

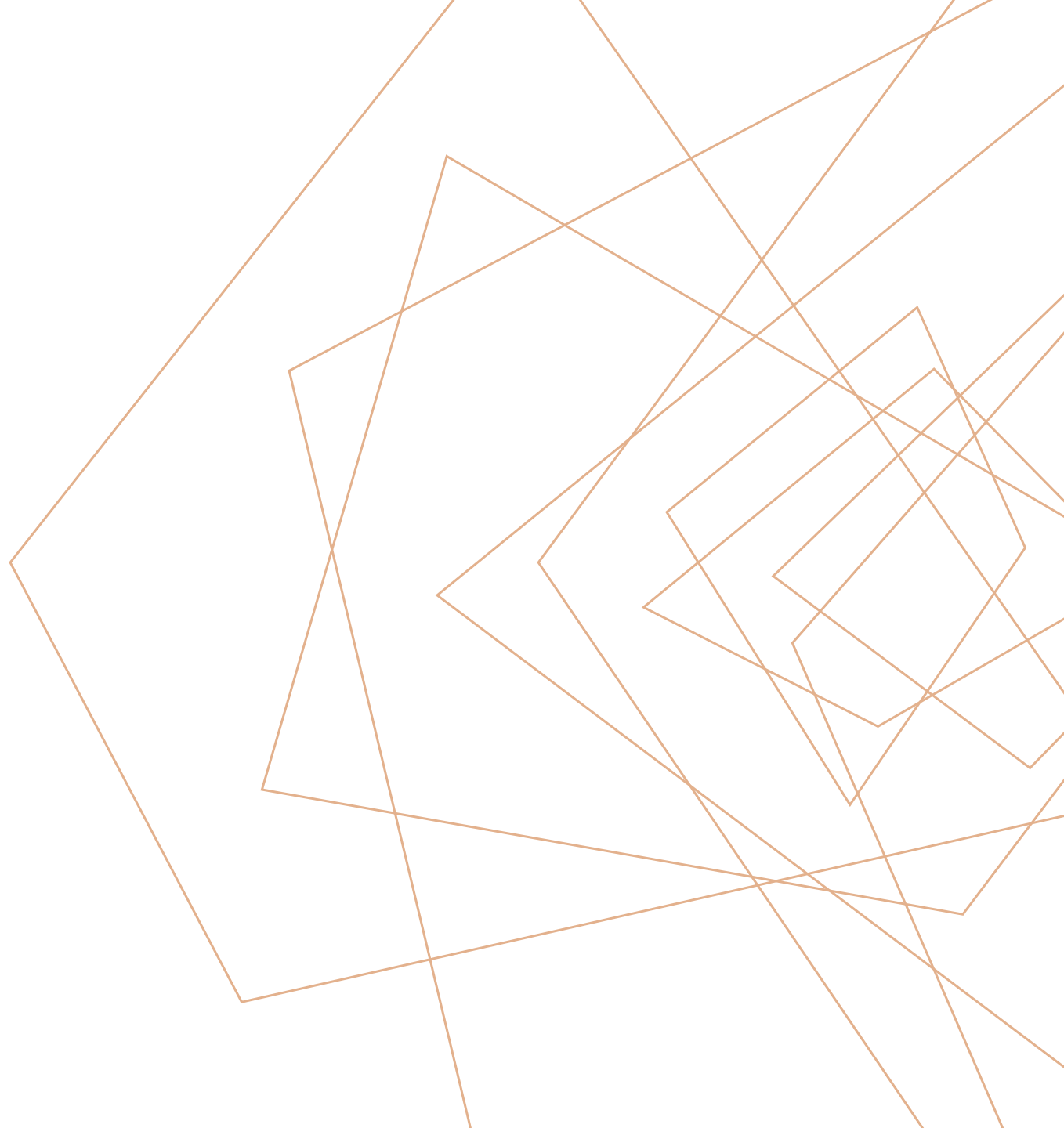
Abstract geometric lines in the top left corner of the slide, consisting of several overlapping, irregular polygons and lines in a light beige color.

# UBER SUPPLY-DEMAND GAP

- Vanraj Dinesh Bohra
- Email : [vanrajbohra@gmail.com](mailto:vanrajbohra@gmail.com)
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# AGENDA

- **Business Problem Statement**
- **EDA**
- **Analysis / Findings**
- **Recommendation**



# Business Problem Statement

## **Problem Statement:**

1. Root Cause Analysis for following problems between Airport and City resulting in loss of potential revenue:
  1. Non-Availability of Cabs
  2. Driver Cancellation

## **Analysis Objective:**

1. Identify Root Cause for given problem Statement.
2. Possible Hypothesis for Problem.
3. Recommend Solution in order to reduce Supply and Demand Gap.

## **Data to Analyze:**

1. 6745 Rides detail for 13<sup>th</sup> Sept 2016 to 15<sup>th</sup> Sept 2016 between Airport and City
2. All Rides are classified as Completed, No Car Available and Cancelled

# EDA : Data Cleansing

## Dataset contain following Columns:

1. Request ID(Primary Key)
2. Pickup Point
3. Driver ID
4. Status
5. Request Timestamp
6. Drop Timestamp

## Data Cleansing on above Columns:

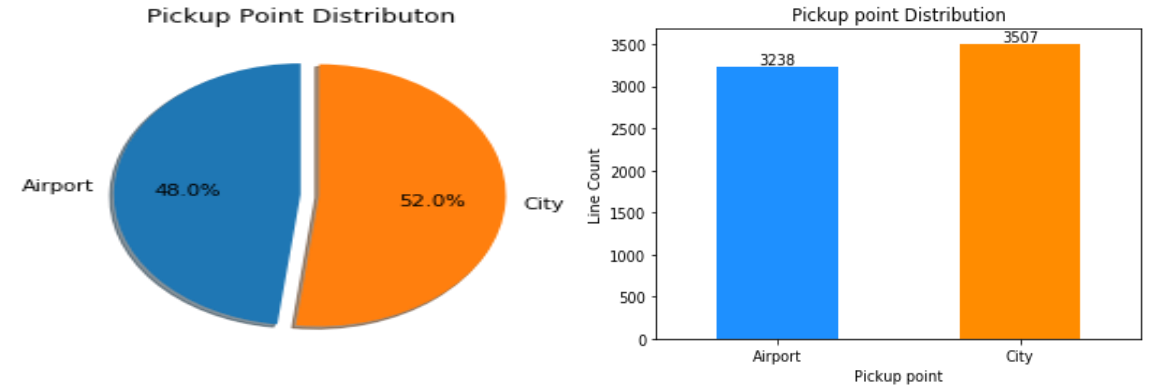
1. Checked Duplicate column if available in given dataset
2. Null handling
3. Request and Drop timestamps where not in consistent format, so have changed It to consistent format.

	Request id	Pickup point	Driver id	Status	Request timestamp	Drop timestamp
0	619	Airport	1.0	Trip Completed	11/7/2016 11:51	11/7/2016 13:00
1	867	Airport	1.0	Trip Completed	11/7/2016 17:57	11/7/2016 18:47
2	1807	City	1.0	Trip Completed	12/7/2016 9:17	12/7/2016 9:58
3	2532	Airport	1.0	Trip Completed	12/7/2016 21:08	12/7/2016 22:03
4	3112	City	1.0	Trip Completed	13-07-2016 08:33:16	13-07-2016 09:25:47
5	3879	Airport	1.0	Trip Completed	13-07-2016 21:57:28	13-07-2016 22:28:59
6	4270	Airport	1.0	Trip Completed	14-07-2016 06:15:32	14-07-2016 07:13:15
7	5510	Airport	1.0	Trip Completed	15-07-2016 05:11:52	15-07-2016 06:07:52
8	6248	City	1.0	Trip Completed	15-07-2016 17:57:27	15-07-2016 18:50:51
9	267	City	2.0	Trip Completed	11/7/2016 6:46	11/7/2016 7:25
10	1467	Airport	2.0	Trip Completed	12/7/2016 5:08	12/7/2016 6:02
11	1983	City	2.0	Trip Completed	12/7/2016 12:30	12/7/2016 12:57
12	2784	Airport	2.0	Trip Completed	13-07-2016 04:49:20	13-07-2016 05:23:03
13	3075	City	2.0	Trip Completed	13-07-2016 08:02:53	13-07-2016 09:16:19
14	3379	City	2.0	Trip Completed	13-07-2016 14:23:02	13-07-2016 15:35:18
15	3482	Airport	2.0	Trip Completed	13-07-2016 17:23:18	13-07-2016 18:20:51
16	4652	City	2.0	Trip Completed	14-07-2016 12:01:02	14-07-2016 12:36:46
17	5335	Airport	2.0	Trip Completed	14-07-2016 22:24:13	14-07-2016 23:18:52
18	535	Airport	3.0	Trip Completed	11/7/2016 10:00	11/7/2016 10:31
19	960	Airport	3.0	Trip Completed	11/7/2016 18:45	11/7/2016 19:23

# Analysis : Univariate Analysis

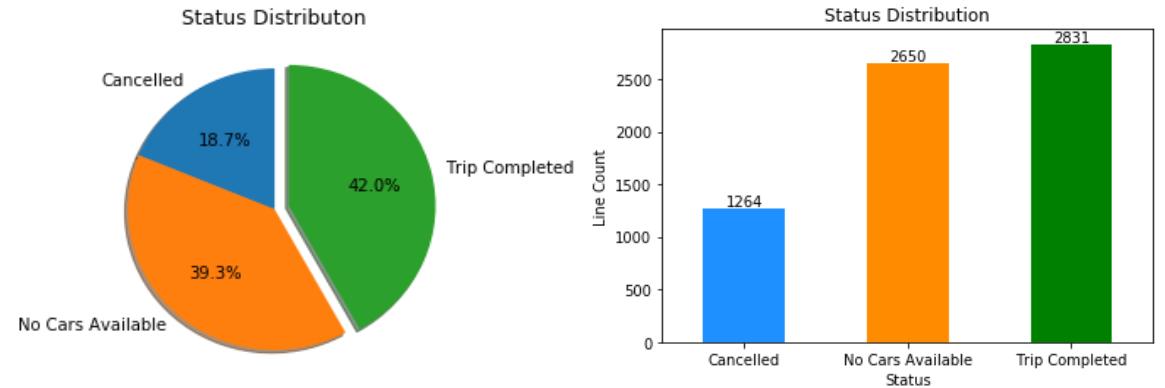
## Pickup Point :

1. Show we have almost equal distribution of ride between Airport and City.



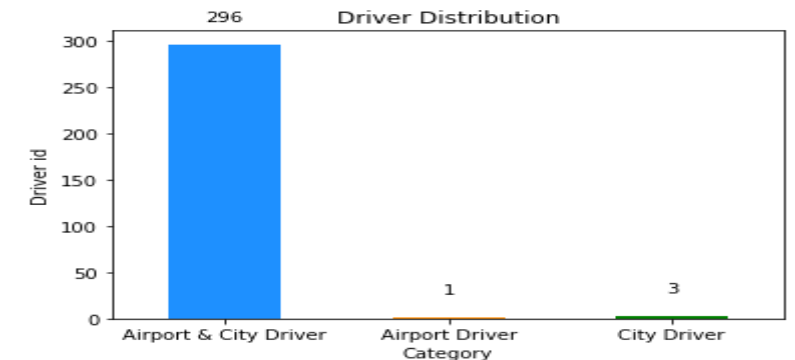
## Status :

1. Only 42% of total Ride is completed
2. No car Available are equivalent to Trip Completed, so it means that Uber are running Shortage of car



## Driver ID:

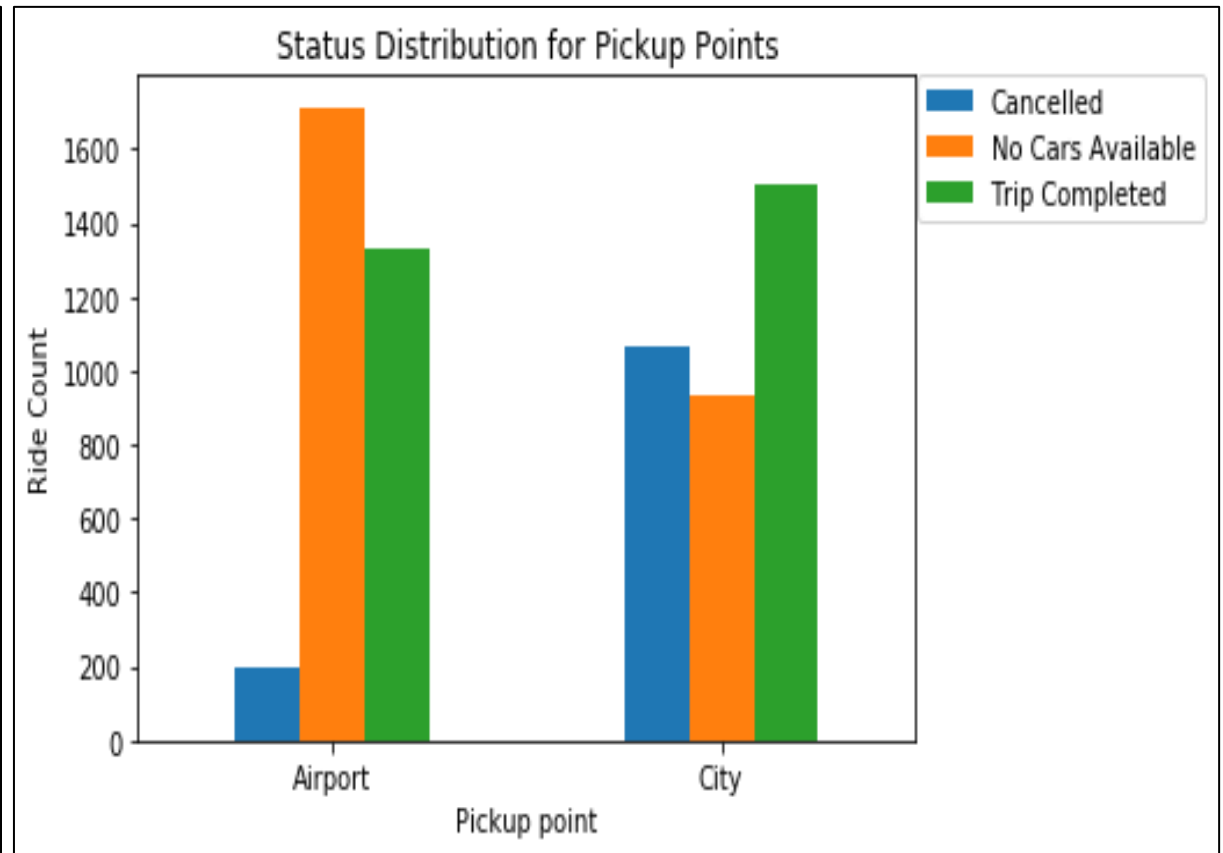
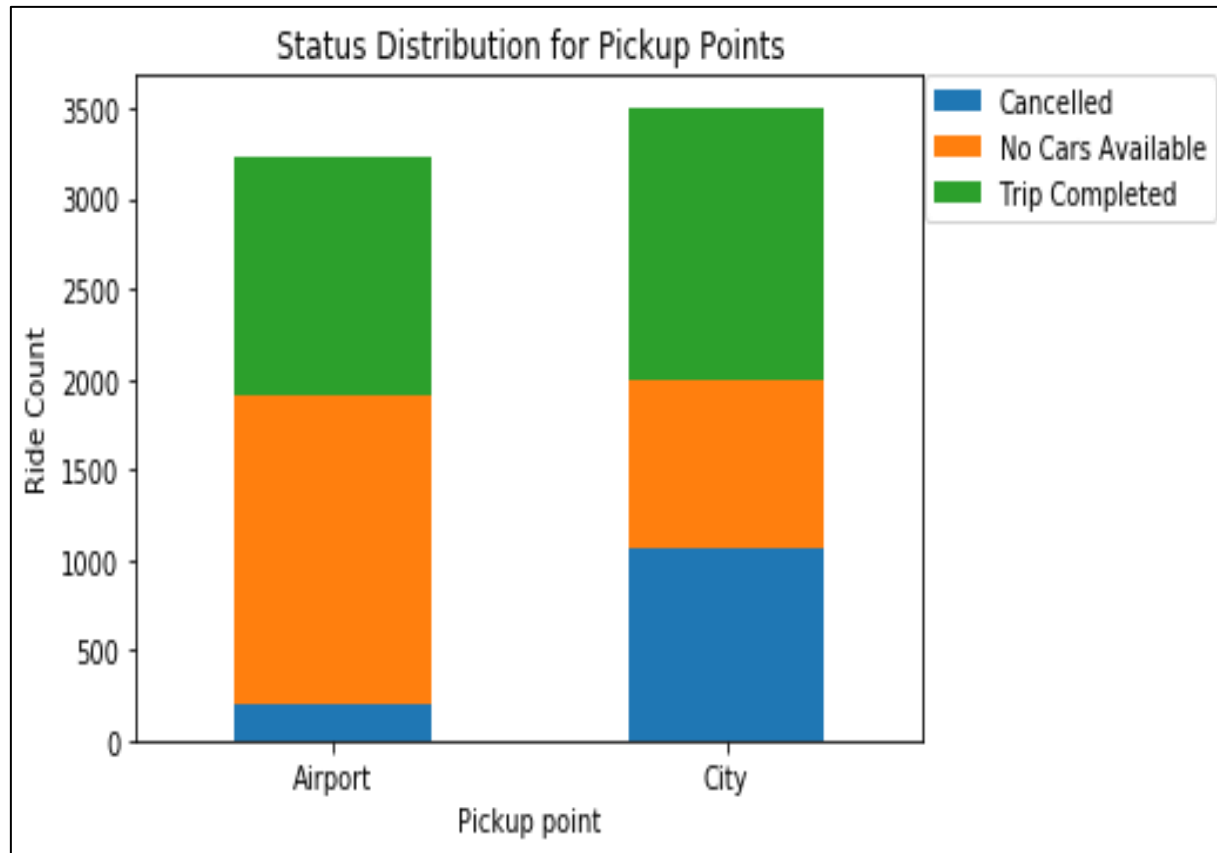
1. Total Uber Driver are 300
2. 296 Drives at both Airport as well as City



# Analysis : Bivariate Analysis

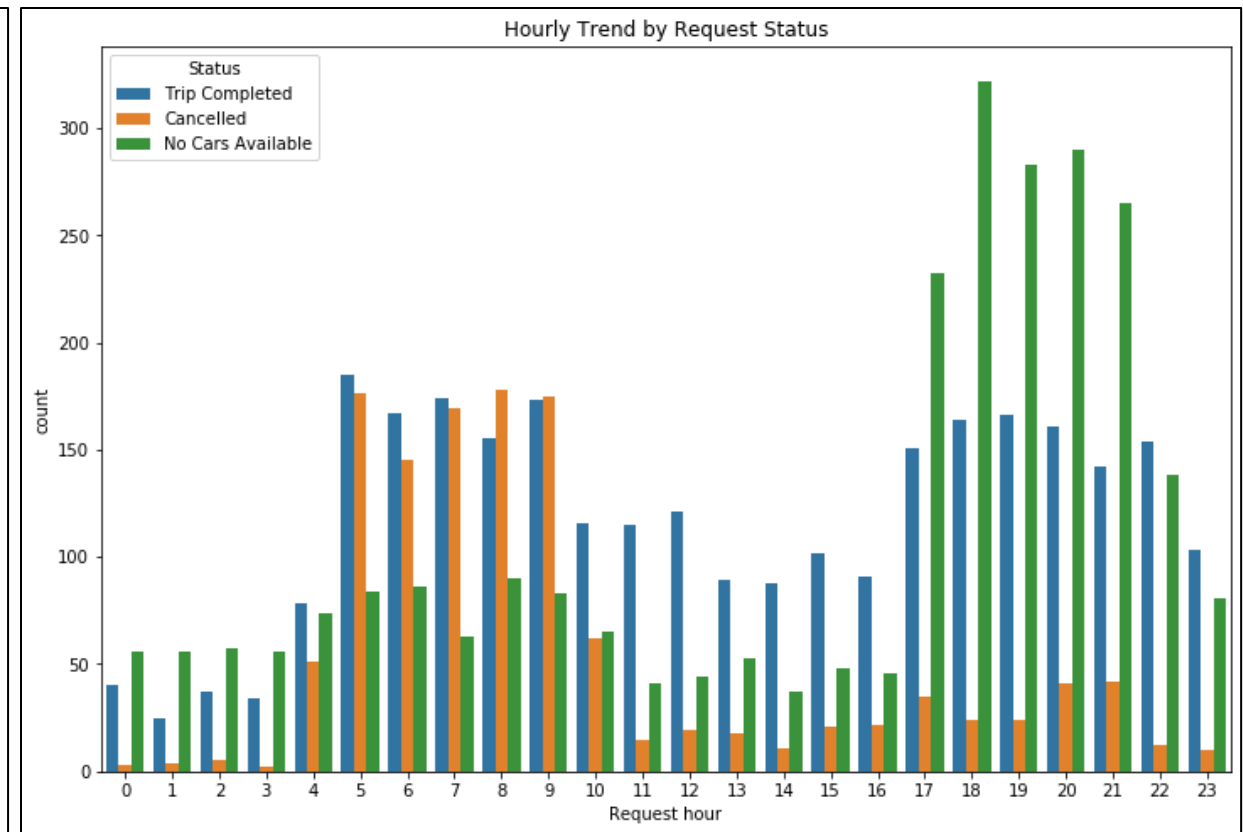
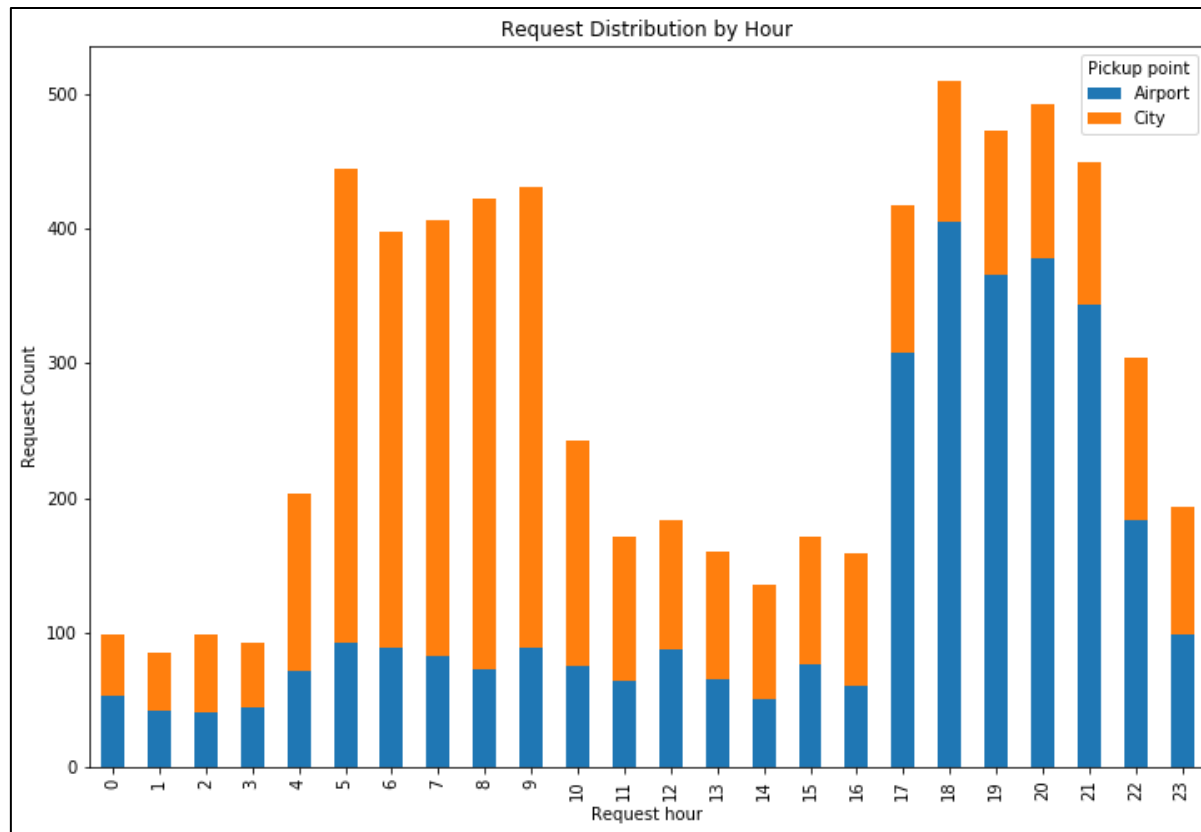
## Bivariate Analysis between Status and Pickup Points:

1. Cars are not available more than Completed rides on Airport which is sheer loss in Revenue.
2. Cancellation are much done in City.



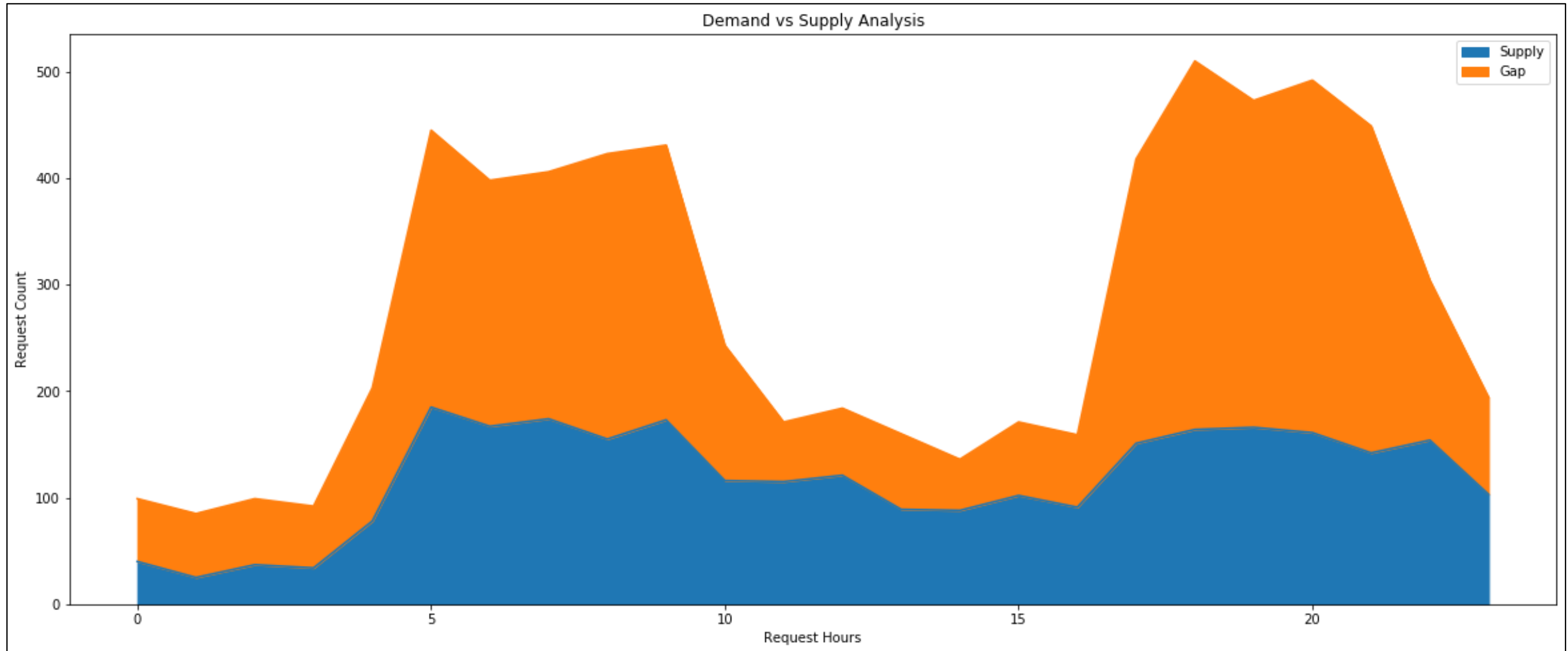
# Analysis : Hourly Demand Analysis

1. On an hourly Trend 5 to 10 and 17 to 22 clearly depicts as Peak hour, where in morning more demand is from City and Evening more Demand is from Airport.
2. We can also see in morning peak hour Cancellation is more and Evening No Car Available are peaking



# Analysis : Supply and Demand Hourly Trend

1. Gap between today demand and Supply have been considerably very high during Peak Hours which result in sheer loss of revenue.





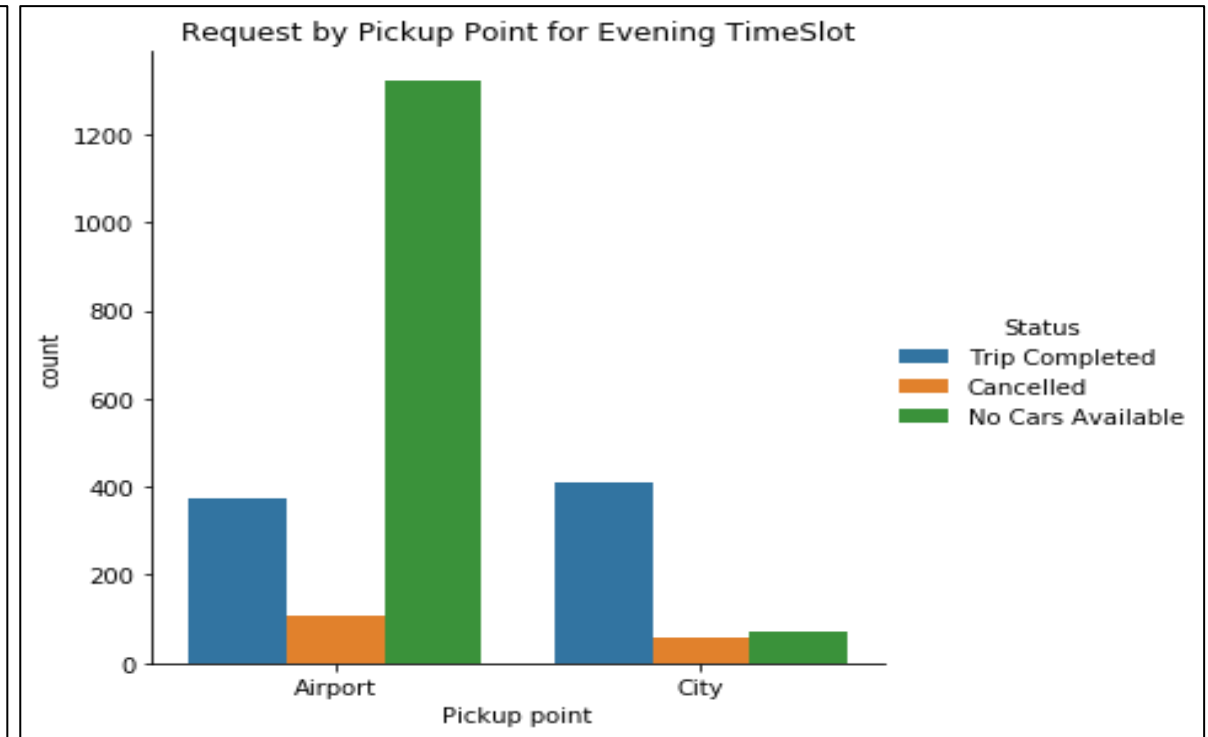
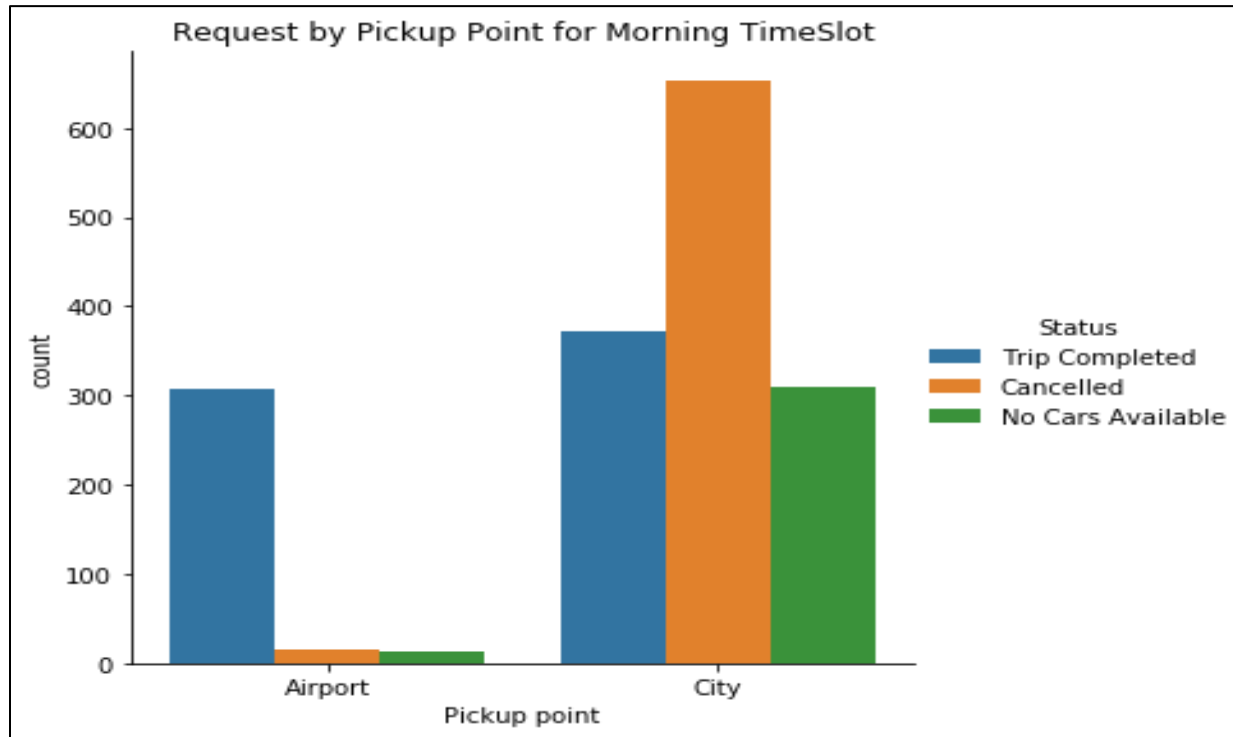
# Analysis : Root Cause for Revenue Loss

## 1. Higher Number of Cancellation from City in Morning

1. Potential Reason : Demand is high from City to Airport but vice-versa is not true, hence driver tends to cancel the request as getting a return trip to city will be difficult.

## 2. Car Unavailability from Airport in Evening

1. Potential Reason : Demand is High from Airport but vice versa is not true.



# Recommendations

- 1.Offer incentives** to all city trip pick-up points during morning peak hours and evening peak hours for all airport trip pick-up points.
- 2.To fulfill the airport's high demand, **additional cab** must be introduced.
- 3.Penalizing** a driver, a fee for canceling a request or restricting a driver's daily cancellations
- 4.Ride-sharing (carpooling) services** can be quite useful in dealing with the problem of car shortages.
- 5.Advance booking** is another helpful technique for drivers who want to plan their journey ahead of time, resulting in fewer cancellations.