Uber Case Study Submission

Atul Mehra

OBJECTIVE – Uber Supply & Demand Gap Analysis

The objective is to identify the most probable reason behind the supply – Demand gap .

Our Aim is to help Uber to bridge the Gap between supply & Demand from City to Airport & from Airport to City. The Analysis comprises of basically four step:

- Identify the frequency of the status of the request made, which is having three levels 1. “No cars available” 2. “Trip Completed” 3. “Cancelled”.
- After identifying the most frequent status. Identify the type of request whether from Airport to city or City to Airport in which it showing the most problematic status.
- Identify the Time slot of the day in which problem is at higher side.
- Analyze from the plots the possible solution to the problem.

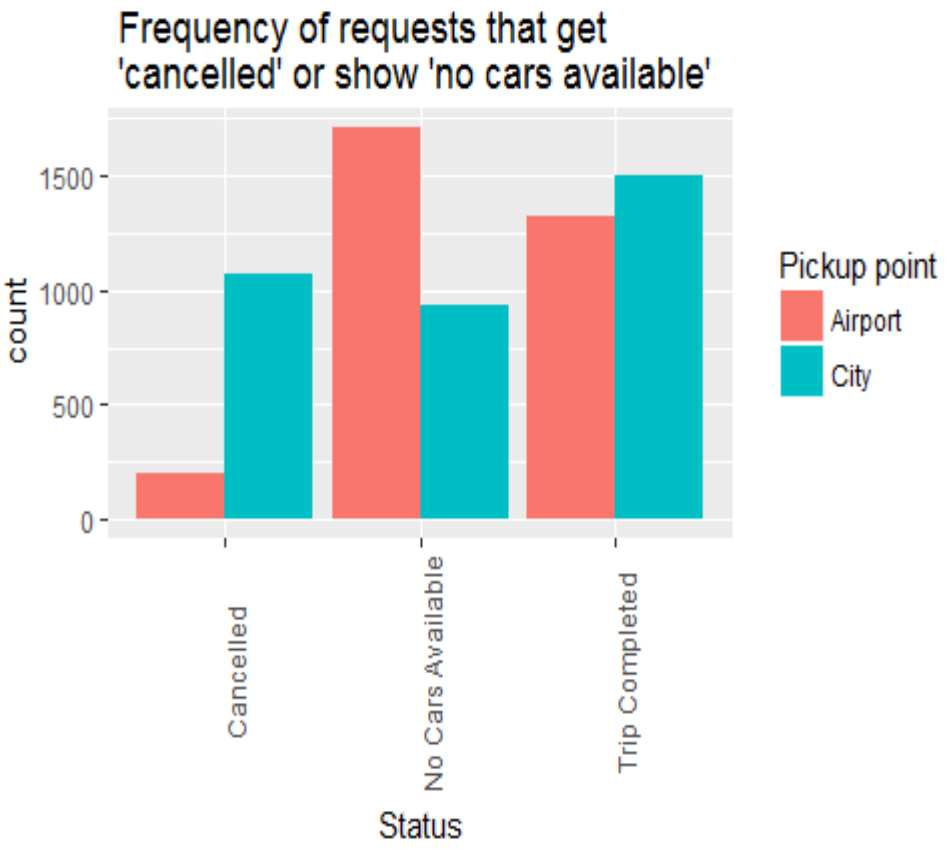
Frequency of Problematic status.

From the graph it can be seen that majorly two problems are being faced by commuters from Airport – City --- Airport Route.

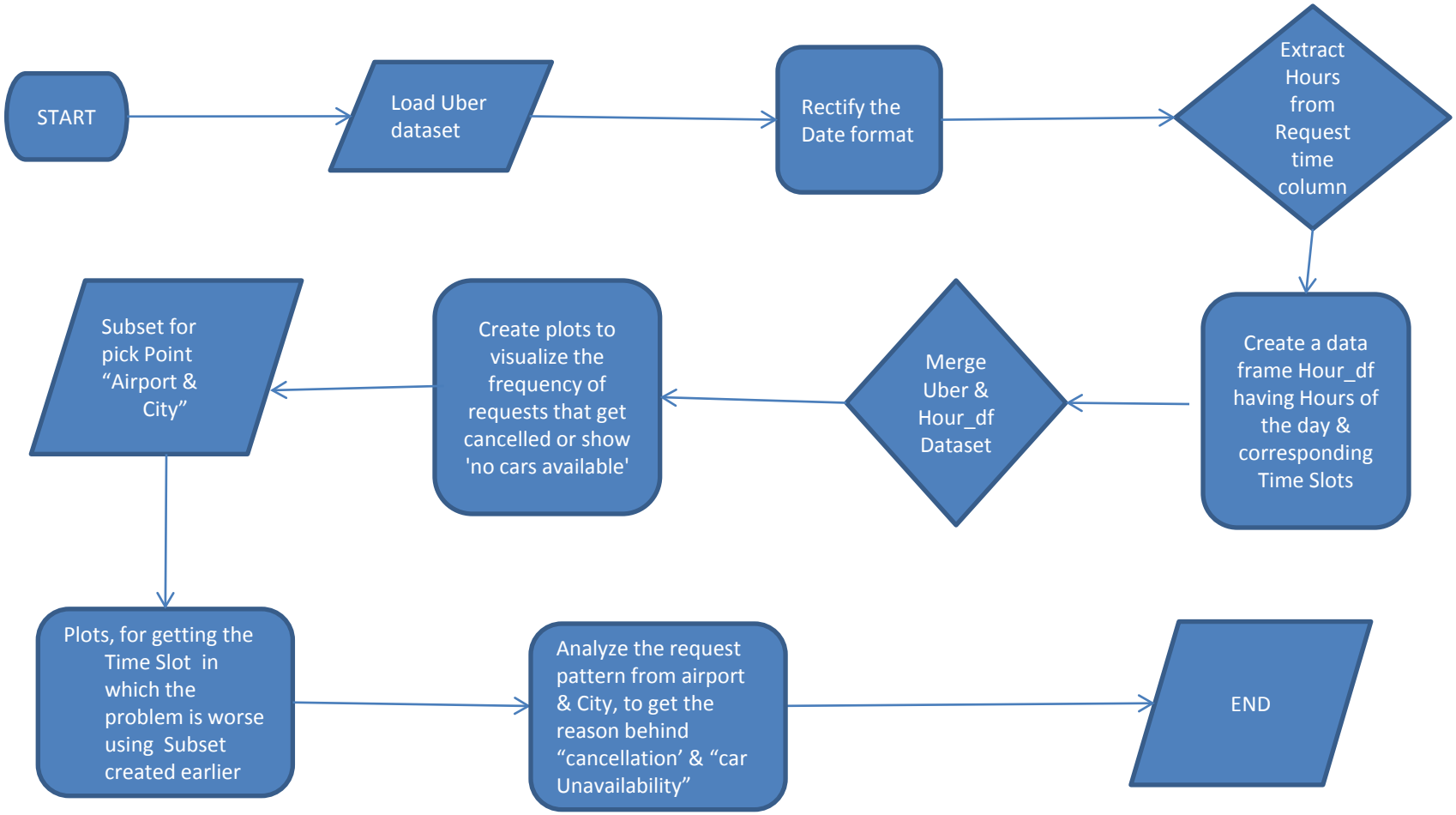
1) No Cars Available.
2) Cancelled.

While using Uber Service at Airport commuters are facing the problem of “No Cars Available”, which is having highest frequency in the plot shown.

Similarly, from the plot it can be infer that the people requesting service from the city are facing the problem of frequent Cancellation.



Problem solving methodology



Date-Wise Analysis of Request made from Airport & City

- From the graph it can be seen that most of the request made were in the time slot of morning 5 - 10 AM from City & 7 – 10 PM from Airport.

- The pattern of request nevertheless same in all days of the data available to us.

- Digging further into the plot, we will start analyzing the data Status-wise , pickup point – wise & Time slot – wise.

Assigning the Names to the corresponding Time Slot of the day & merging the same to the main dataset

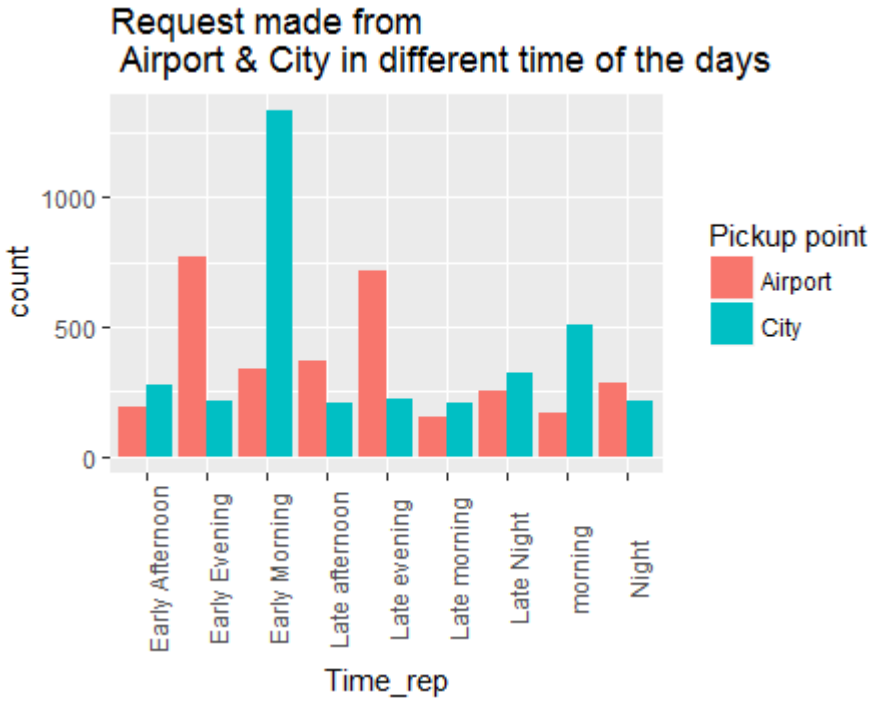
Early morning	**5 to 8 AM**
Morning	**9 am to 10 AM**
Late morning	**11 AM to 12 PM**
Early afternoon	**1 to 3 PM**
Late afternoon	**4 to 5 PM**
Early evening	**5 to 7 PM**
Late Evening	**8 PM to 9 PM**
Night	**10 PM to 12 AM**
Late Night	**12 AM to 4 AM**

Finding the Number of Request made in different Time Slots of the day

The Plot describing the count of the requests made in different Time Slots of the day.

From Plot we can see that maximum number of request have been made in early morning from the City.

Considering the plot, early evening & Late evening are time when maximum number of request were made from Airport.



Airport to City - Service Analysis

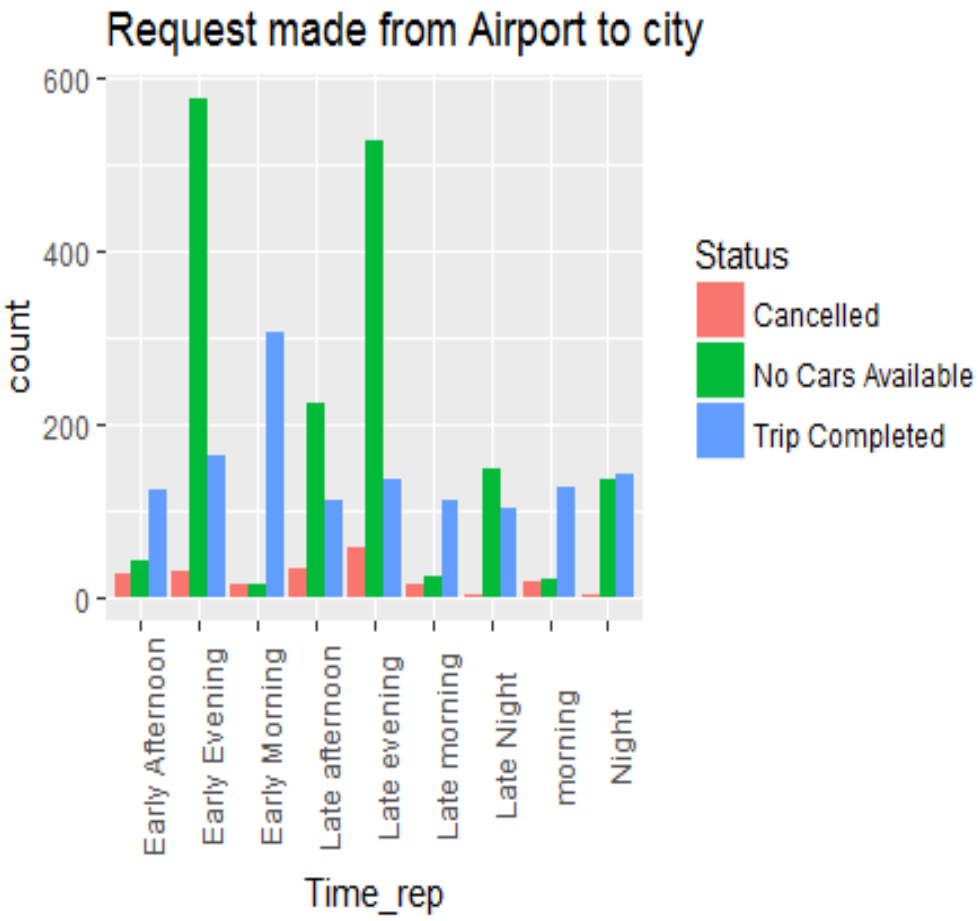
Created Subset taking Pickup point as Airport.

Now bringing the Status into Pictures the plot now will be colored as per the status of the request made.

We observe from the Airport plot :-

No Cars Available status are mainly appears in timeslot **“Early Evening”** & **“Late Evening“.**

In Evening Time, out of the total Request that showed No Cars Available; 95.37% are made from Airport & 4.63% of request were from City.



City to Airport - Service Analysis

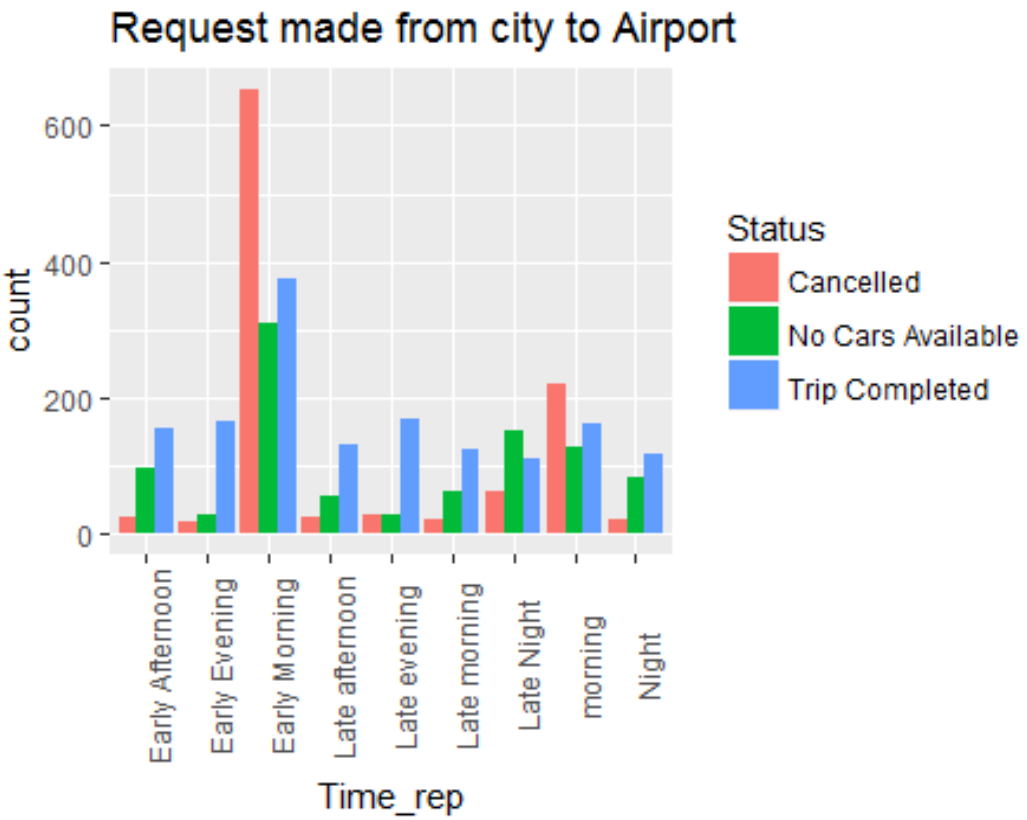
Created Subset taking Pickup point as City.

Now bringing the Status into Pictures the plot now will be colored as per the status of the request made.

We observe from the City plot :-

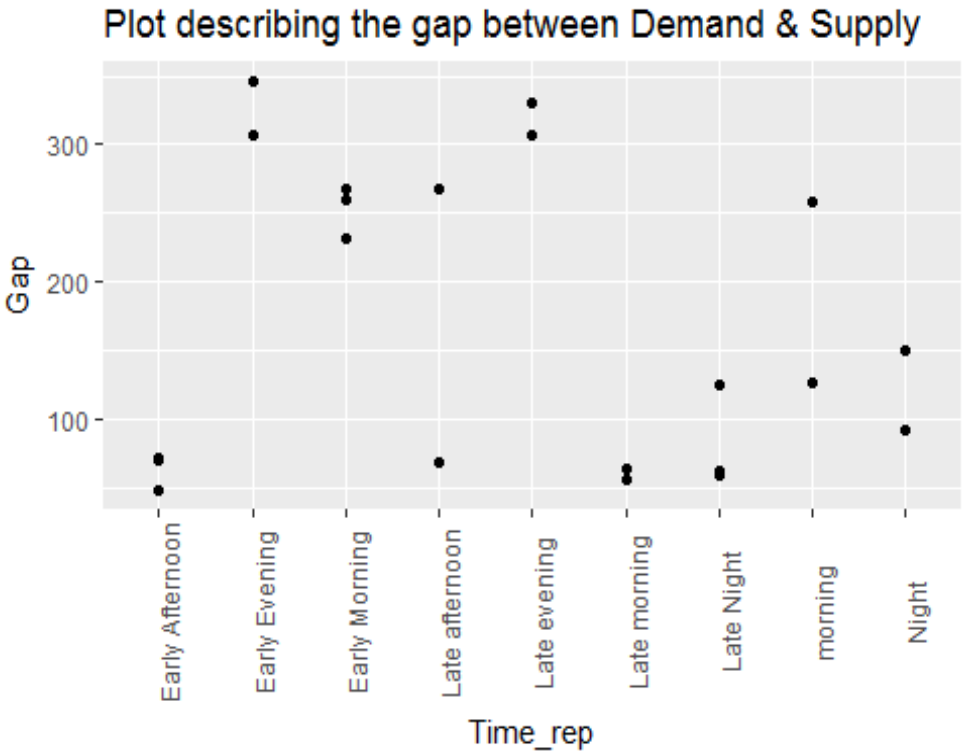
Cancelled status are mainly appears in timeslot **“Early Morning”.**

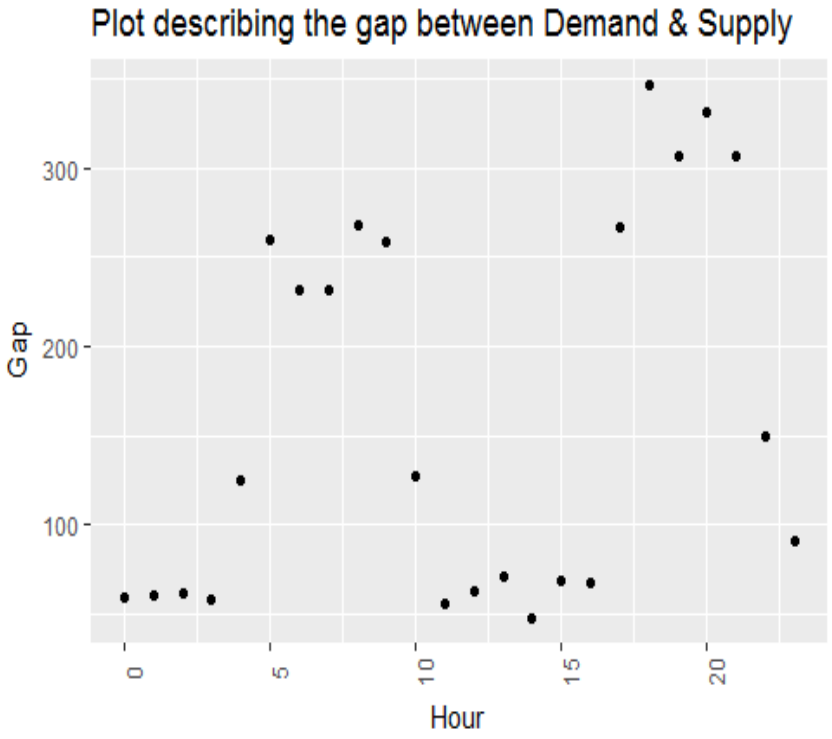
In Morning Time, out of the total Request that got cancelled ; 95.72% are made from City & 4.27 % of request got cancelled were from Airport .



Demand – Supply Gap Analysis

This plot also show that the demand - Supply Gap is majorly
in Early Evening & Late Evening (6-9 PM), Early Morning & Morning (5-9 AM).



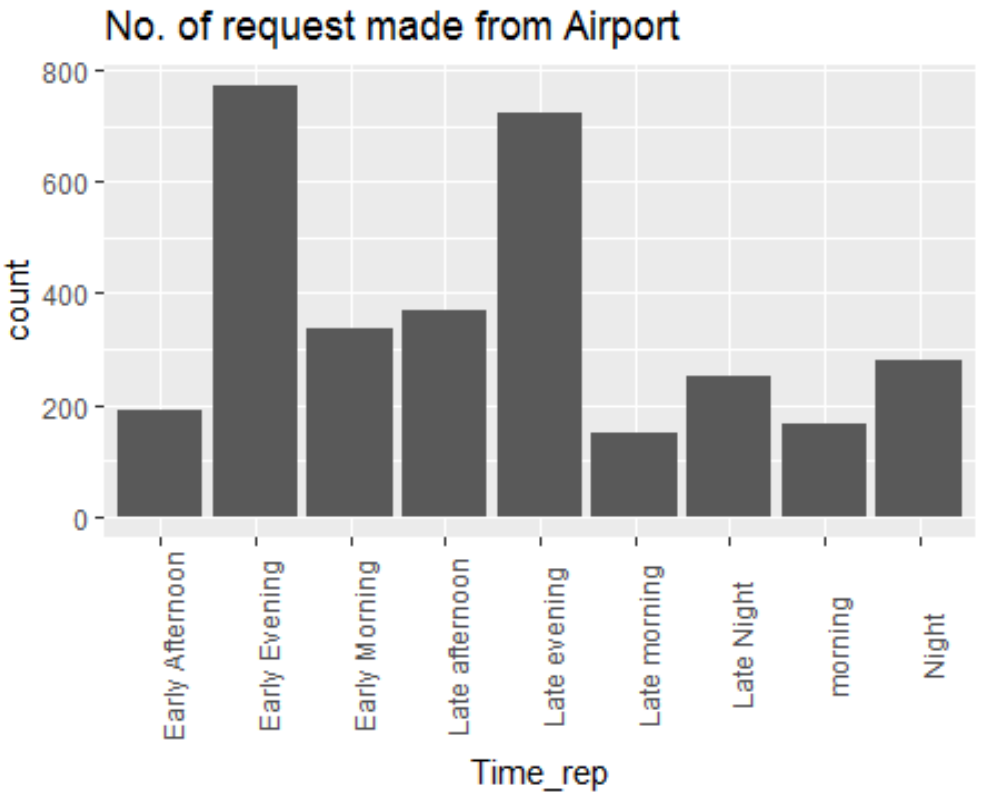


Reasons of the supply-demand gap

Reason of “Cancellation” Status

Most of the requests were made in early Morning (5-8 AM) from city & from plot above one can see the same time slot is the most problematic in terms of cancellations.

1) This can be due to the reason that the number of request made (as shown in Plot) in morning & late morning (9AM - 12 PM) from "Airport" are least because of which driver need to wait to about 4 Hours. This could be the most reasonable reason that the drivers were cancelling the request made from City in early morning hours.



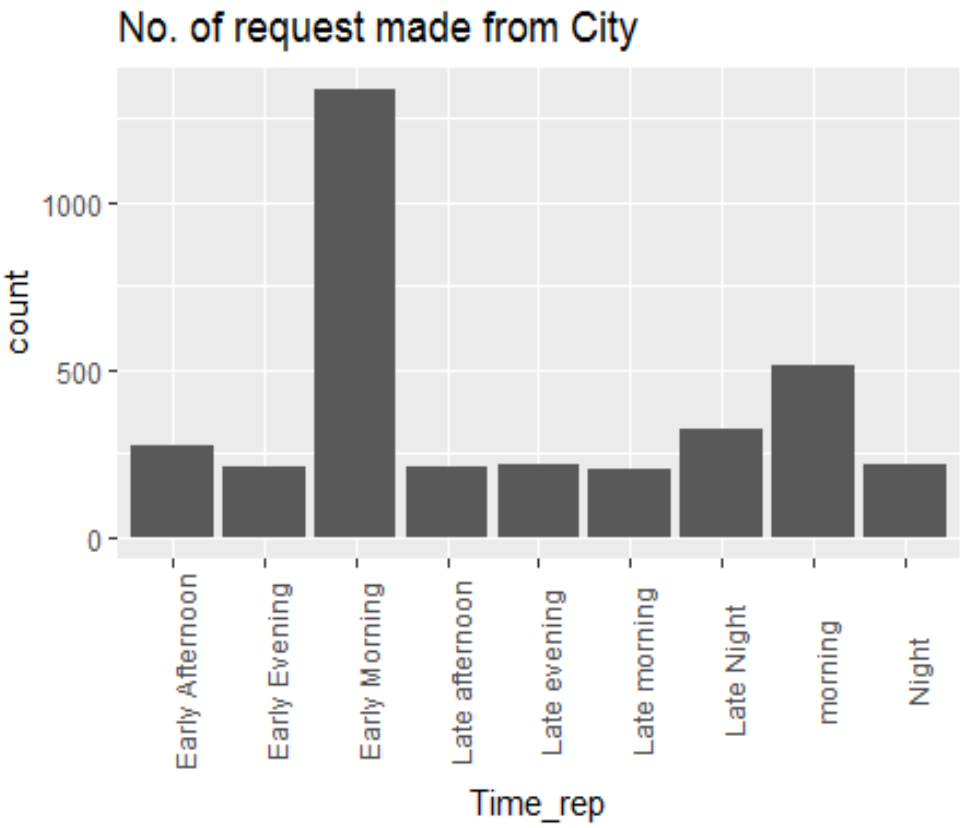
Reasons of the supply-demand gap

Reason of “No Car Available” Status

Most of the requests were made in "Early Evening" & "Late Evening" (5-9 PM) from Airport & the same time slot is most problematic in terms of "No cars Available".

1) This can be due to the reason that the number of requests made in night & late night (10PM - 4 AM) from "city" are least because of which driver need to wait to more than 4 Hours. This could be the reason that the drivers were not available from Airport to city in "Early Evening" & "Late Evening" hours.

2) ANOTHER REASON can be that it is the sleeping time and most of the drivers had off their services and head toward their homes. this is the reason that the driver this time are not cancelling the request instead made themselves unavailable.



Recommended ways to resolve the supply-demand gap.

The problem of "No cars Available" from Airport to City can be rectified providing good incentive to the drivers which encourages them to work in night hours or to incentivize them for their idle time in Airport.

Similarly, Incentive to driver could help to fill the gap between supply & demand of cars in morning hours.