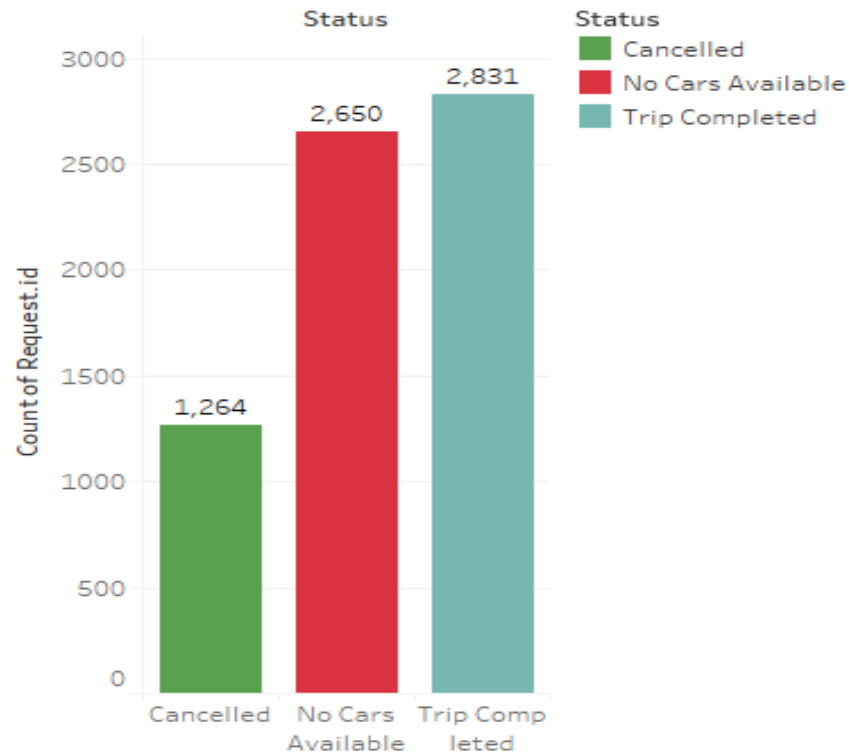# Uber Supply- Demand Gap

SUBMISSION

Univariate Analysis – Trip Status and Pickup Points

Frequency of Request - Trip Status Wise
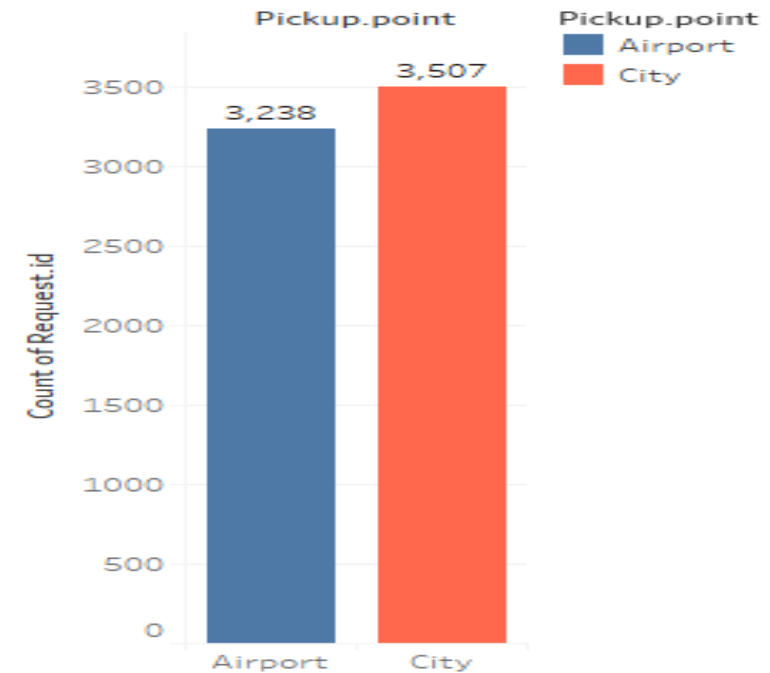Only 42 % of the Trips were Completed

Status

Status
- 🟩 Cancelled
- 🟥 No Cars Available
- 🟦 Trip Completed

Count of Request.id for each Status. Color shows details about Status.

Frequency of Request - Trip Status Wise
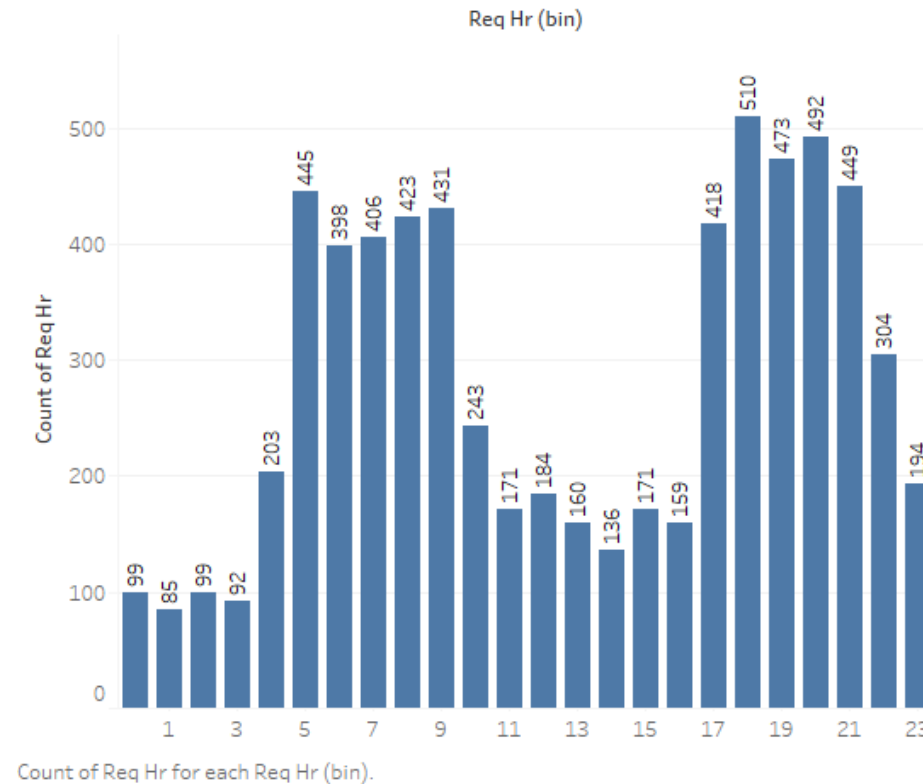52 % of the request are for City - Airport Trips

Pickup.point

Pickup.point
- 🟦 Airport
- 🟥 City

Count of Request.id for each Pickup.point. Color shows details about Pickup.point.
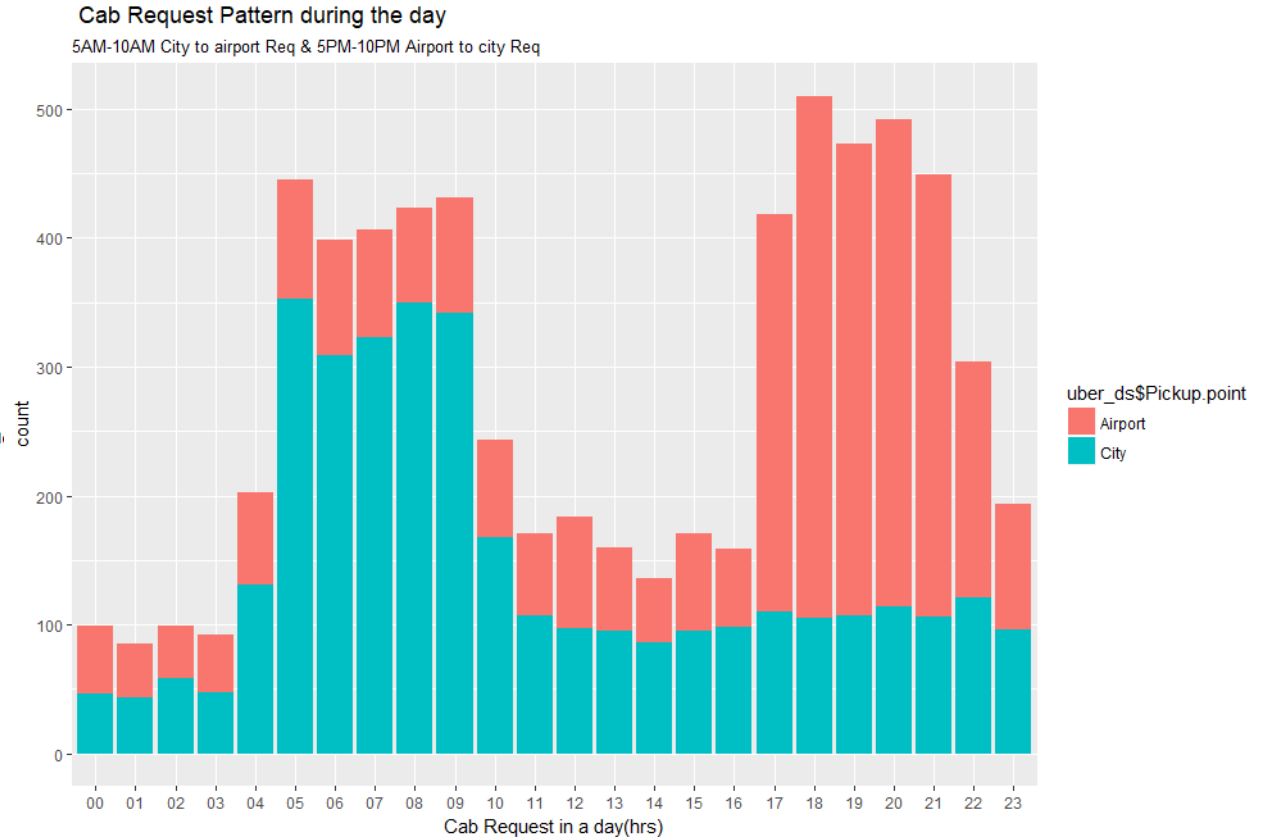
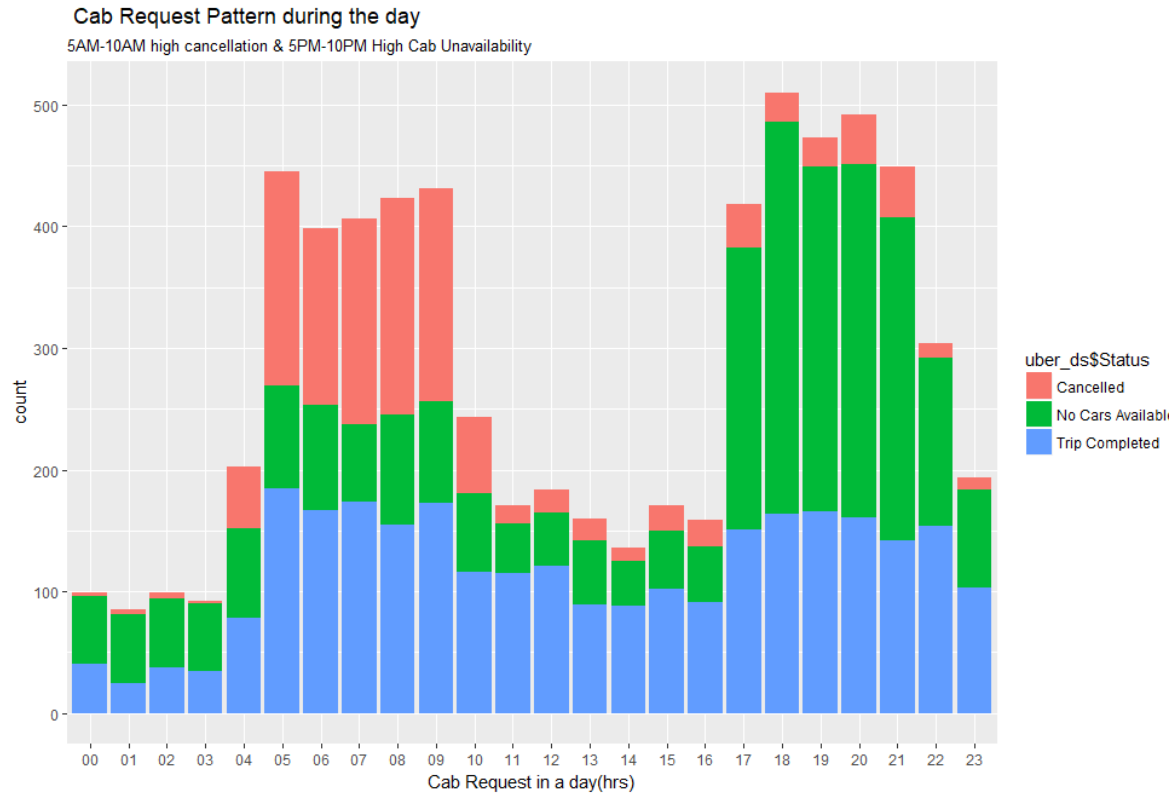# Univariate Analysis – Trip Request Time

Cab Request Pattern during the day(hrs)

Peak hours is between 5AM-10AM & 5PM-10PM
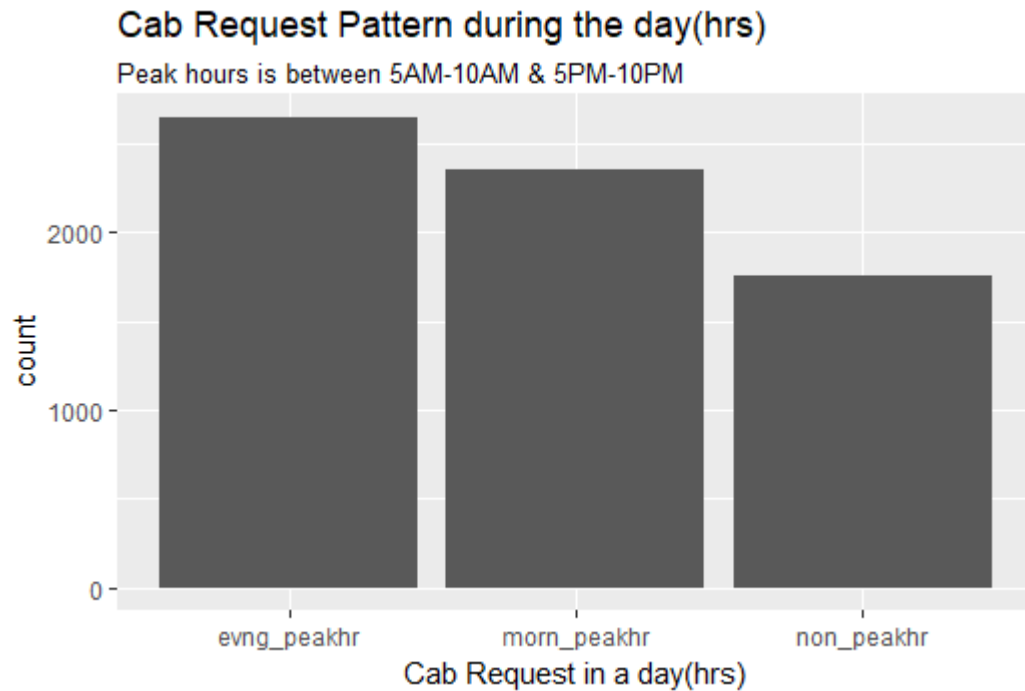
Cab Demand/Request Pattern During the day

Demand is high from 5-10AM & 5-10PM

Req Hr (bin)

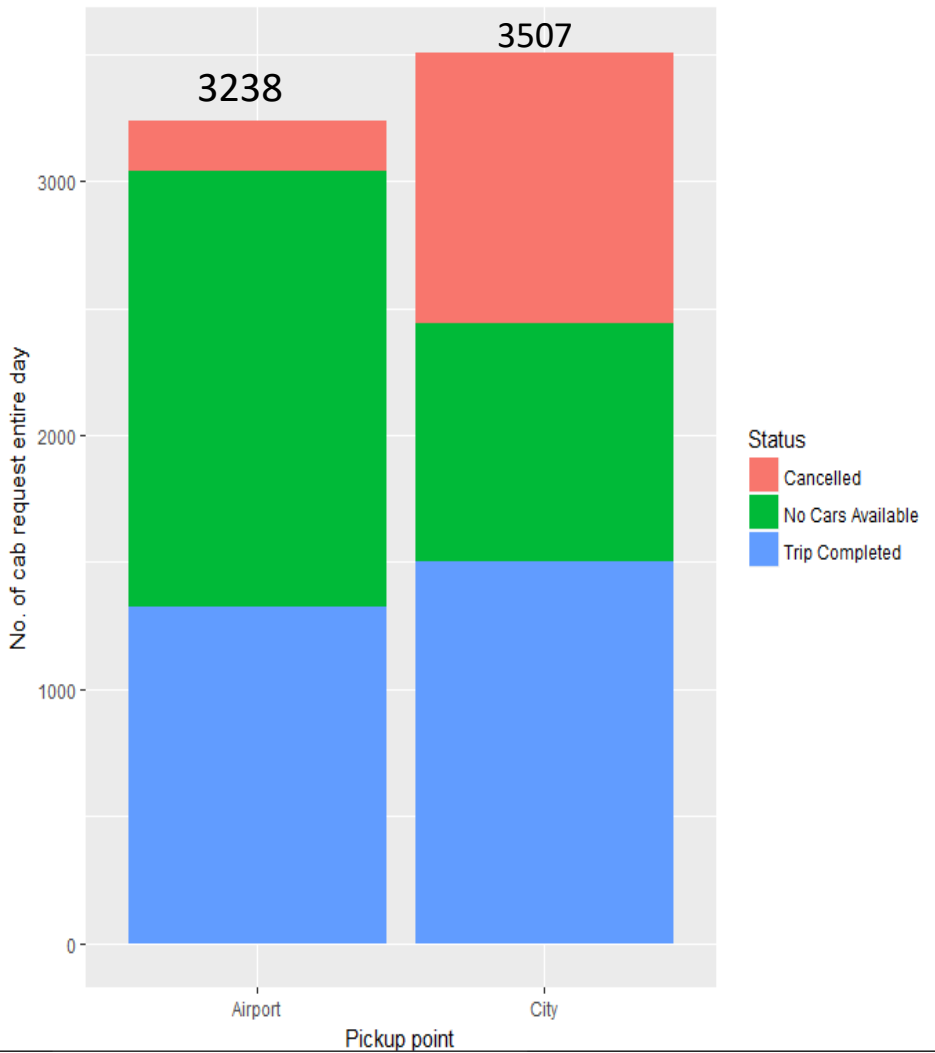Count of Req Hr for each Req Hr (bin).

Cab Request Pattern During the Day
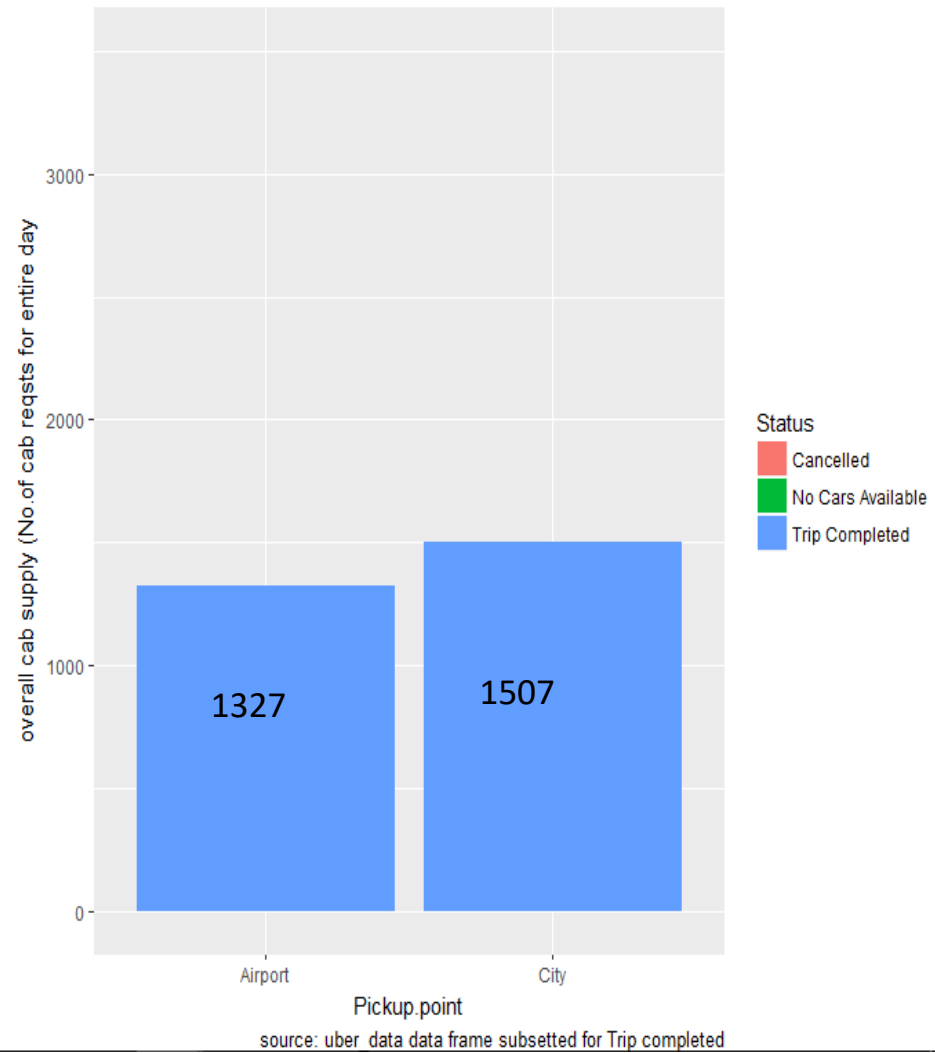
Supply –Demand & Gap - Analysis

Cab Demand Patern for entire day by Pickup
Summary : Cab Demand is All the Request in Entire Day

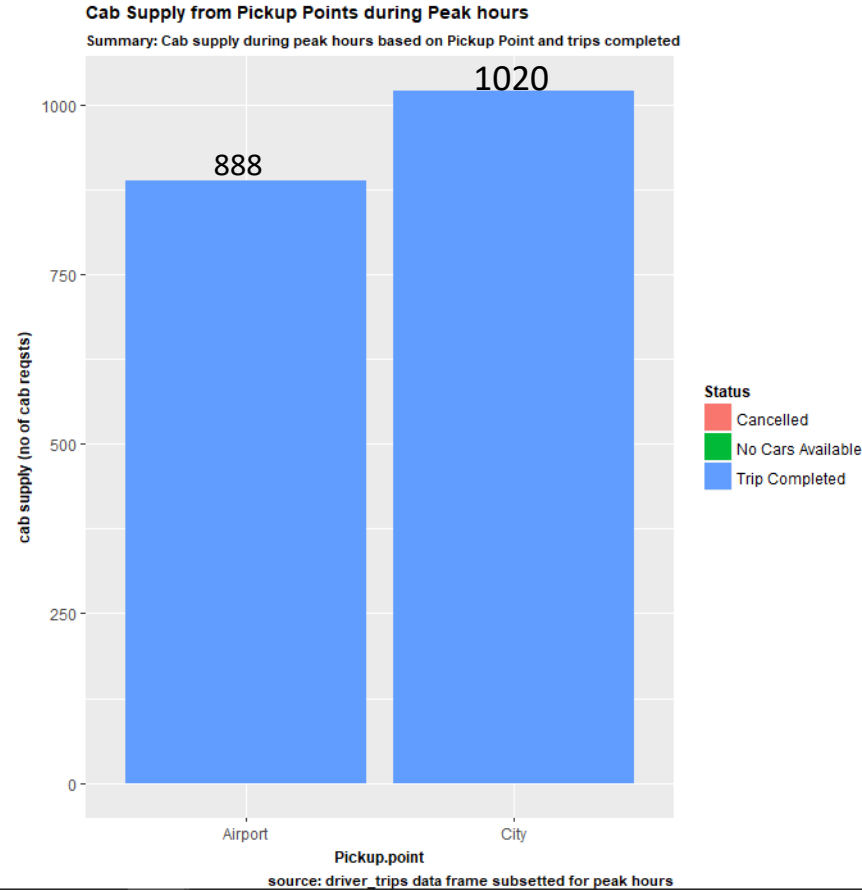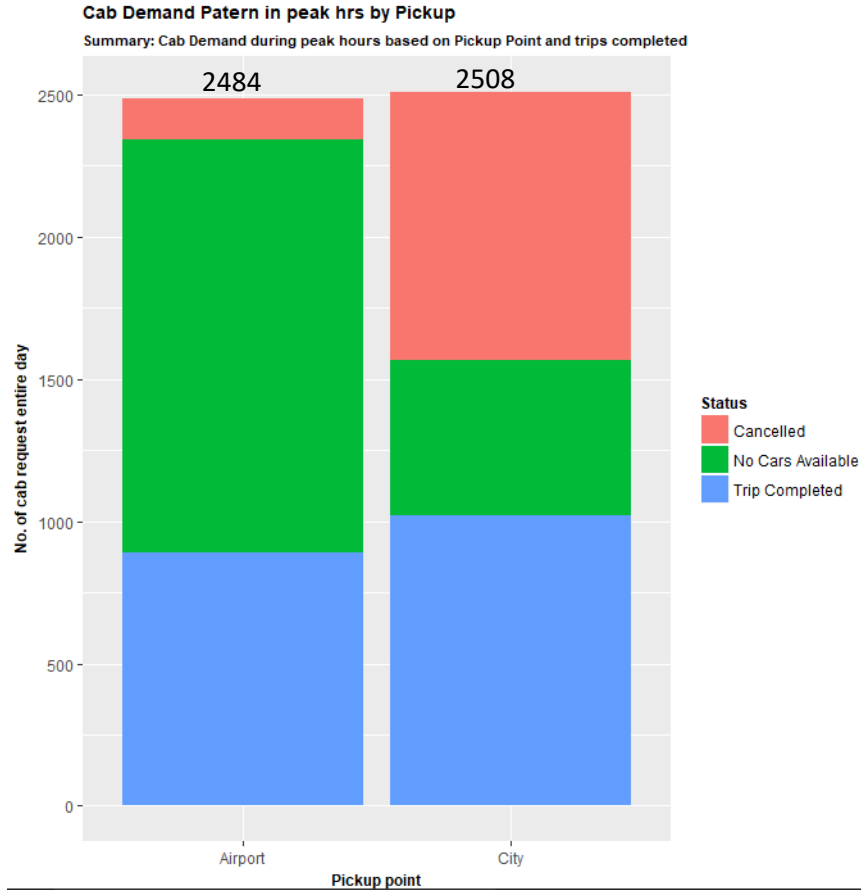Cab Supply for entire from Pickup Points
Summary: Entire day Cab supply is based on Pickup Point and trips completed

Airport Pickups : Out of 3238 Request only 1327 Trips were Completed . Hence Supply ,Demand gap exists in this trip.
City Pickups : Out of 3507 Request only 1507 Trips were completed . Hence Demand Supply gap exists here as well .

Supply –Demand & Gap - Analysis

Cab Demand Patern in peak hrs by Pickup
Summary: Cab Demand during peak hours based on Pickup Point and trips completed

Cab Supply from Pickup Points during Peak hours
Summary: Cab supply during peak hours based on Pickup Point and trips completed

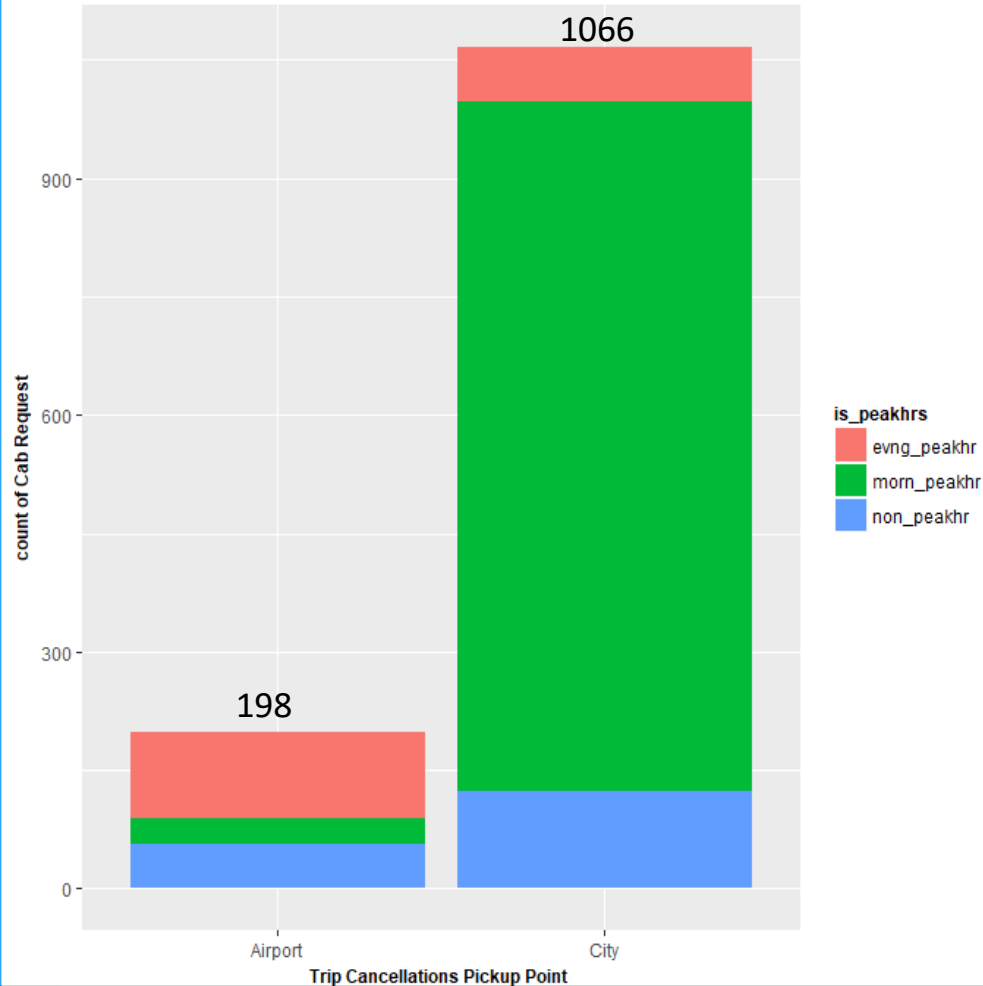source: driver_trips data frame subsetted for peak hours

During peak hours out of 2484 requests of Airport to city trip , only 888 was completed .(R Analysis)
Which is a matter of concern for Uber Services .
Therefore ,This gap is most severe in the identified time slots.

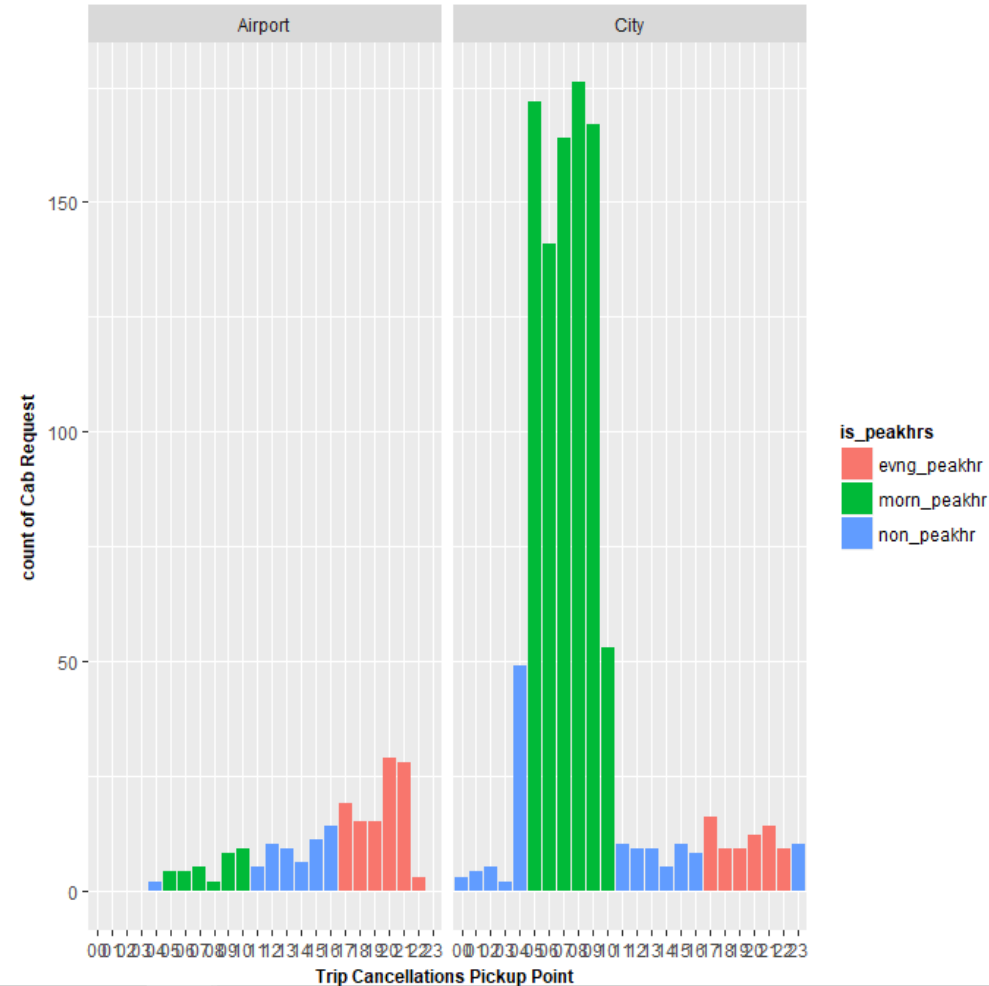# Root Cause Analysis – Cancelled Request

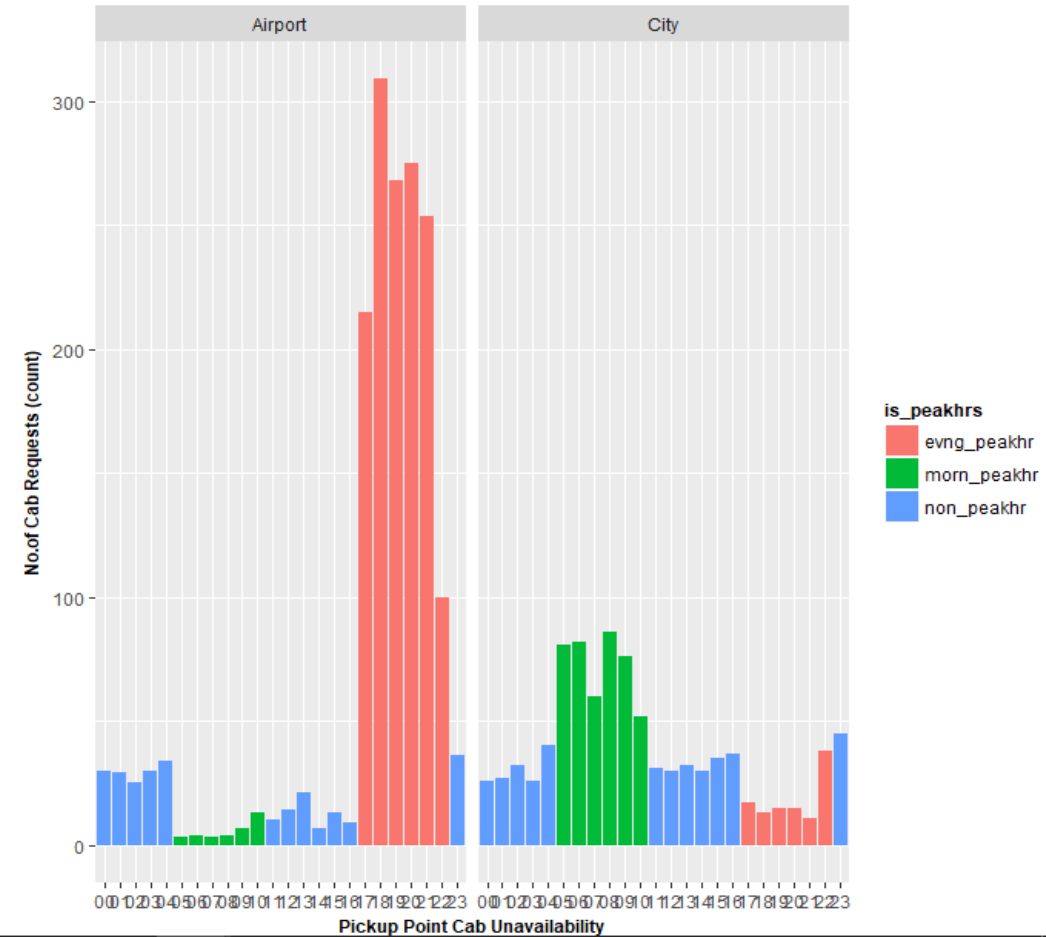# Root Cause Analysis – No Cabs Available

Cab Unavailability during Peak hours To/from City/Airport

Summary: Cab Unavailability is high during peak evening hours from Airport
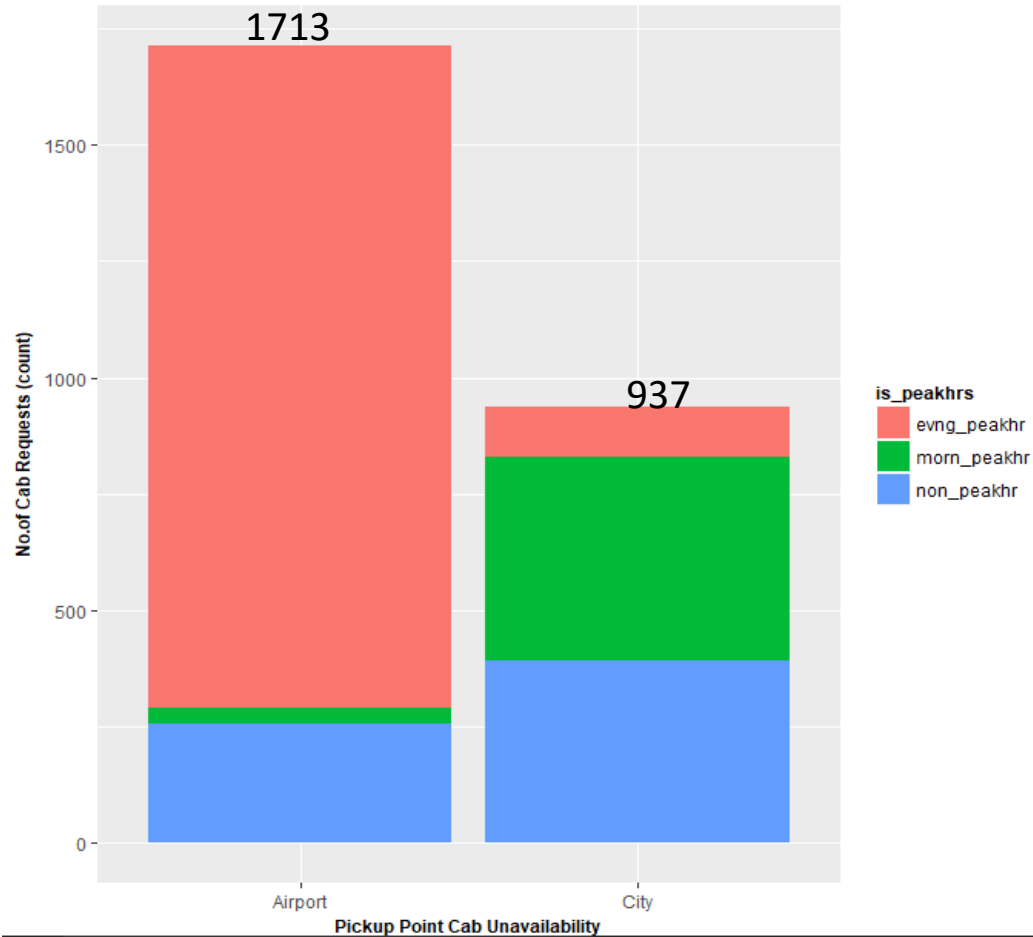
Cab unavaialble during various days To/from City/Airport

Summary: Cab Unavailability persists through all days in peak evening hours from Airport

No Cab Availability are mainly during evening peak hours . (5PM-10PM)

Reason for this issue for the supply-demand gap.

- The driver trip cancellation rate is high in the morning peak hours

Possible Answer :

The median time taken to airport during morning peak hours

for each trip to airport is higher compared with rest of the day.

Also journey time to city to airport is higher.

- Peak hour evening wait time at airport is high. at the

same time cabs are not available.

Possible Answer:

Since the wait time is higher at airport, cab drivers are not

willing to accept trips to airport. So cabs are not available.
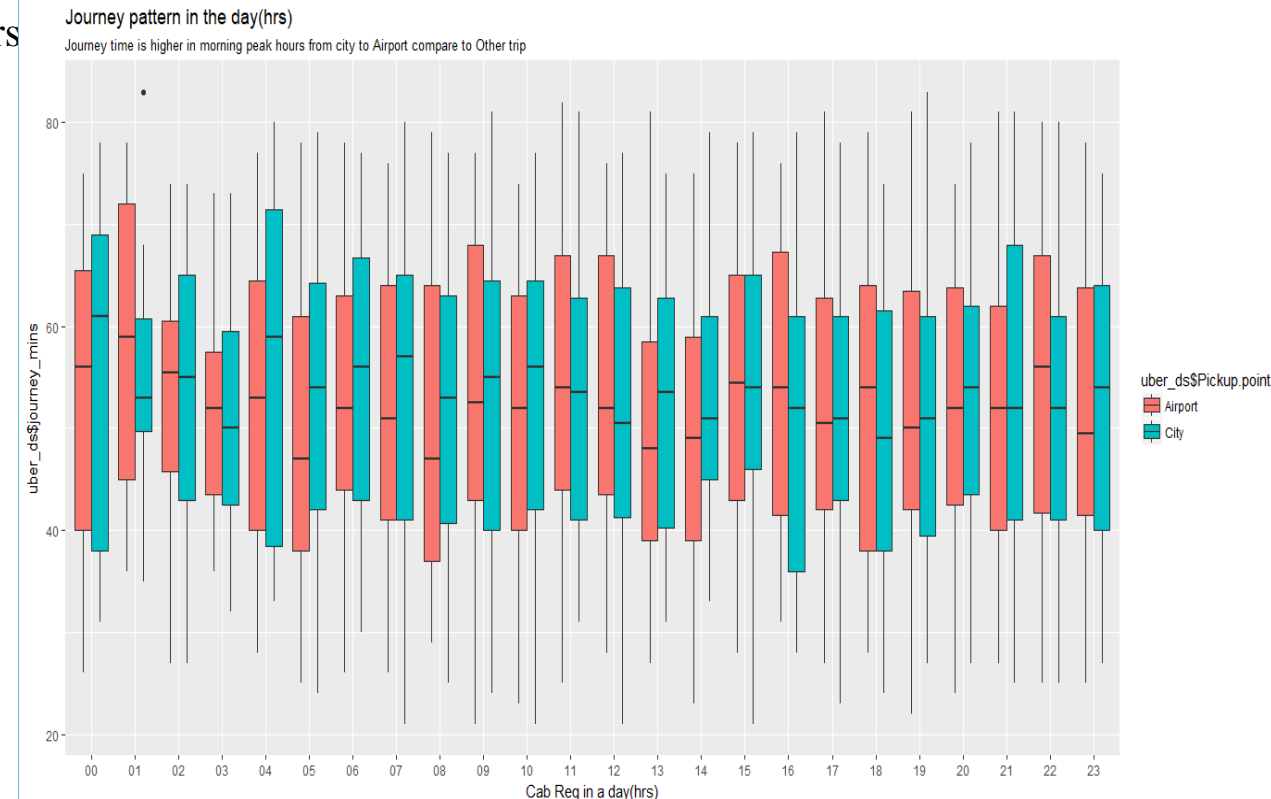
Plot : Journey pattern in the day(hrs)

Ways to resolve the Supply-Demand gap.

Analysis: Morning we have cancellation problem while evening during peak hours we have cabs un-availability issue.

No Cab Available :

From the plots we can see there are good supply of cars available from the city to airport(about 2000 cars) if we compare with number of request (about 2300 request) However, from Airport to City only about 1000 cars available for about 2700 requests this is a supply and bigger problem than city pickups where Uber needs to address.

So by increasing the Number of Cars in the Airport Region by UBER may solve this issue , to handle the number of Request .

Cancellation Problem :

The plot tells that cancellation is more in the morning from city to airport .

Hence it is recommended that additional incentives to driver is required to improve cabs availability during morning time and from city to Airport from UBER .

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