# Uber Supply Demand Gap Assignment

By:-Umesh

# Data Exploration

- Data set contains 6 columns:
1. Request.id
2. Pickup.point
3. Driver.id
4. Status
5. Request.timestamp
6. Drop.timestamp
- Problem Statement: Find out the supply demand gap and suggest way to improve the situation
- Based on the problem statement, we should focus on pickup point, status and driver id

# Data Cleaning and Manipulation

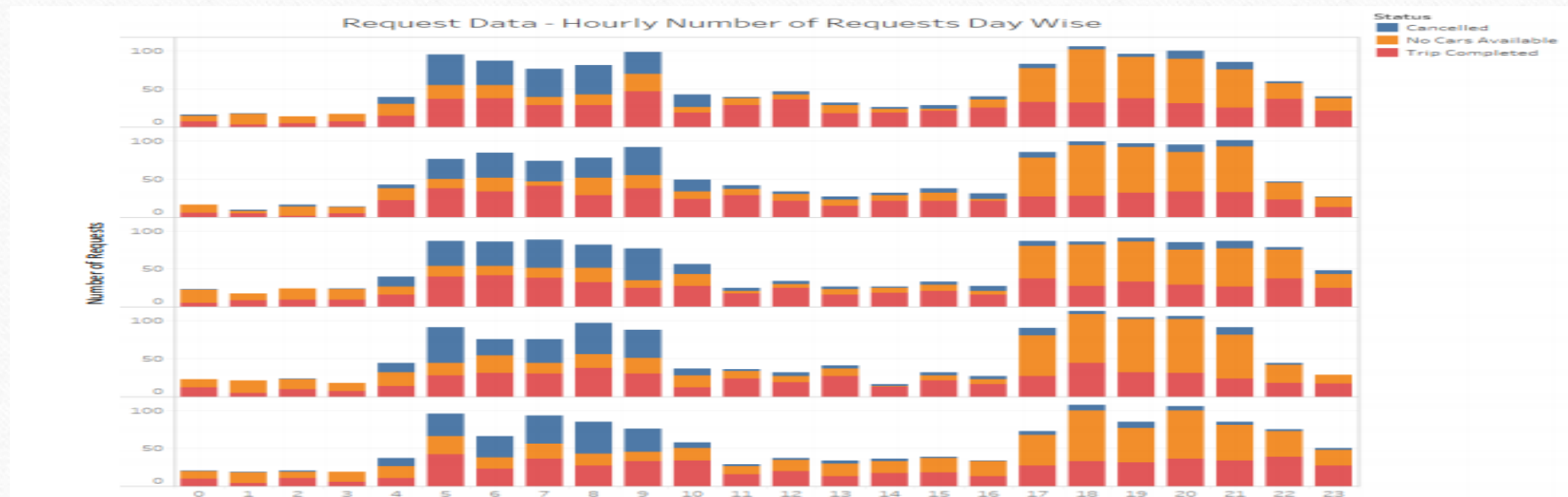- Possible data inconsistencies:

    1. Duplicate values of Request ID

    2. NA values in the columns of interest

- Other Issues:

    1. Request time stamp is object here. Convert it to date time format.

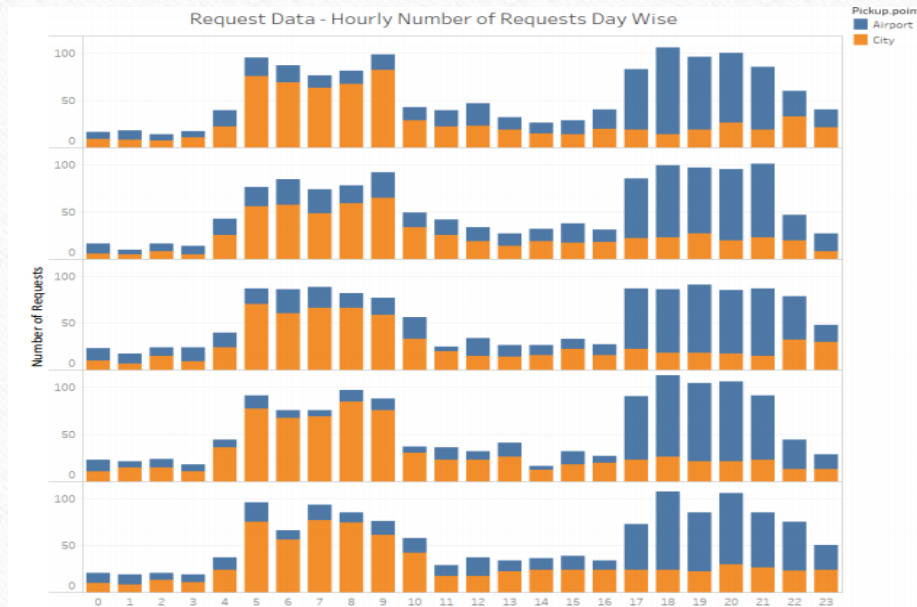    2. Dates are separated by "/" and "-". Make this consistent for ease of data analysis.

# Analysing Trends For Each Day

- The pattern of requests is common for all the days for the status of requests.
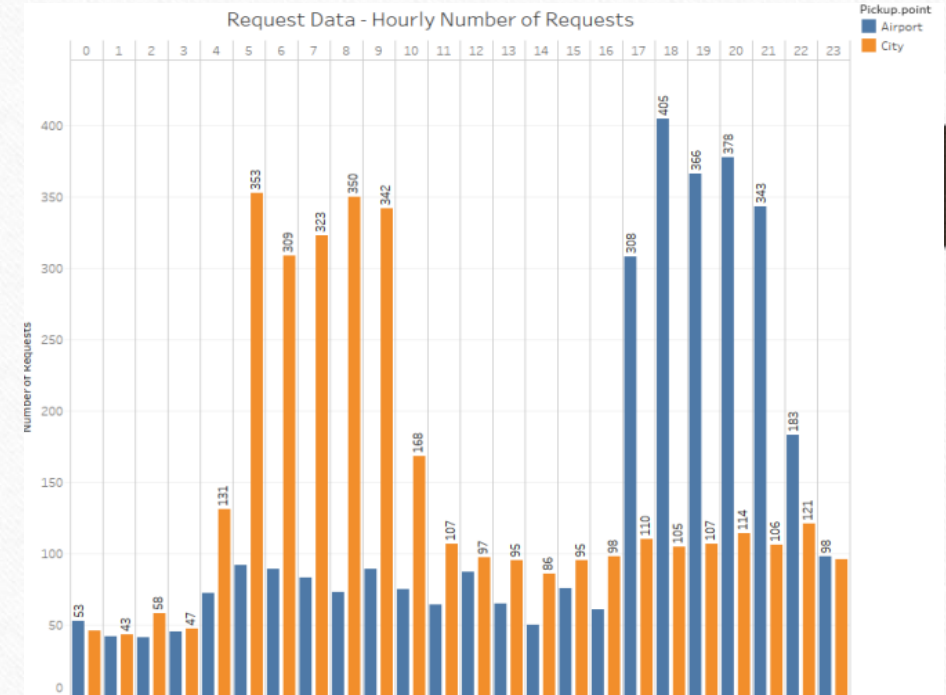
# Analysing Trends For Each Day

- The pattern of requests is common even for all the days for the pick up point where the requests have been generated.

# Combining Data For All Days

- Previous graphs show that all the days show common trends.
- Hence the number of requests can be clubbed together for further analysis.
- Conclusion:
    1. Number of trips in morning are high from the city
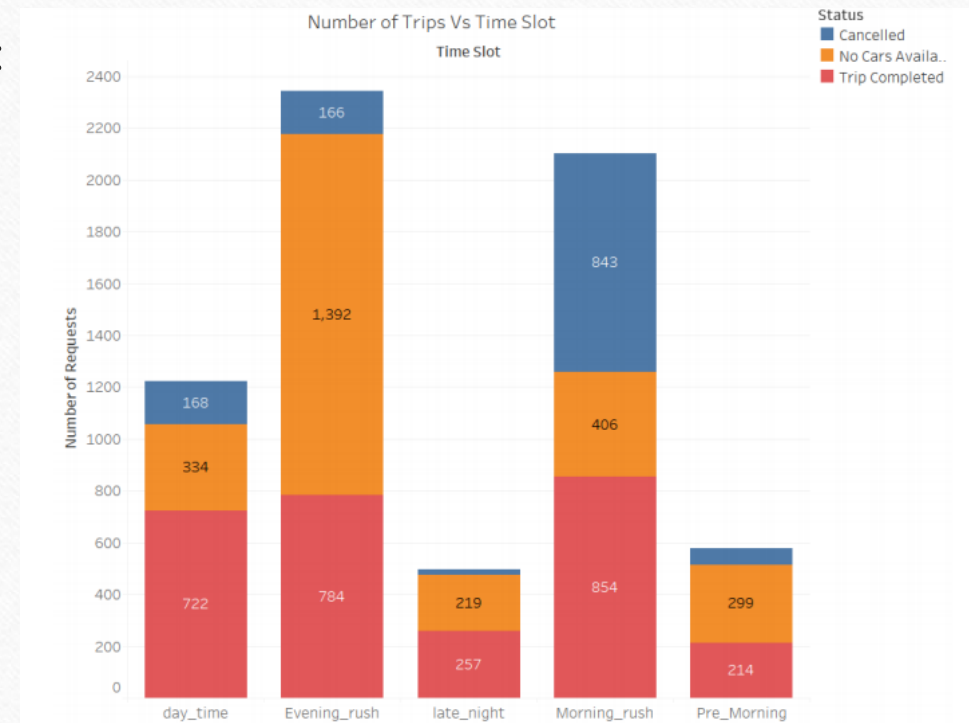    2. Number of trips from the evening are high from the airport

# Binning Time Into 5 Categories

- Requests generated are divided into 5 homogenous categories based on the time of request.

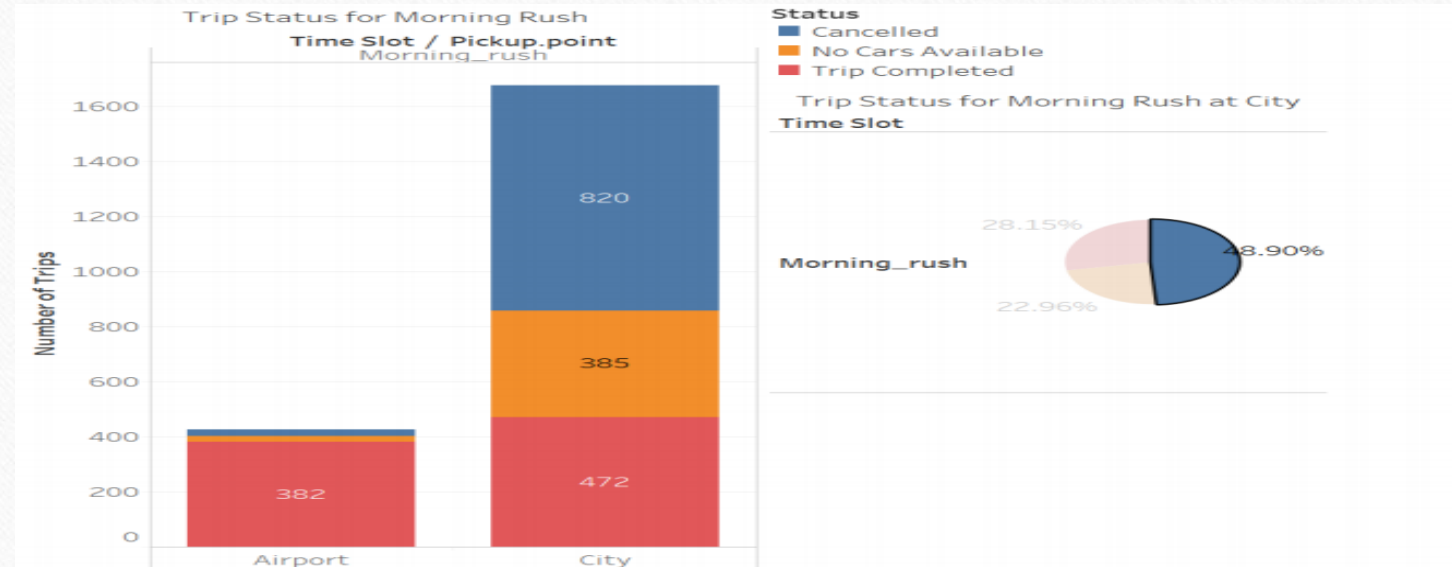| Time | Category |
|---|---|
| 12 AM – 5 AM | Pre_Morning |
| 5 AM – 10 AM | Morning_Rush |
| 10 AM – 5 PM | Day_Time |
| 5 PM – 10 PM | Evening_Rush |
| 10 PM – 12 AM | Late_Night=== |

# Problem Identification – Morning and Evening

- Graph clearly shows that the major problems are:

  1. Cancelled trips during the morning rush

  2. Unavailability of cars during evening rush

# Cancelled trips - 50 % of total trips from city

- The supply from the city is 472, while the demand is 472 + 285 + 820 = 1677 .

- The difference between the demand and the supply is 1205.

# No Cars - 70 % of total trips from airport

- The supply from the airport is 373, while the demand is $373 + 1321 + 106 = 1800$.
- The difference between the demand and the supply is 1427.