UBER SUPPLY DEMAND GAP

CASE STUDY

Exploring the UBER Request Data

Initially, data set contains 6 columns they are as follows:

- Request.id
- Pickup point
- Driver id
- Status
- Request timestamp
- Drop timestamp

Problem Statement and Methods

- In this Case Study we have to find out the supply demand gap and and the aim of the analysis would be to find the cause for suggesting ways to improve the situation.

At first we apply some methods of Data Cleaning. The methods we use are as follows :

i. Identify the data quality.

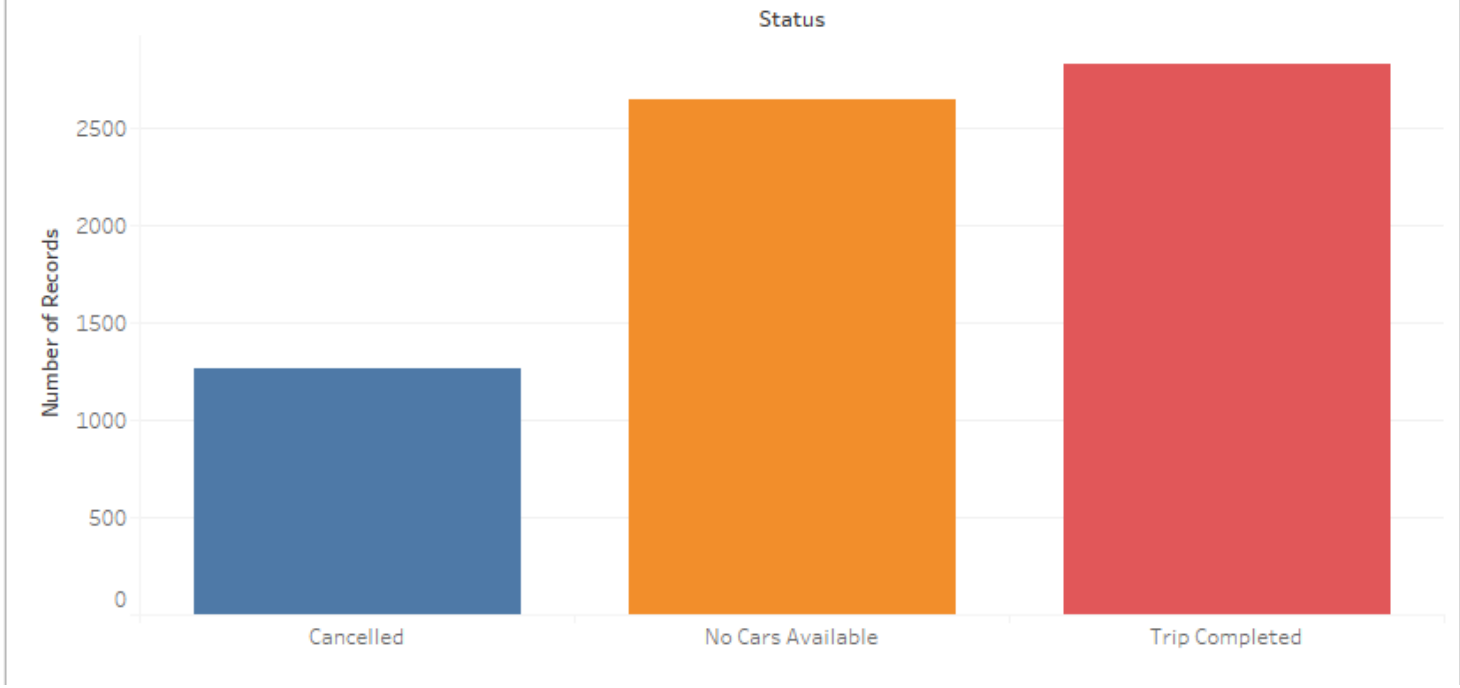
ii. Format all the necessary fields

iii. Derive new columns if necessary.

iv. Define different time slots for our ease.

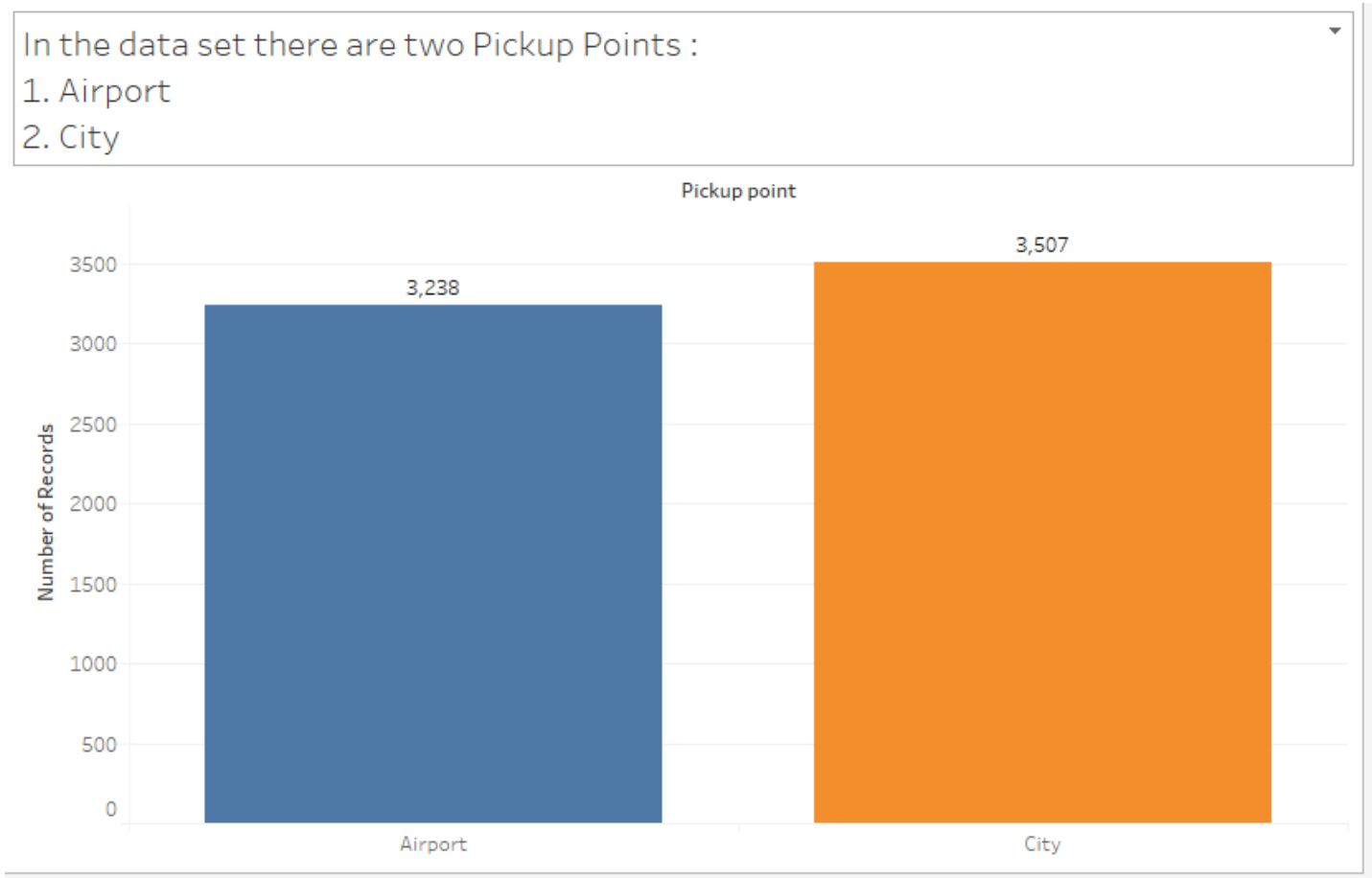
Status Pattern in a Day

There are three statuses for each Request id.
1. Trip Completed
2. No Cars Available
3. Cancelled

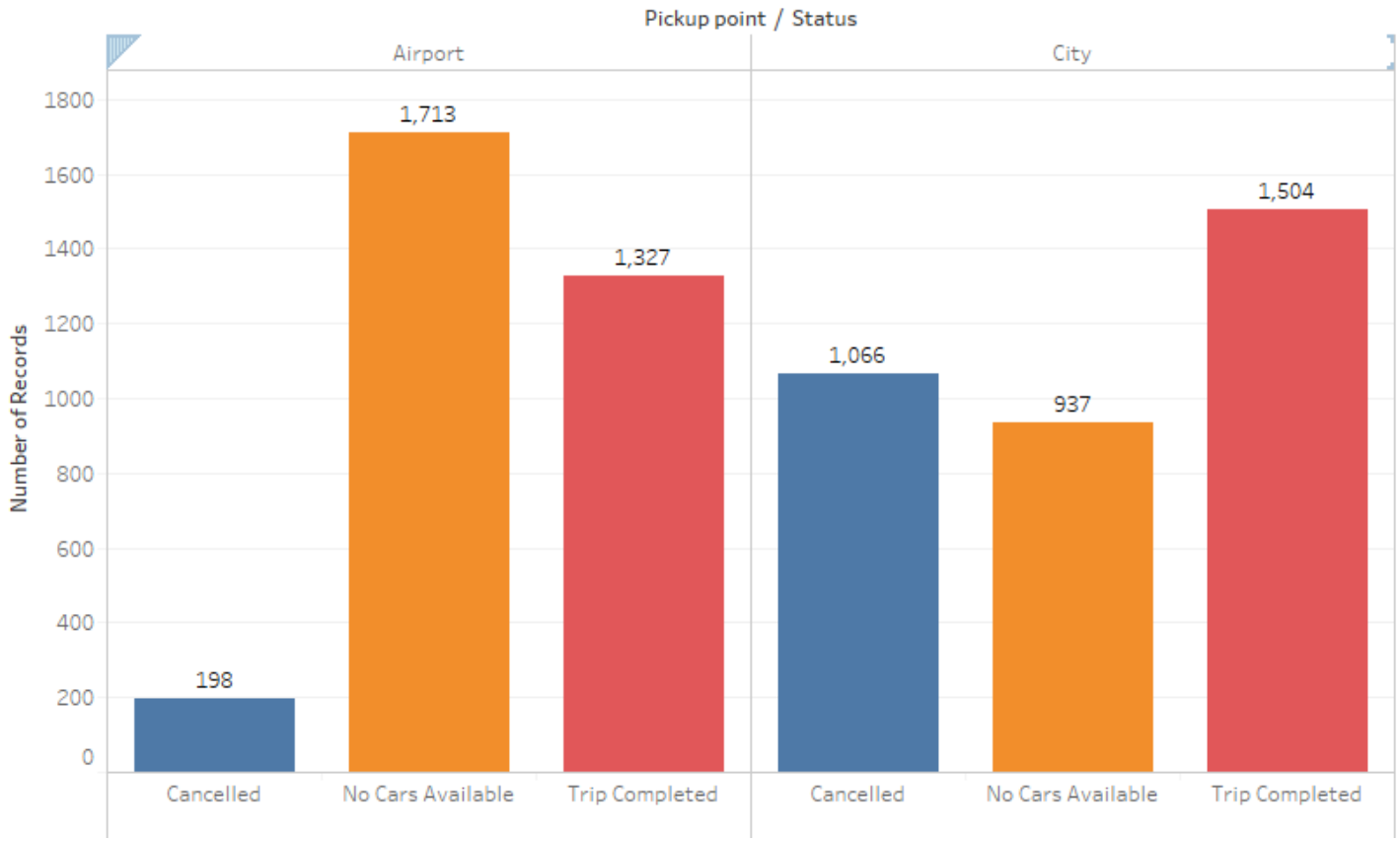


Pickup Points for each Request Id

In the data set there are two Pickup Points :
1. Airport
2. City



Status for each Pickup Points



It is evident from the graph that there are more “ No Cars Available “ from Airport to City.

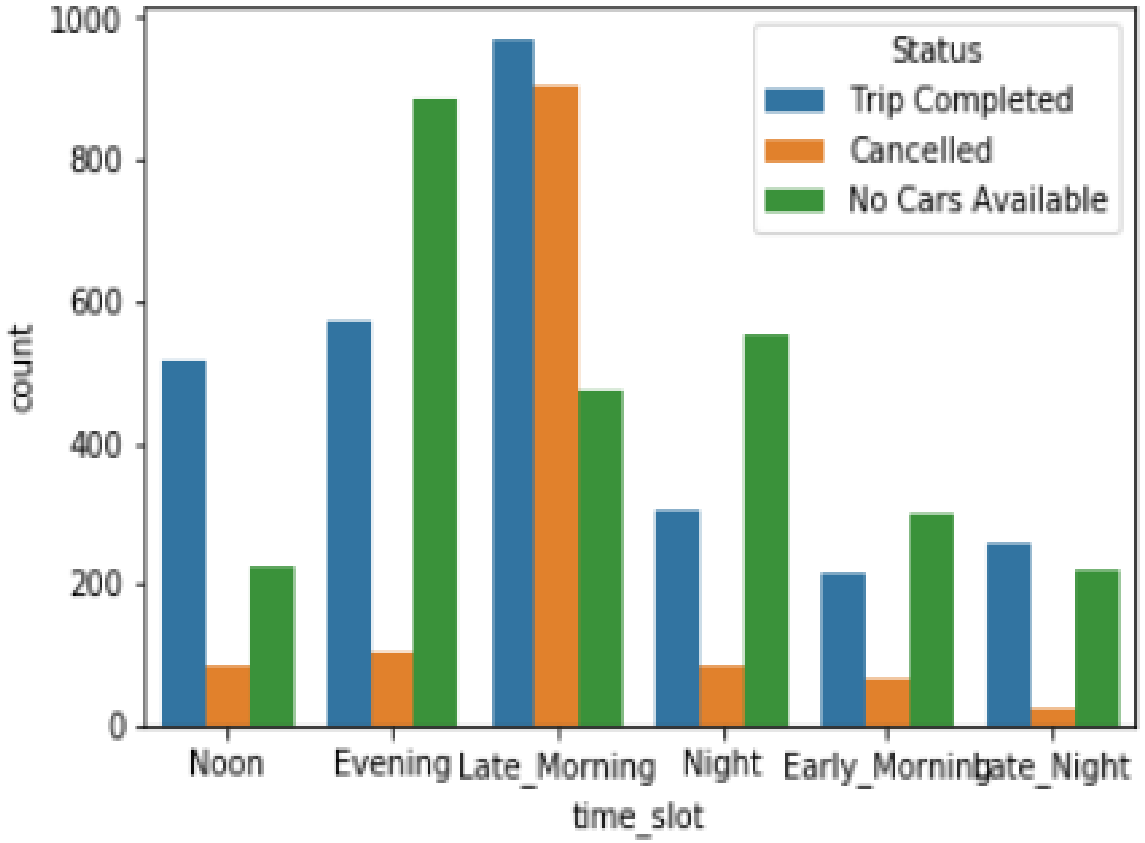
And more cars “ Cancelled “ from City to Airport.

New Column - time_slot

Request Timestamp column is divided into six categories :-

- Before 5 AM - Early_Morning
- Between 5 AM to 11 AM - Late_Morning
- Between 11 AM to 4 PM - Noon
- Between 4 PM and 8 PM - Evening
- After 8 PM - Night

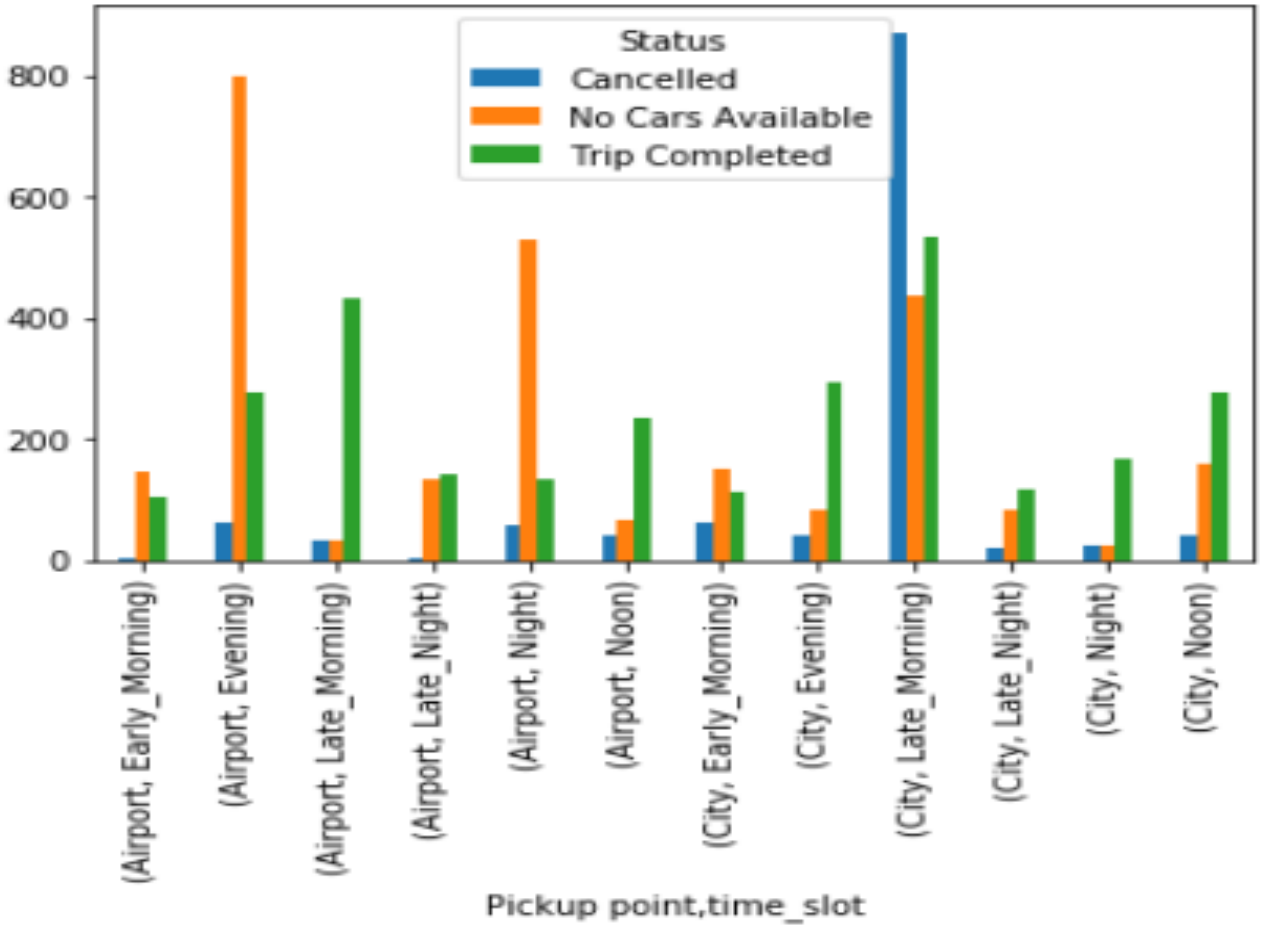
Checking through Time Slots



Status “No Cars Available” is mostly during evening time.

Status “Cancelled” is mostly during late morning time.

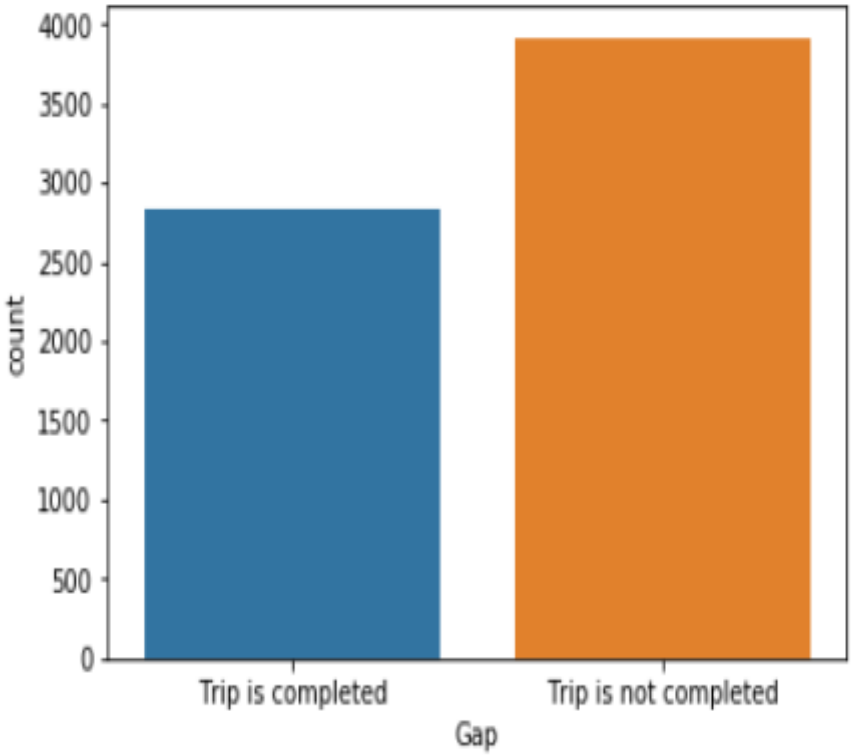
Checking through Pickup Point and Time Slot



Most "No Cars Available" are in the evening time and from Airport.

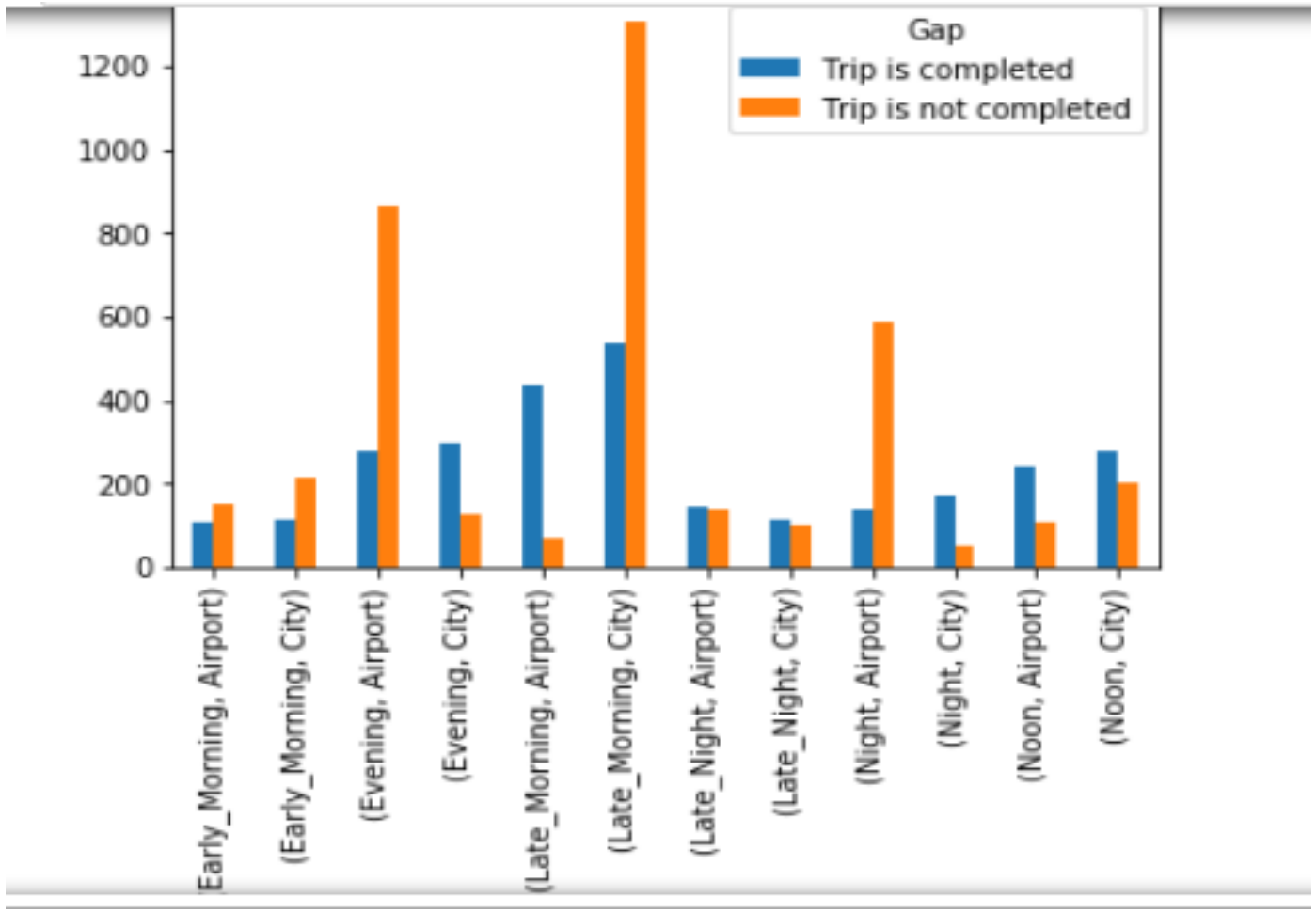
Most "Cancelled" are in the late morning time and from from city.

Understanding the Demand and Supply Gap



It is evident that most of the trips are not being completed i.e. either case of “No Cars Available” or “Cancelled”

Understanding Gap, Time Slot and Pickup Points



Reasoning to the Demand and Supply Gap

- As per the analysis of the pickup point : City , the morning time slot is most problematic where the request are being cancelled. Most probably the requests are being cancelled by the drivers due to the morning rush as it is being the office hours and seeing the destination as Airport which would be too far, the drivers think to earn more for the shorter trips within the city.

- As per the analysis of the pickup point : Airport, the evening slot seems to be most problematic. The reason seems to be lack of numbers of cars in the fleet or more cars are serving within the city.

Recommendations

Based on the data analysis performed, following are the recommendation can be used by Uber to resolve the problem between the gap of supply and demand :-

1. From Airport to City for reducing the gap of supply and demand, Uber can make a permanent stand at the airport itself where the cabs will be available all the time.
2. Uber can provide some incentives or some other lucrative offers to the driver who completes the trip from City to Airport in the Morning. This might result the driver to accept more numbers of request.
3. Uber can increase the numbers of the cars in its fleet.