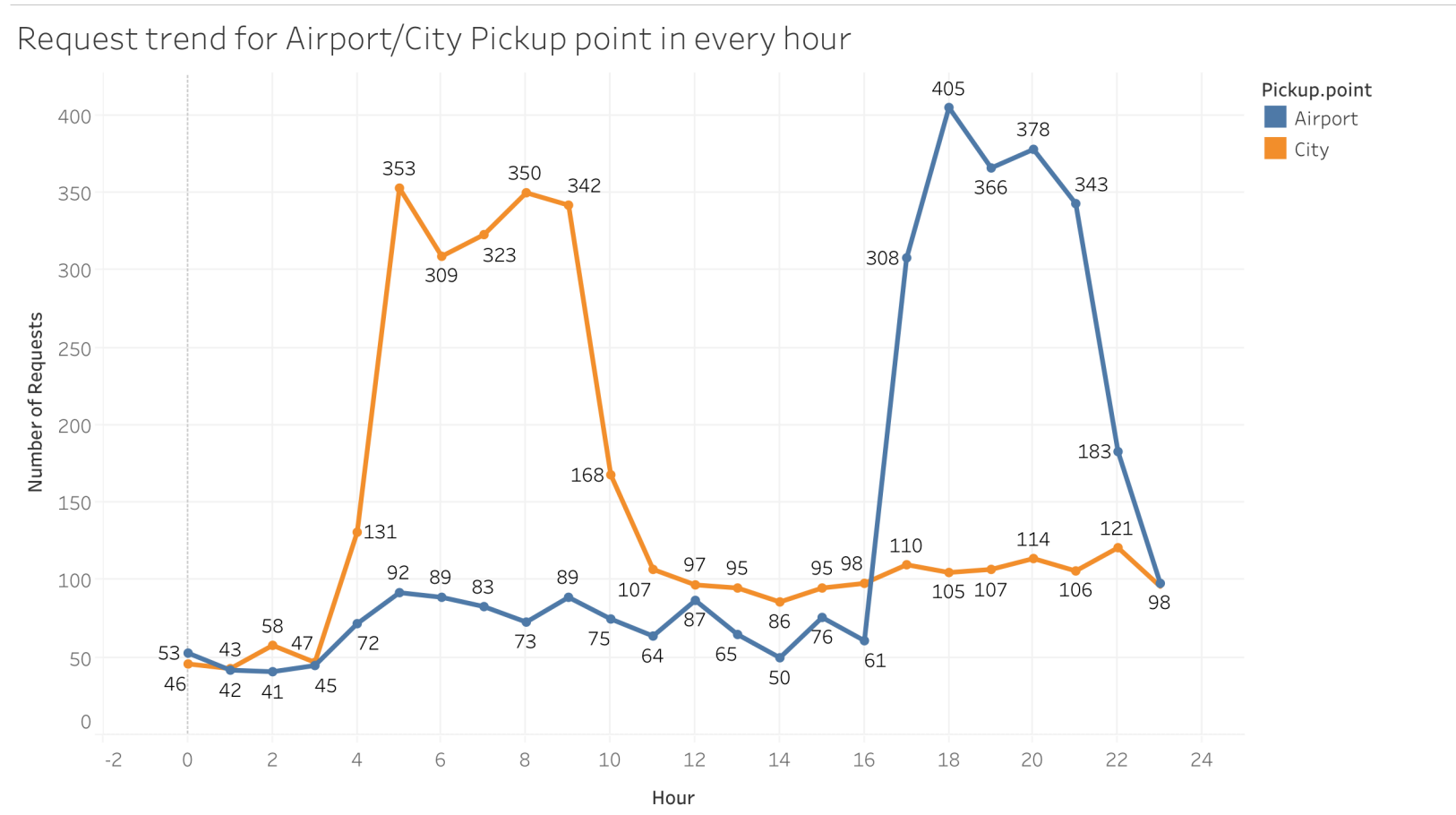


Uber Supply Demand Gap Analysis

Name :- Rahul Kumar

Data Preparation:-

Make a line graph depicting the trend of hour-wise trip request made at city and airport respectively.



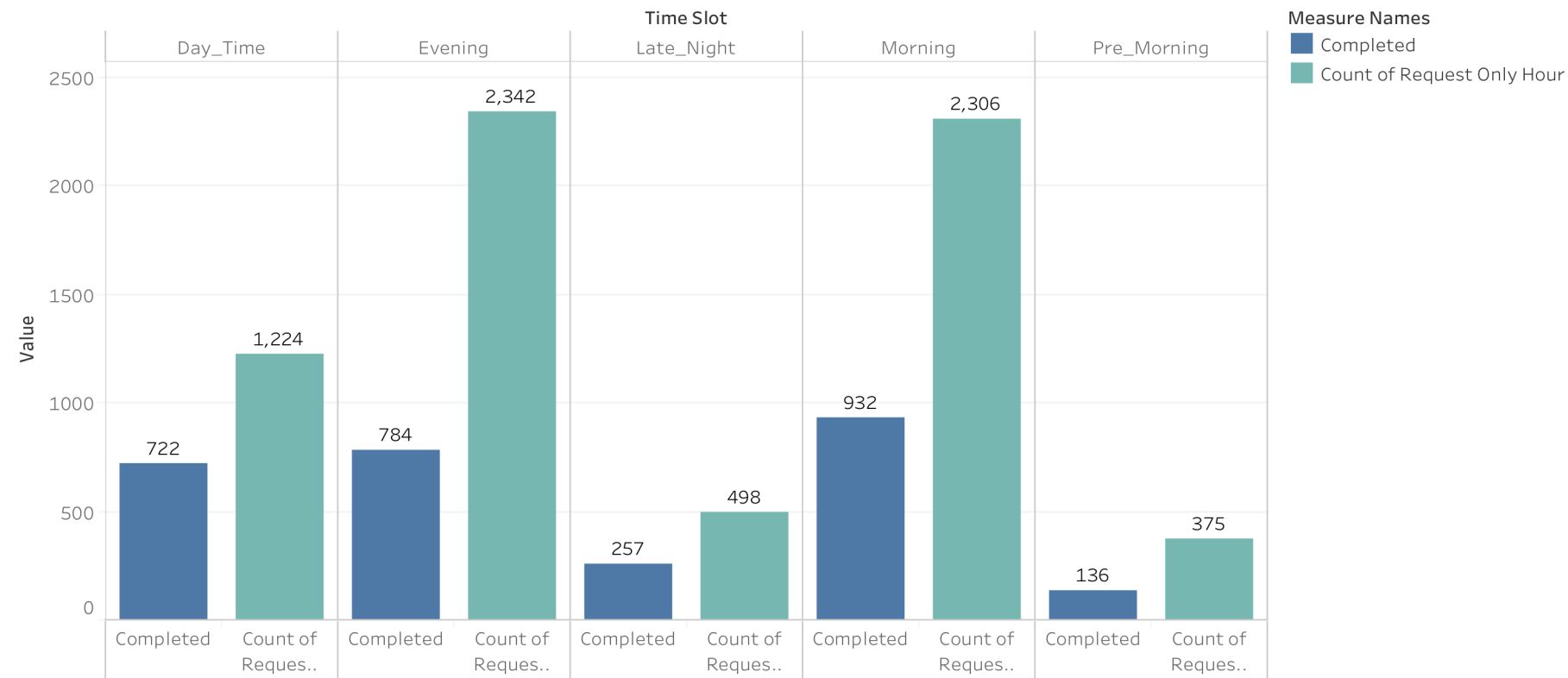
By visualizing above graph we able to divide hour in 5 slots :-

- | | |
|---------------|-------------------|
| 1.Pre-Morning | -> Range 0 to 4 |
| 2.Morning | -> Range 5 to 10 |
| 3.Day | -> Range 11 to 17 |
| 4.Evening | -> Range 18 to 22 |
| 5.Late-night | -> Range 23 to 24 |

Made one additional column in data frame name "Time_slots"

Plot a bar chart showing completed and total number of pickup request in particular time slots.

Completed and Total Request in different time slots



Total completed requests:-

1. Pre-Morning -> 722 out of 1224

3. Day -> 257 out of 498

5. Late-night -> 136 out of 375

2. Morning

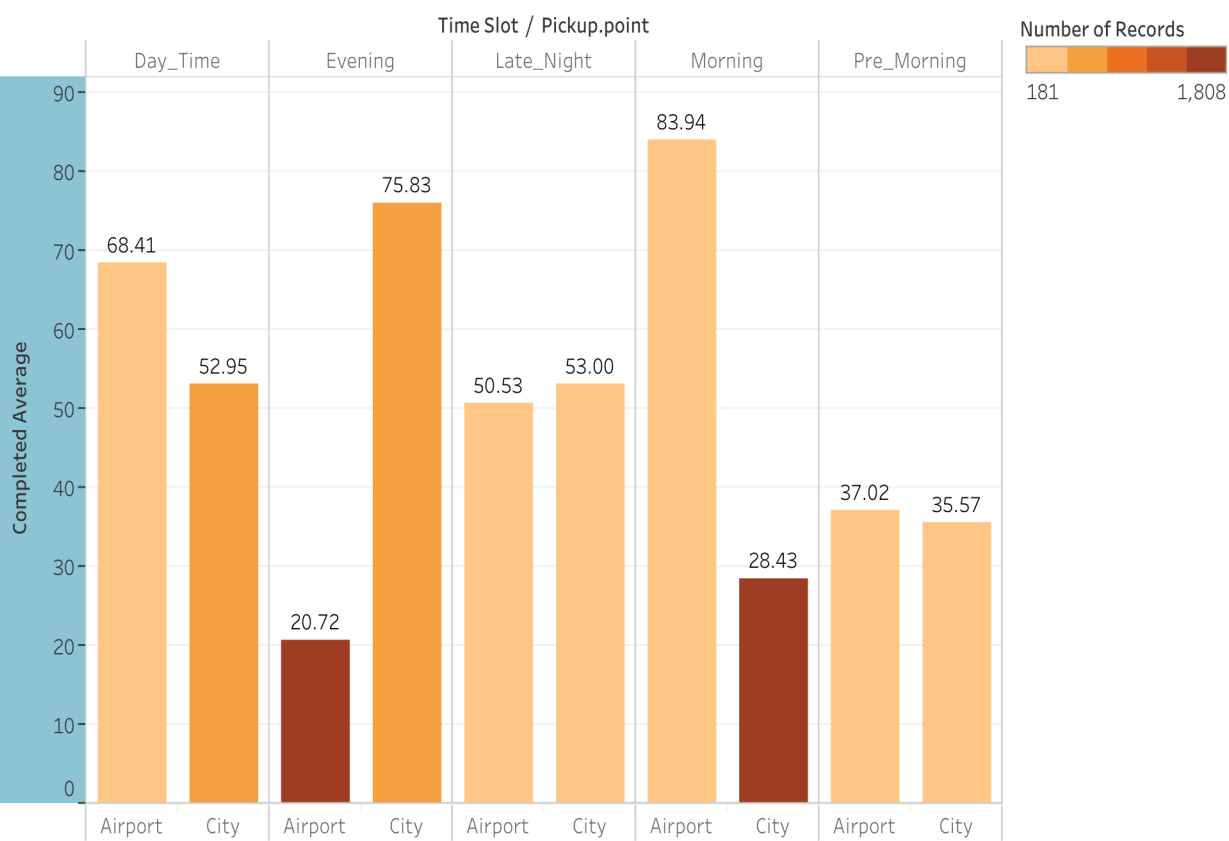
-> 784 out of 2342

4. Evening

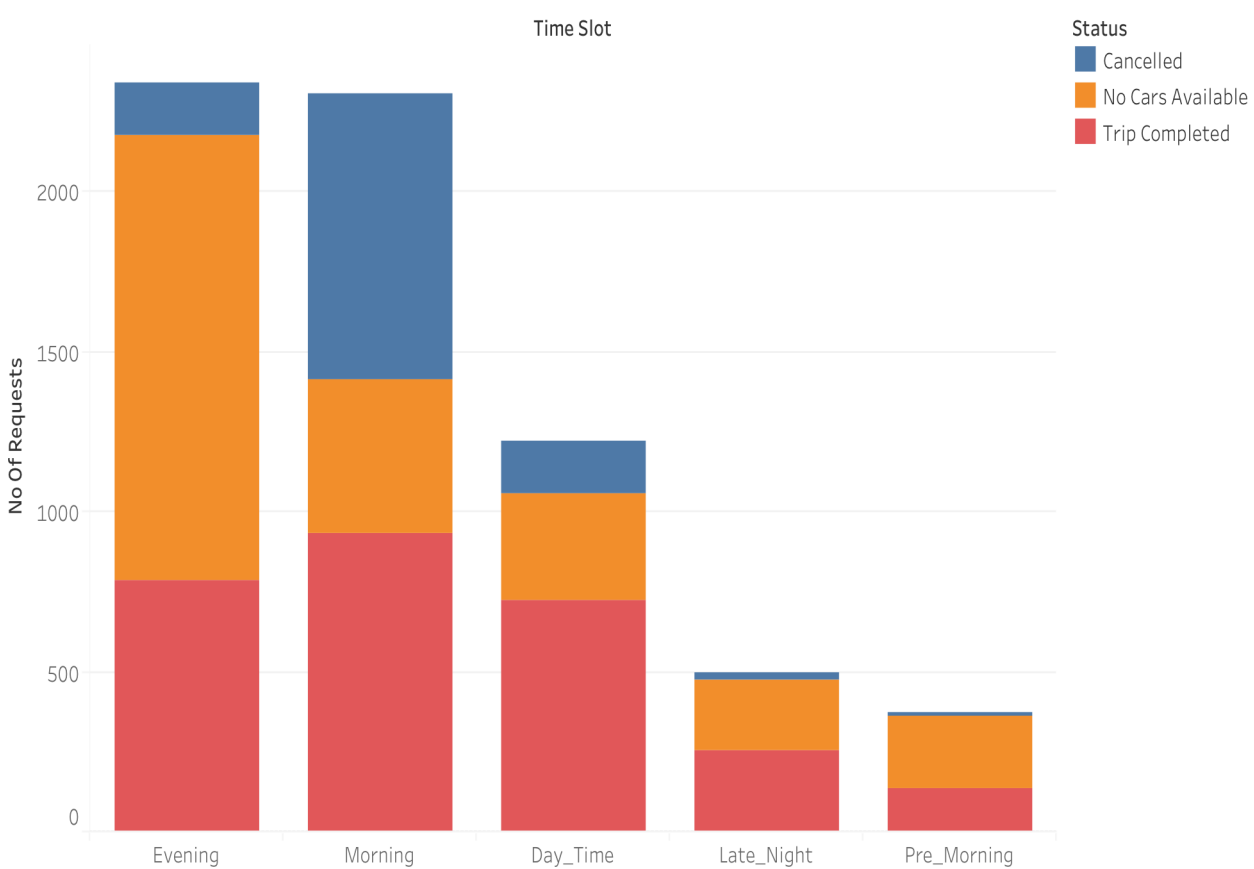
-> 932 out of 2306

By visualizing completed and total requests bar graph we able to identify problem is in Evening and Morning but with City or Airport .Below bar graphs explains where is the problem.

Average Completed Trip for both pickup points



Total cancelled , no available and completed requests in different time slots

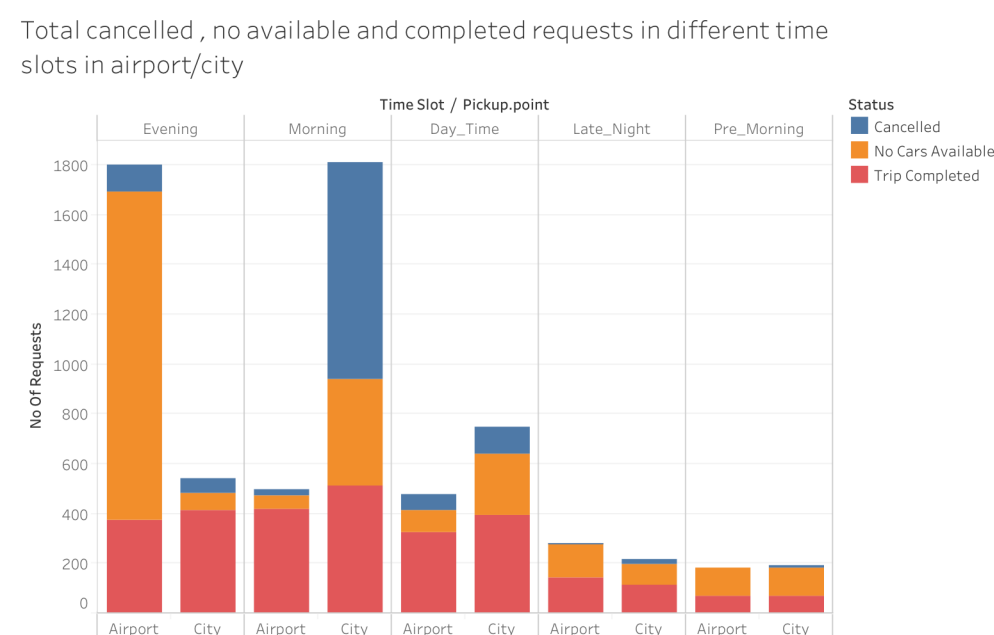


According to above Average completed graph. We able to detect two Problems

1. In Evening Slot from Airport percentage of completed trip is very less (about 21%) .
2. In Morning Slot from City percentage of completed trip is very less (about 28%)

Questions :-

1. Why in Evening Slot number of cancelled and no car available is more?
2. Why in Morning Slot number of cancelled and no car available is more?

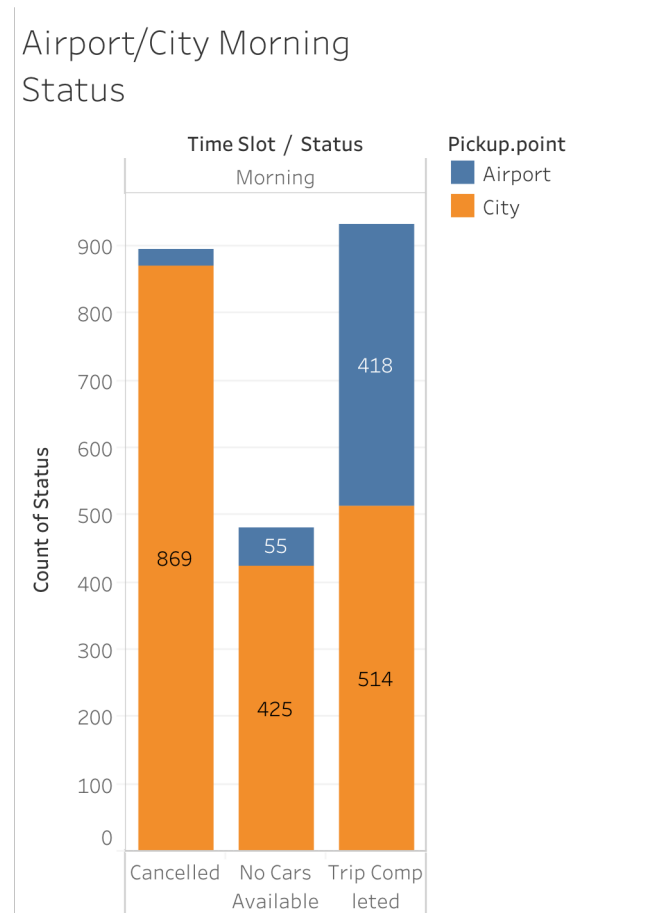


Problem 1 :-

Now we know the problem is there in morning slot but we have to identify where is the problem is more severe for pickup request is in Airport or in city. Below graph shows number of cancelled is in city in morning is more.

Airport :- 2.79%

City :- 97.20%



City to airport – Morning – Cancel is more

Now let's find out the gap between supply and demand. For this case, the demand is the number of trip requests made at the city, whereas the supply is the number of trips completed from city to the airport.

No. of trip requests made in city: 1808

No. of trips completed from city to airport: 514

3. What do you think is the reason for this issue for the supply demand gap?

A large number of flights leave the airport during Morning time slot. There are very less incoming flights in the Morning. A driver who reaches airport during that time has to spend idle time to pick a customer back to the city. The driver could utilize this idle time for other trips if he chooses not to go to the airport. Otherwise he has to return back empty seated which is a waste of gas mileage for him. Due to this a large number of service requests were cancelled in morning resulting in huge supply demand gap.

4. What is your recommendation to Uber ?

A. Give some more benefits to driver for airport trip like decrease the minimum limits of trip , increase the commission given by Uber to drivers.

B. Charge more for airport trip which equalise idle time of drivers.

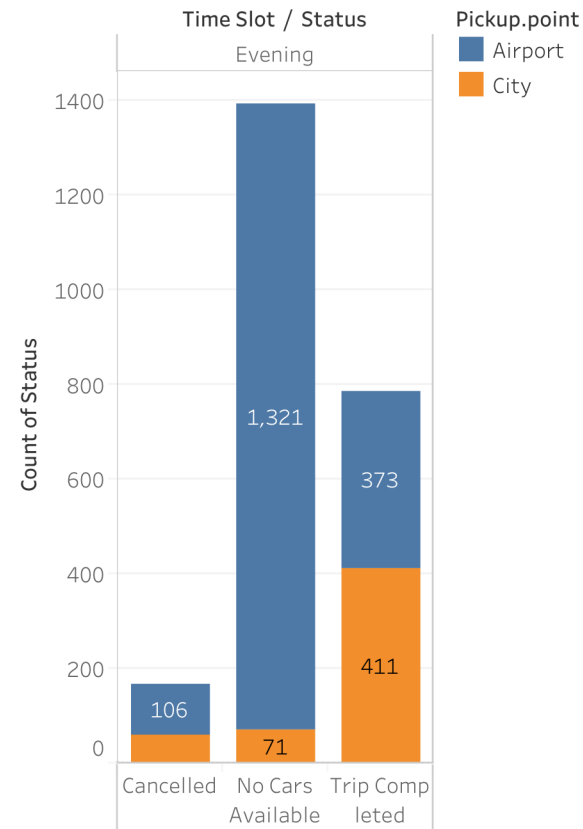
Problem 2 :-

Now the 2nd problem is there in evening slot and we have to identify where is the problem is more severe for pickup request is in Airport or in city. Below graph shows number of no car available is in airport in morning is more.

Airport :- 94.8%

City :- 5.2%

Sheet 4



Airport to City – Evening – No car available is more

Now let's find out the gap between supply and demand. For this case, the demand is the number of trip requests made at the airport, whereas the supply is the number of trips completed from airport to the city.

No. of trip requests made in city: 1800

No. of trips completed from city to airport: 373

3. What do you think is the reason for this issue for the supply demand gap?

At the airport Incoming flights are more and outgoing flights are less during Evening slot. As the outgoing flights are less, the cabs coming to the airport are also very less during that time. This is drastically reducing the availability of cabs at airport in the evening time slot. As the incoming flights are more, the passengers are also more in the evening. These passengers are not getting sufficient cabs to leave the airport in the evening. This is leading to a huge supply demand gap at the airport in evening time slot.

4. What is your recommendation to Uber ?

A. Calculate time till which drivers will wait for passengers. And not leave airport without passengers.

B. If in city any driver is idle for long time then ask him to go airport without passengers and give some benefits to drivers like incentive and min trip limitation