Summary:

Problem Description:

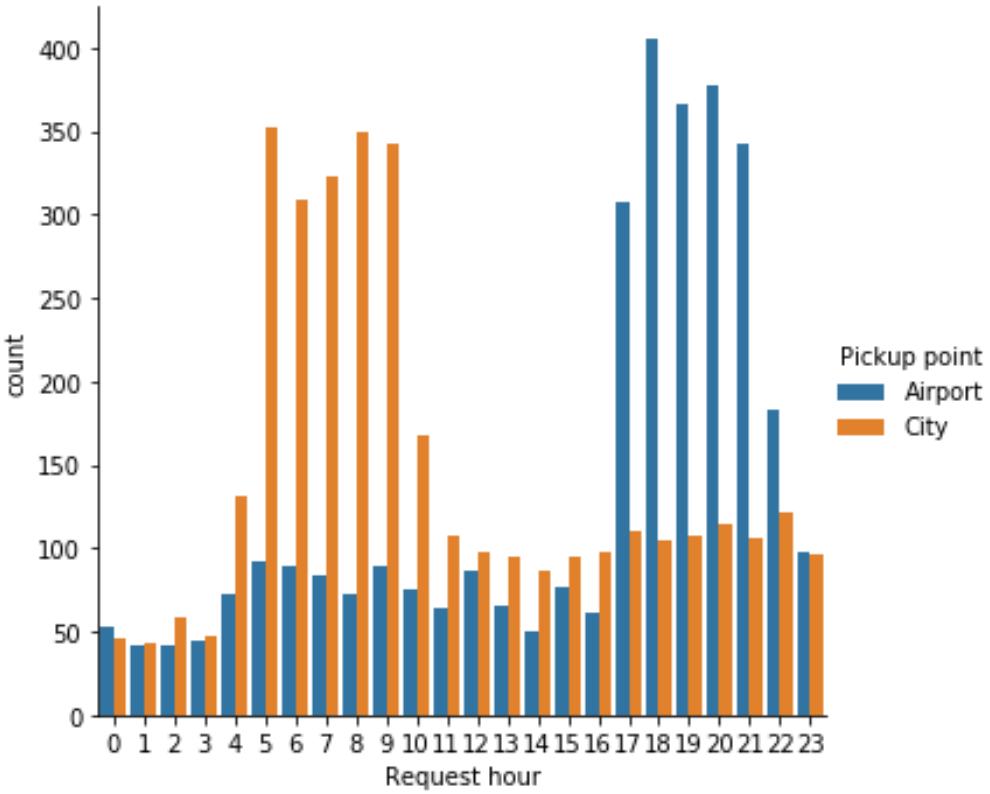
Customer face the problem of cancellation by the driver or non-availability of cars when travelling from City to Airport and vice versa. This is one of the major problems faced by customers also impacting the business of Uber in terms of revenue loss. The aim is to find root cause(s) analysis and possible hypotheses of the problem(s) and recommend ways to improve them.

Analysis:

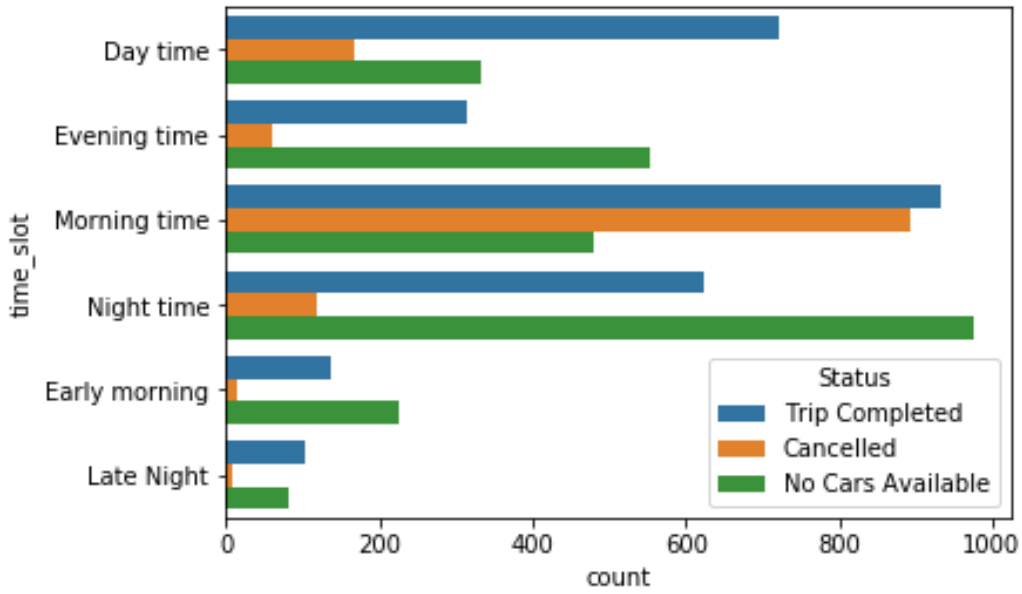
After analyzing the dataset after just looking at the request time(univariate analysis), we can see that the demand for Uber rides is there in the morning time towards Airport and during evening/night time the demand is identical but towards cities.

Plot on the next page shows the same.

Plot showing the rush time

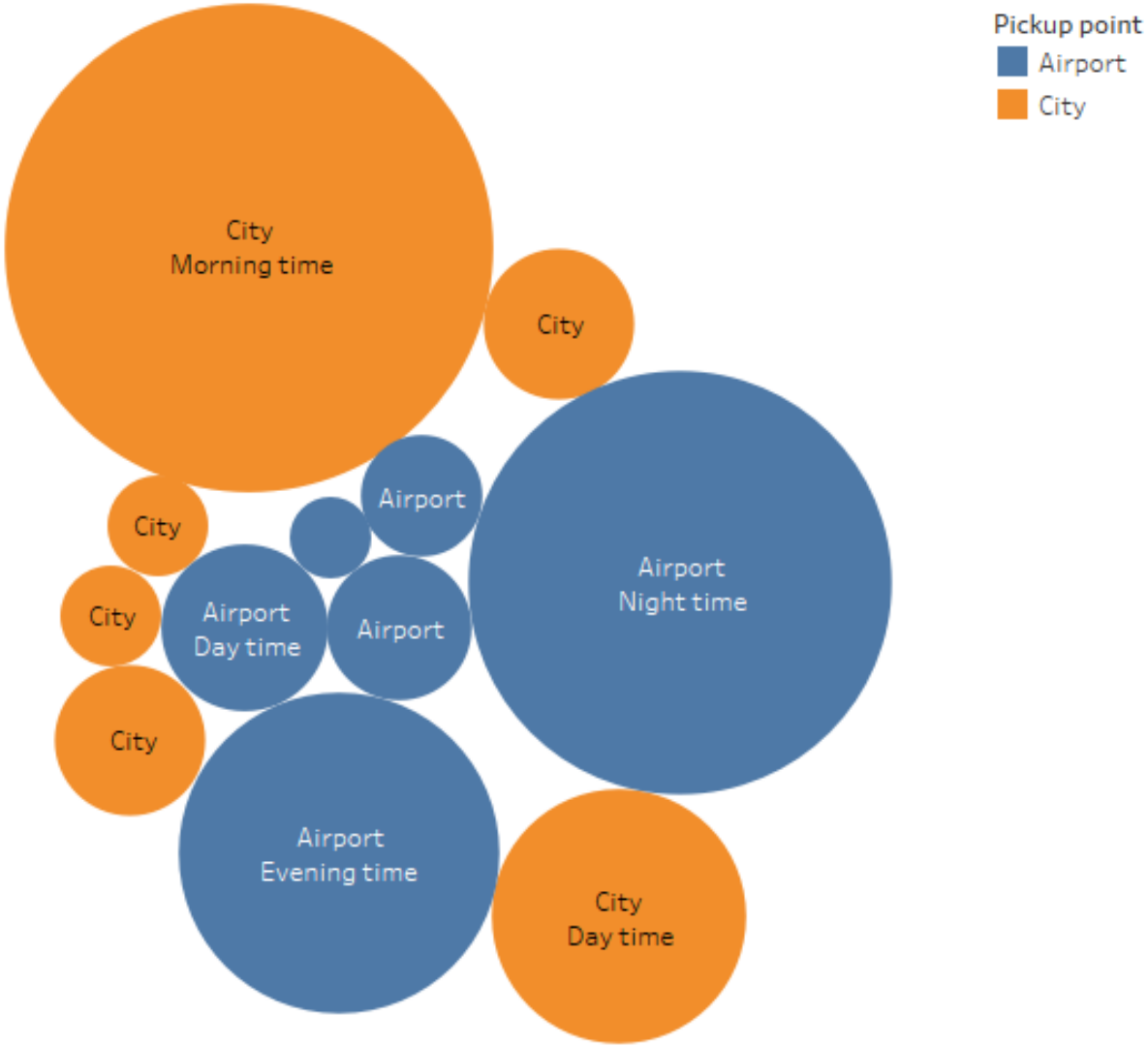


Then after creating different time slots to know which slot is creating issue, it can be seen that the Morning slot has most trip cancellations and the night time has most No Cabs Available status.



Further analysis shows that the 'Morning slot' is the time frame where there is the maximum 'Demand-Supply' gap and is for the "City-Airport" request specifically which is mostly due to 'Cancellation' of rides, followed by 'Night time' and for request "Airport-City" which is mostly due to 'No cabs Available' status.
Below graph explains the same.

Plot showing the Supply Demand Gap



Pickup point and Time Slot. Color shows details about Pickup point. Size shows sum of Demand-Supply Gap. The marks are labeled by Pickup point and Time Slot.

Reason :

There can be multiple reasons for this type of behavior some of them are listed below:

- Drivers don’t want to take the ride to Airport in the Morning times and face waiting situations where they can get more rides meanwhile.
- They don’t want to spend more fuel and time towards the part of city where they are more unlikely to get frequent rides, they are most likely to return to city empty handed.
- So for above two reasons they can cancel such rides
- Also drivers taking their rides towards Airport are more unlikely to return to cities after drop before evening time, hence it explains the no cab available status during night time affecting the supply demand ratio.

Solution:

- Solution here could be with the employer to put some price on this issue, Uber should take steps like giving away some benefits to the drivers to take such rides may resolve much of the issue.
- Putting heavy penalties on the cancellation may also minimize the rate of drivers doing so.
- Recognition programs can be stated among pears who deliver these types of goals would also help and word would be spread across the drivers community.

• One more solution(more like suggestion to the firm) could be to start a rental car scheme for Airports specially where if cabs are not available or getting cancelled then some cars could be rented right from the Airport to some drop point and vice versa. At least doing this would create more customer satisfaction as they would not have to wait unless they want to.

• Let the drivers have some perks of delivering service late night and results would be good so ‘No cabs Available’ problem would be minimized if they get benefits from being available at nights, allowances may help, stay could be provided if required for limited amount of time, etc.

• Also those ideas are from customers perspective but looking from drivers/Ubers perspective if demand is more and supply is less, we can make use of that as well, put more surge changes so that after implementation above mentioned ideas, everybody gets satisfaction.