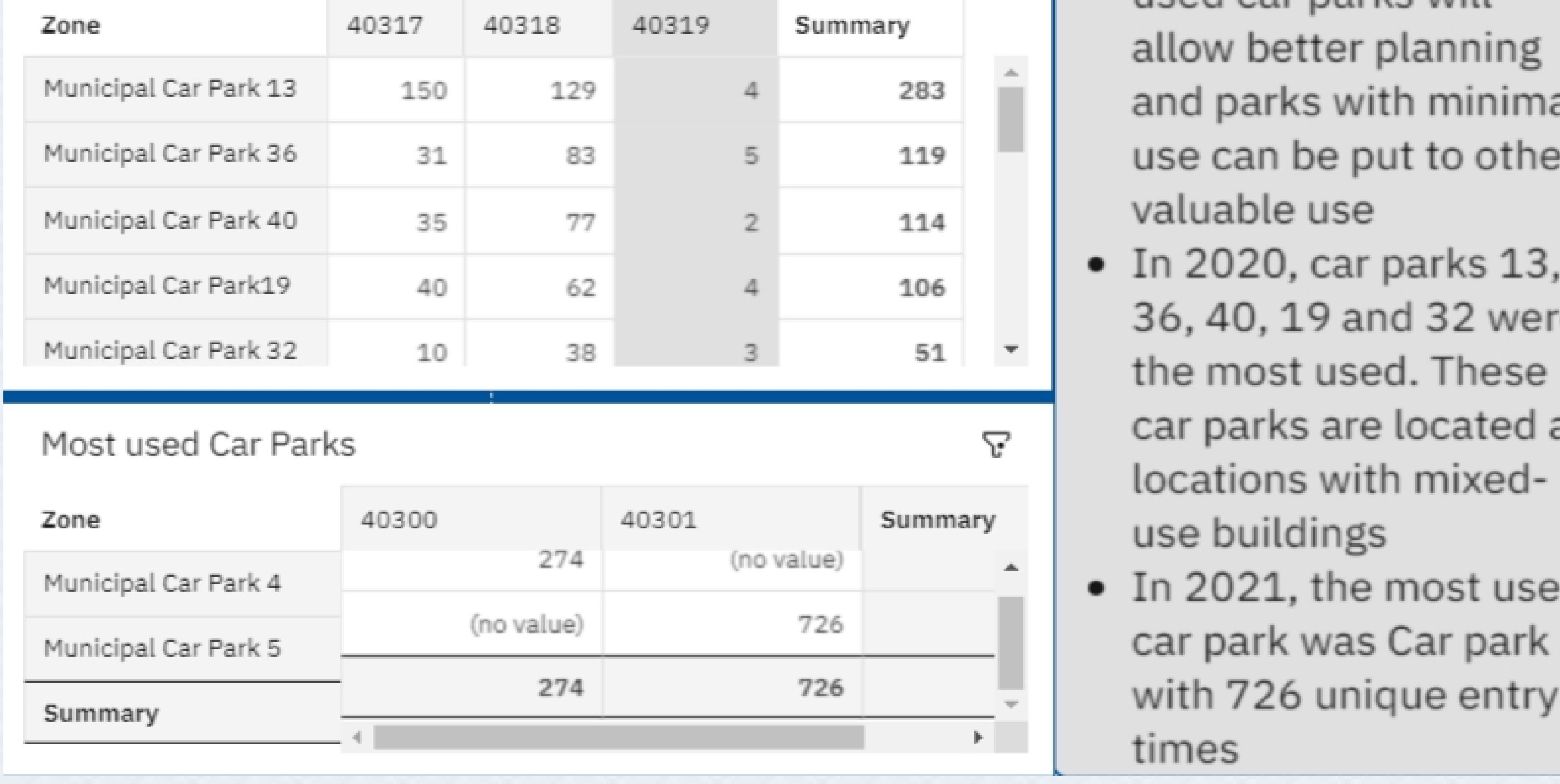
Enhance visibility for public parking lots.

Improve payment system for end users.

Data insights



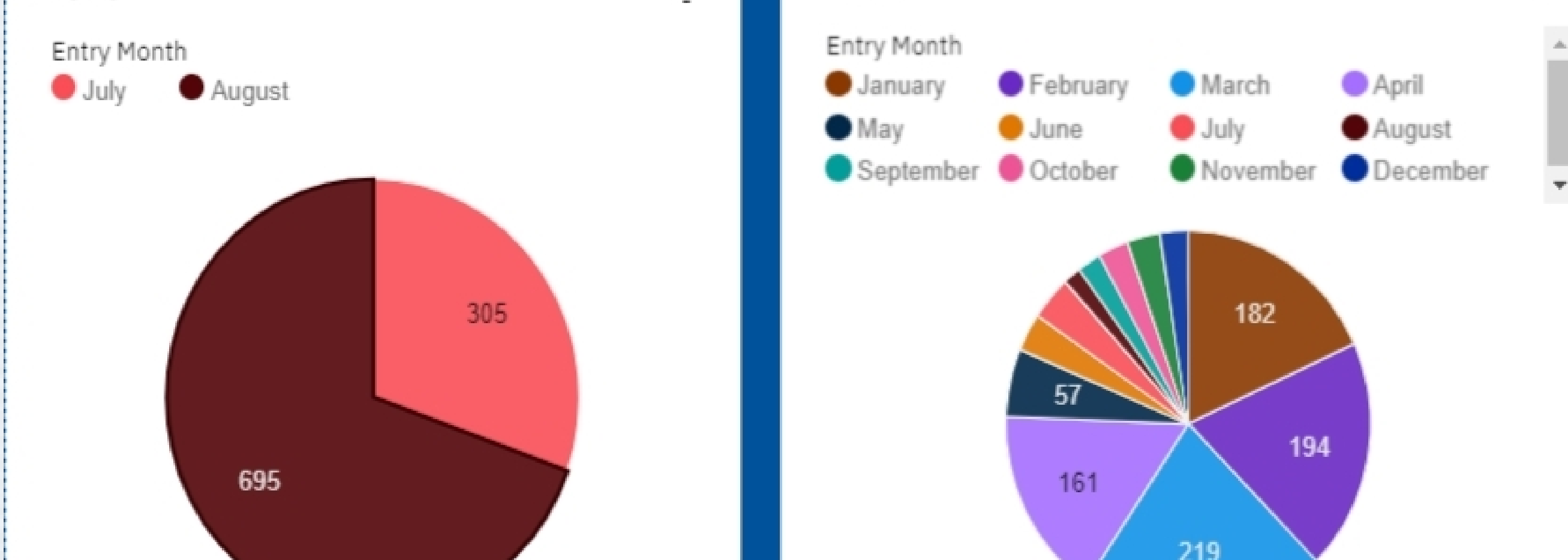
Most used car parks



The nature of buildings around the car parks in this zones (40300 -40320) backs the inference from the data set. Majority of the buildings around the car parks are mixed-used having retail outlets, office spaces and residential units.

This information would allow local authority to plan for major events in the downtown, Hamilton region and in allocating funds and improvement initiatives based on the users and frequency of use of the various car parks

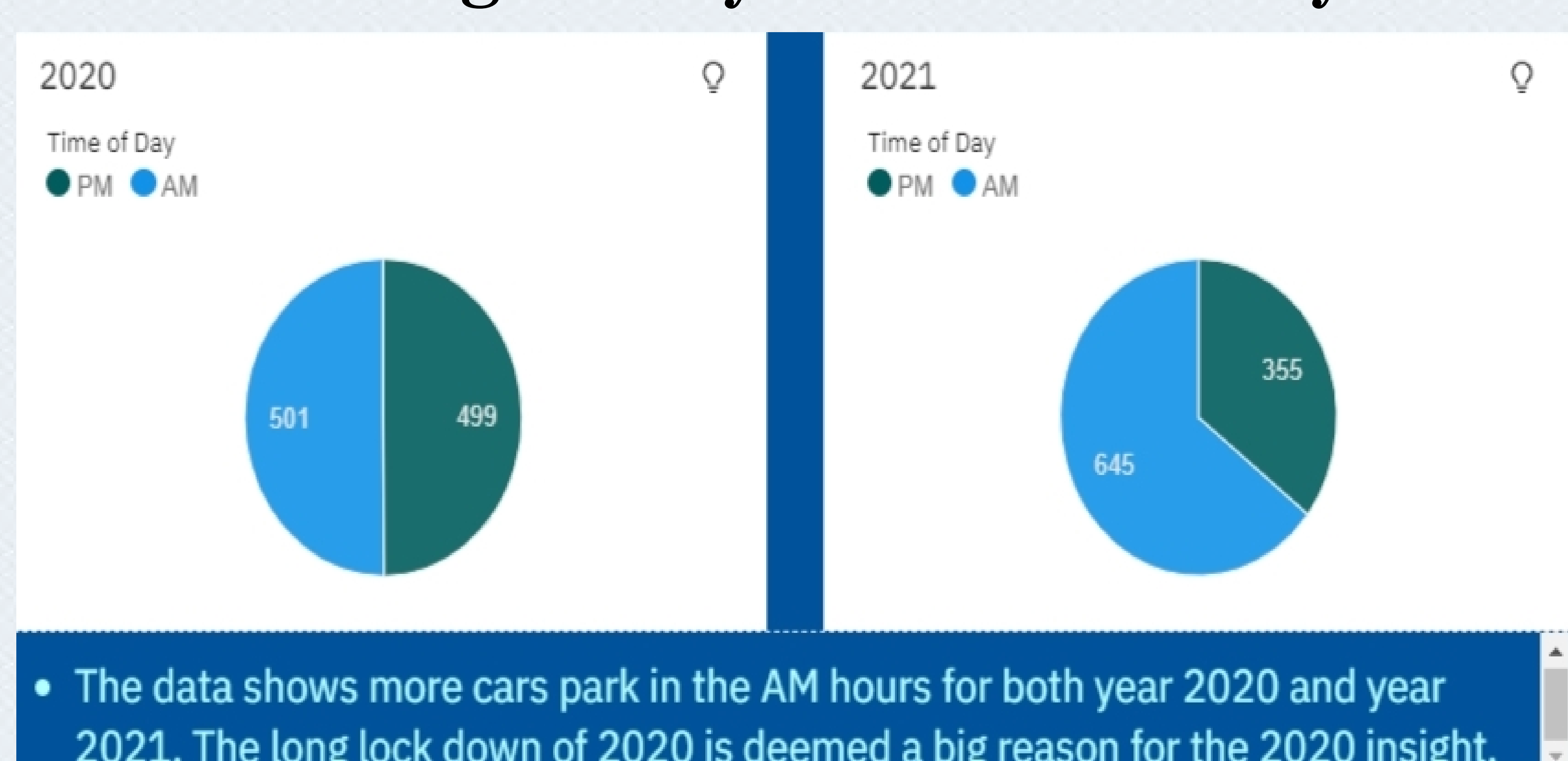
Count of Vehicle by Month



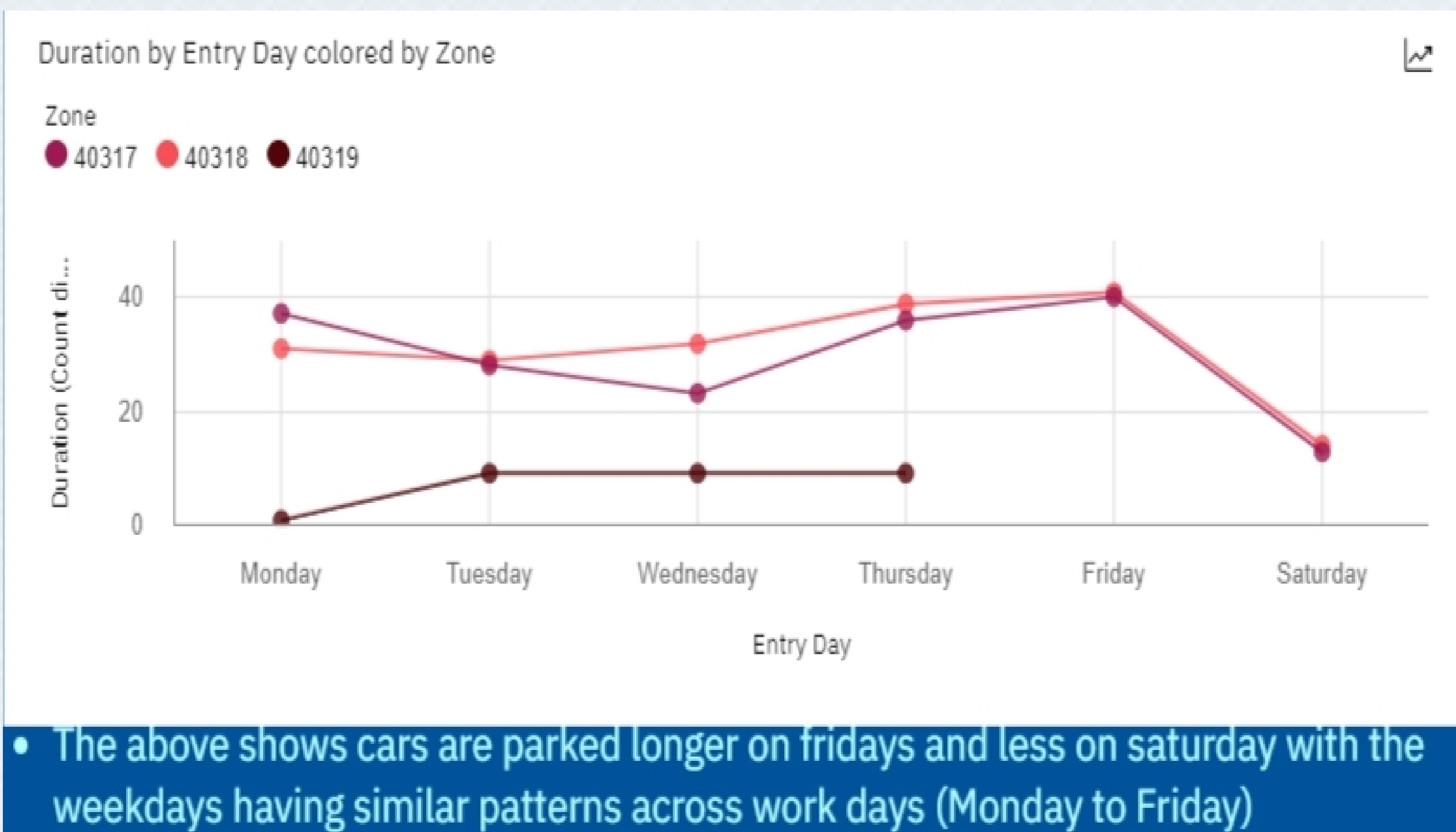
Parking use by time of the day

Using the 2020 and 2021 dataset, it showed more vehicles use the parking lots in the morning hours than in the evening. This information can be used in the pricing policy using a dynamic pricing approach.

This form of pricing encourages charging when demand is higher than supply.



Parking duration by day of the week

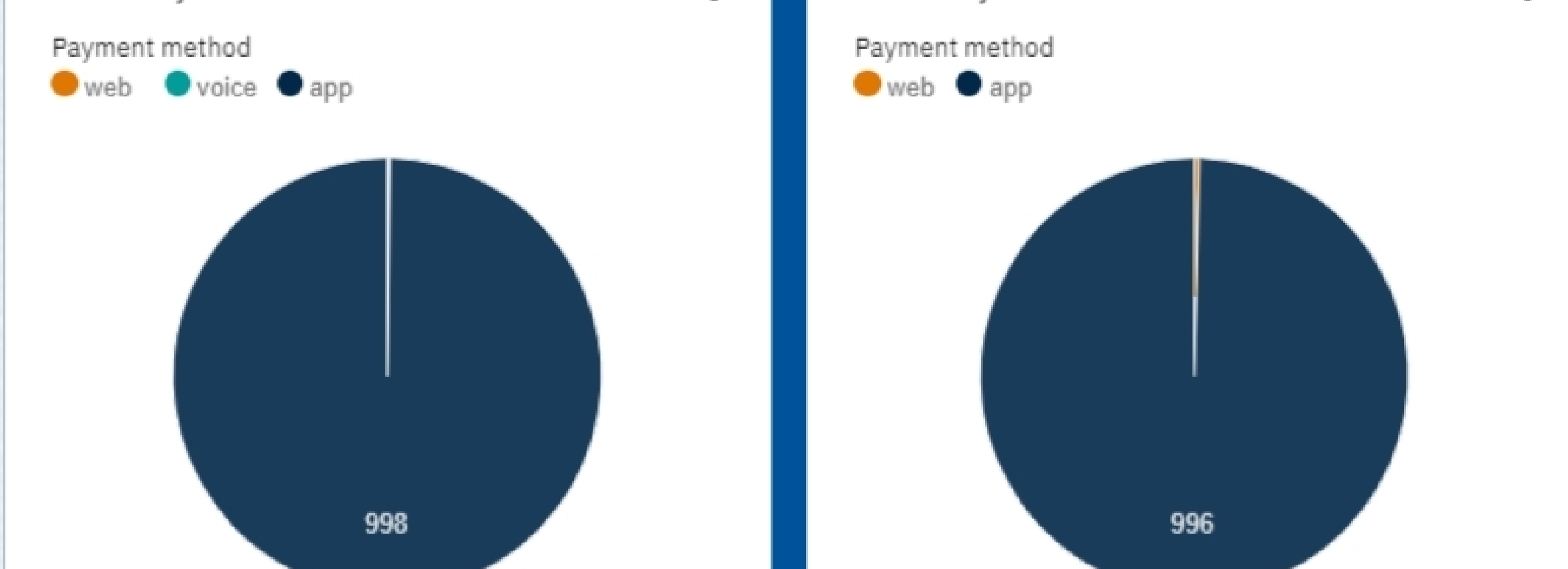


From the analysis(to the left) data shows the duration cars are parked by week days.

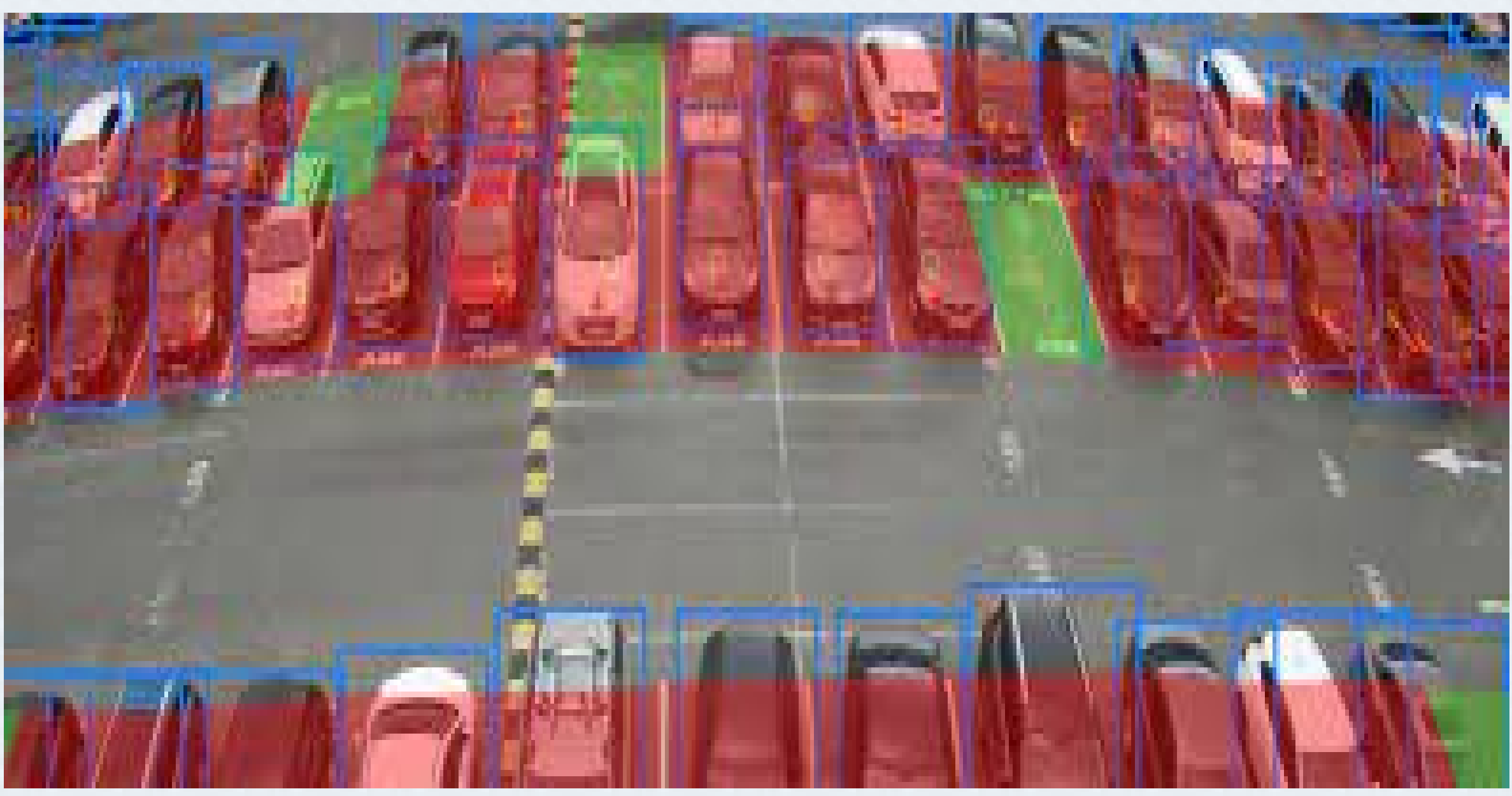
Notably, Fridays, Thursdays and Mondays' accounts for longer stay in the car parks while significantly, Saturday has very low time spent by cars in the car park. This shows vehicles are more likely to extend time during the peak days.

Also in planning expansions, these busy days should be concentrated on before undergoing such expansion.

Payment methods



Recommendations

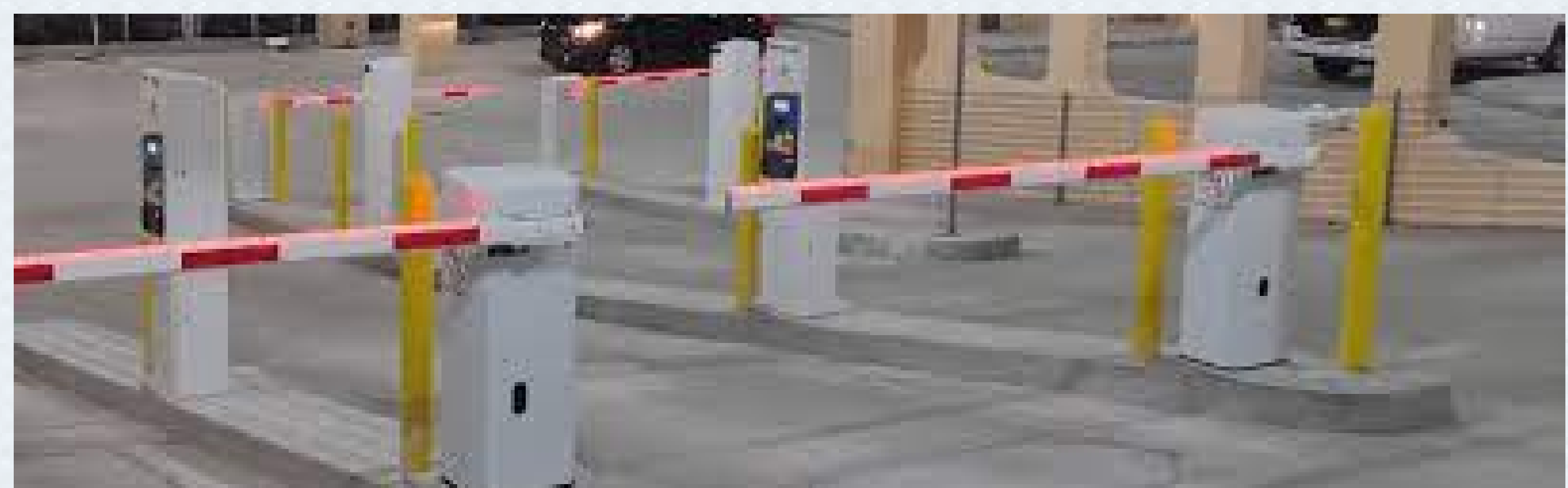


We highly recommend the use of SPS (Smart Parking System) in the parking lots with high volume of traffic. This helps by:

1. reducing time taken to find empty spots
2. convenience for users.
3. reduced cost (reduction in need for park inspectors)
4. Enforcement effectiveness.
5. Real-Time Data and insights.

Car parking barrier should be implemented because it:

1. Creates a safer parking lot.
2. Stops unauthorized parking.
3. prevents overfilling.
4. prevents misuse.
5. stopping through-traffic.



One of the problems identified in the case study was visibility of the parking lots. Placing the signage in strategic positions will greatly impact the level of visibility and increase users. Car park 13 image (right) does not have a visible or large signage but in the image(left) Car park 36 has a large and well placed signage.



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References

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