Uber Supply-Demand Gap Assignment
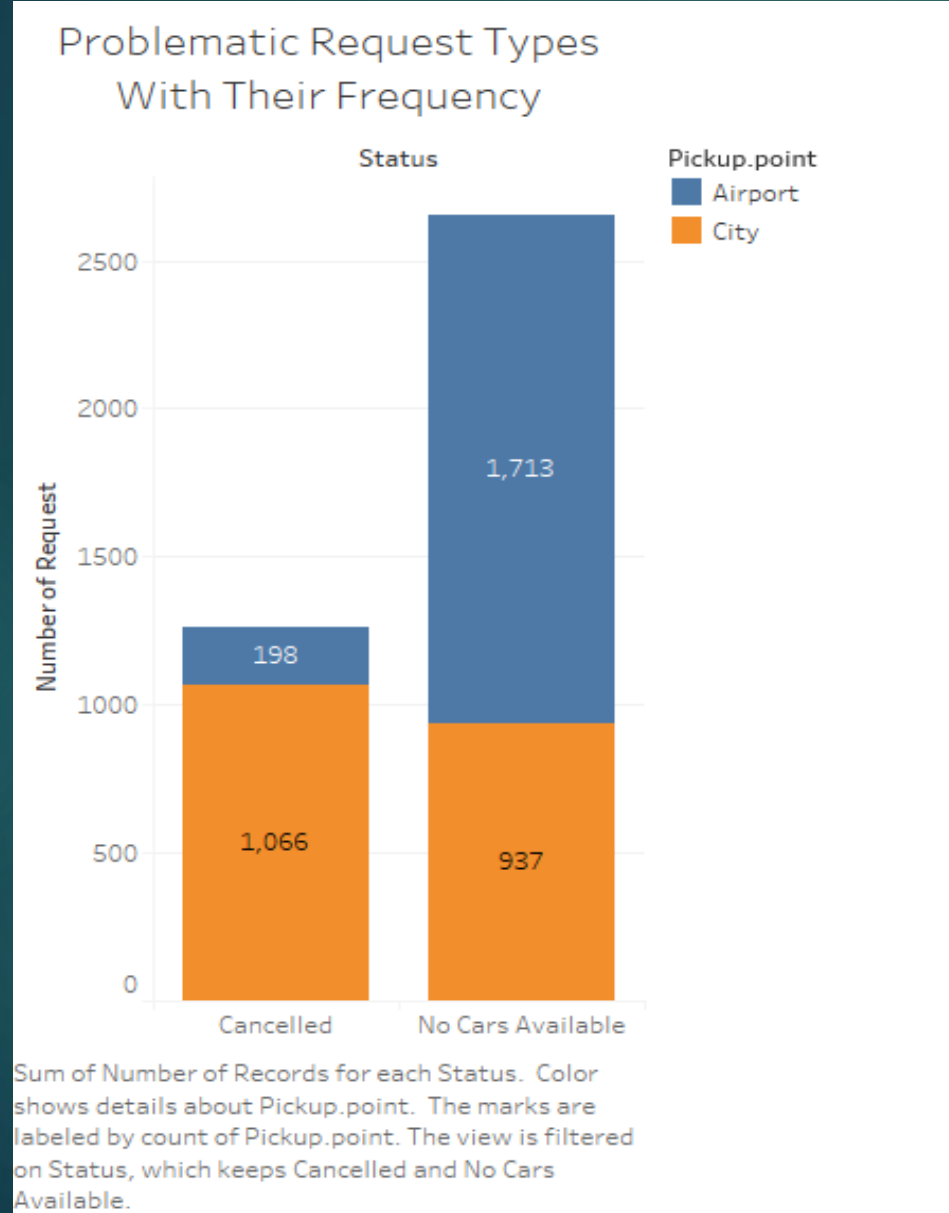
NAME – ATUL AGARWAL

ROLL NUMBER: DDA1710206

Problematic Types of Requests

Problematic Request Types
With Their Frequency

As it is clearly visible from the graph that the,

1. Cancelled Request where
    1. Pickup Point – City , Frequency is 1066
    2. Pickup Point – Airport , Frequency is 198
2. No Cars Available where
    1. Pickup Point – City , Frequency is 937
    2. Pickup Point – Airport , Frequency is 1713

From the above facts it is evident that , **the most problematic types of request** is from **airport to city** due to high non-availability of Cars
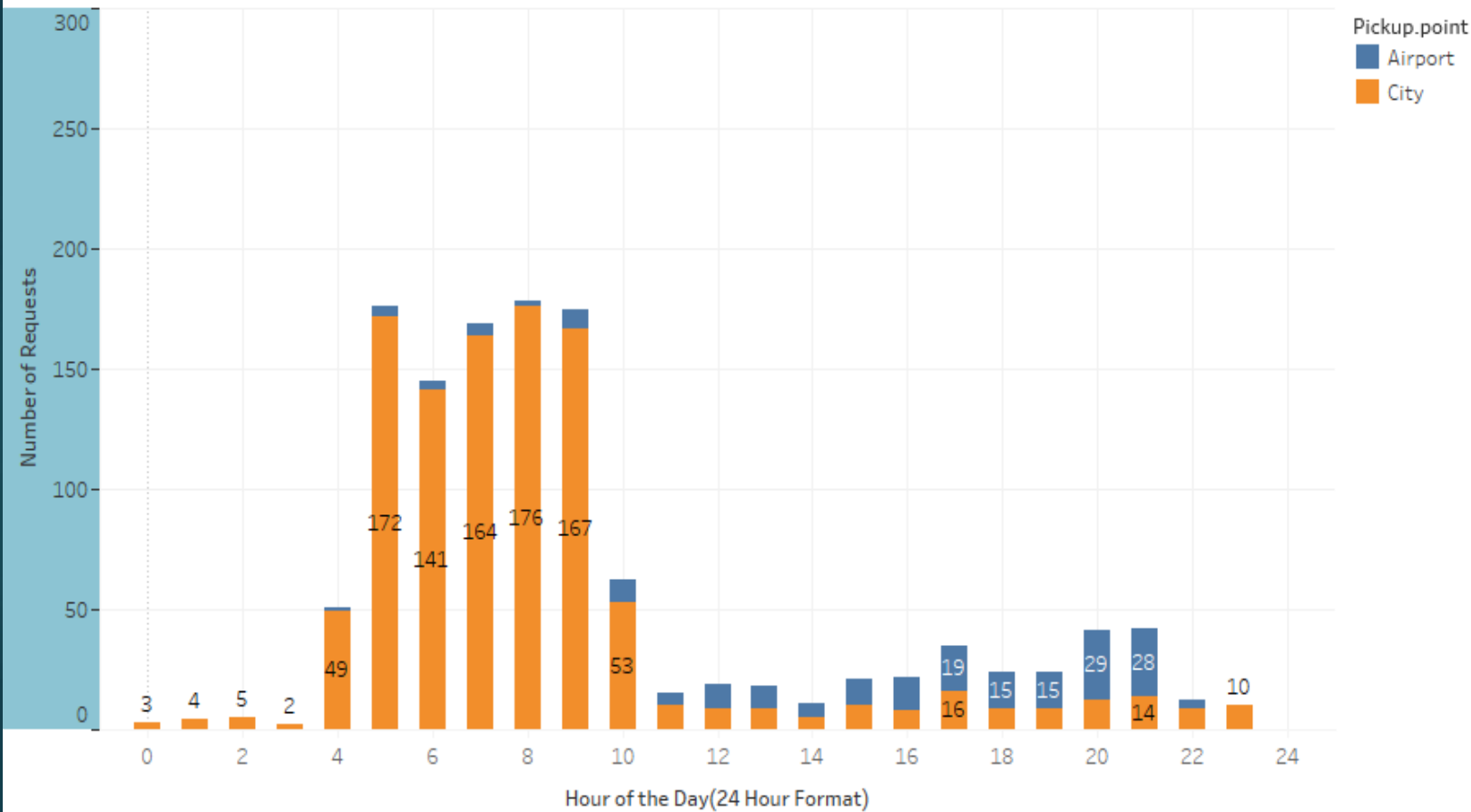
Problematic Request by Time Slot

For this, I have done two plots with respect to trip status being Cancelled and No Cars Available so that Segmented Analysis could be done

Problematic Request by Time Slot

Segment Analysis Of Cancelled Trips

Data Filtered by Status – Cancelled

From the Graph it is pretty evident that the number of **cancelled request** were **high** in **early mornings(4AM-10AM**) where the route was from **city to airport**.

Problematic Request by Time Slot

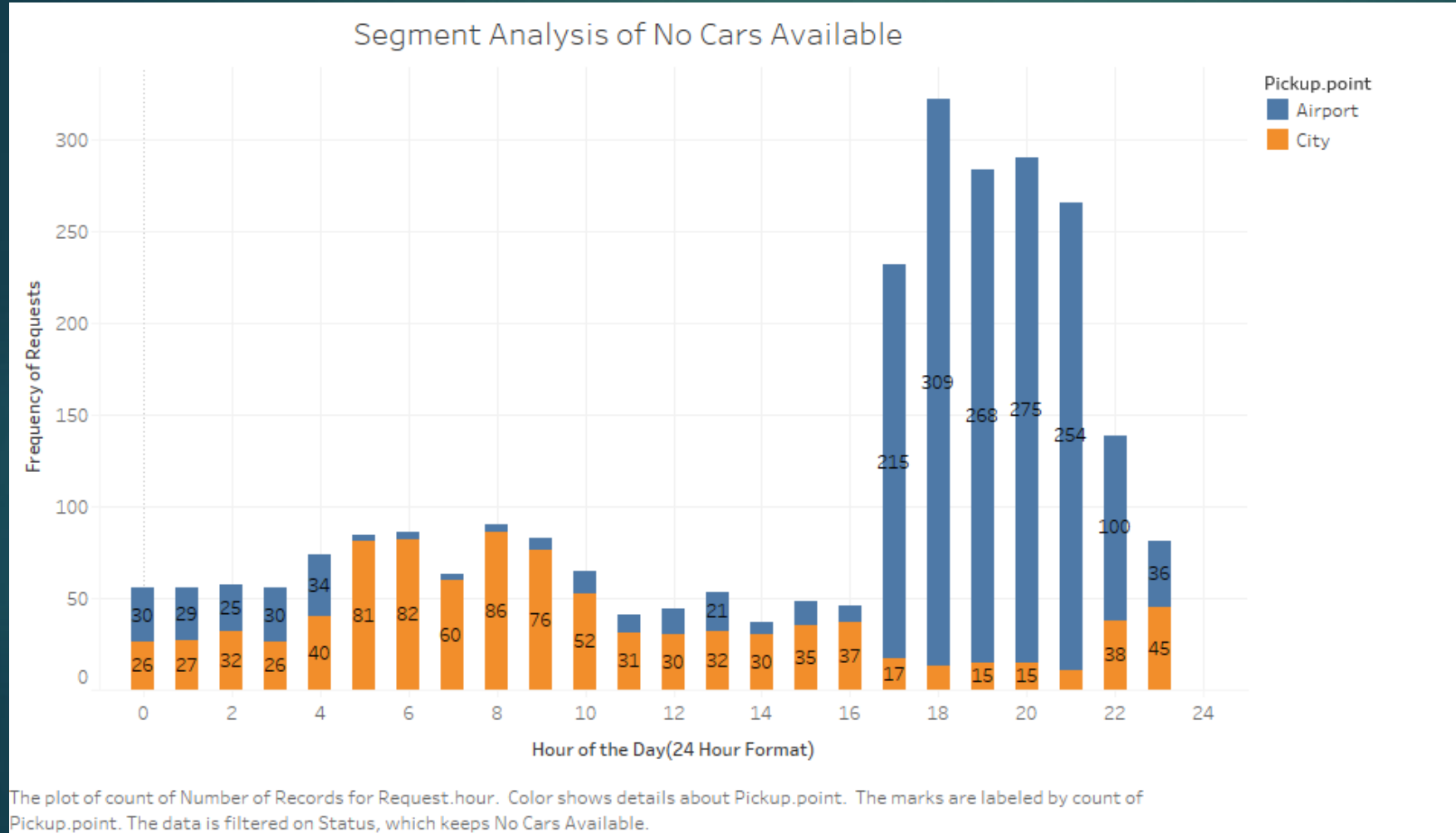Segment Analysis of No Cars Available

The plot of count of Number of Records for Request.hour. Color shows details about Pickup.point. The marks are labeled by count of Pickup.point. The data is filtered on Status, which keeps No Cars Available.

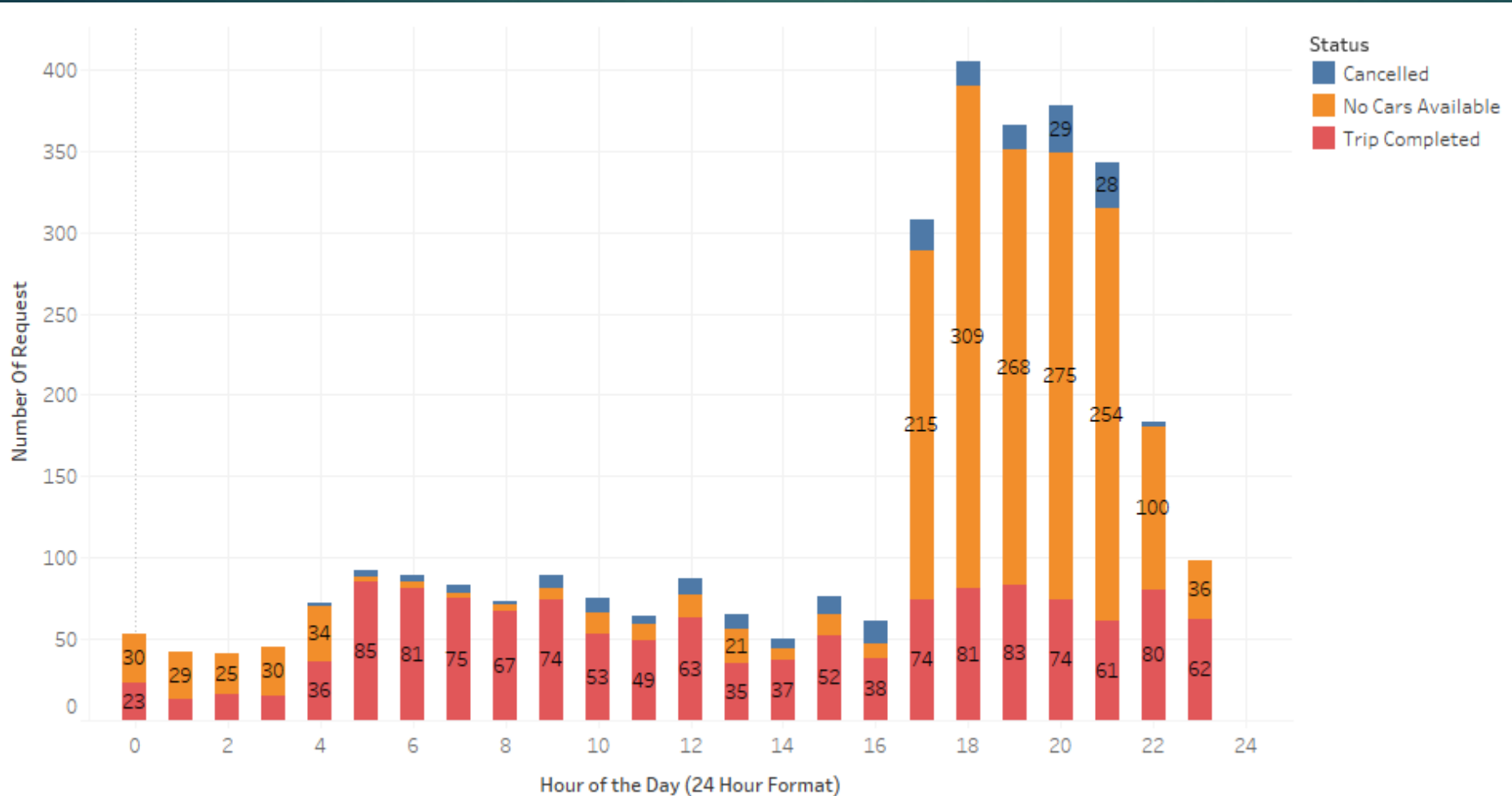Data Filtered by Status – No Cars Available

From the Graph it is pretty evident that the number of **no cars available** was **high** in **late evening(5PM-10PM)** where the route was from **Airport to City**

Supply and Demand Graphs

I have divided the graphs into two according to there pickup point(city / airport) , and after which I tried to derive insights.
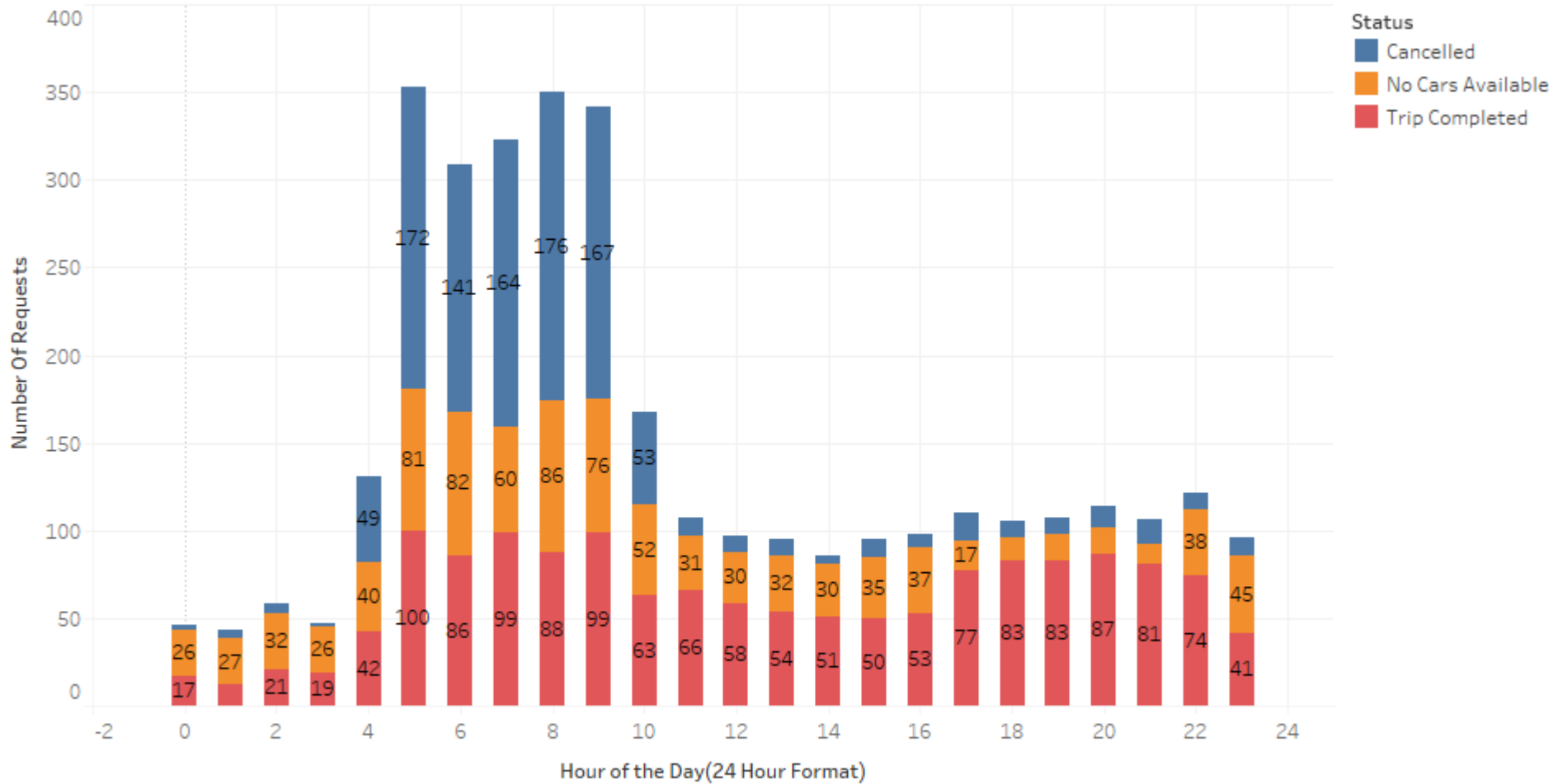
Pickup Point - Airport

The plot of count of Number of Records for Request.hour. Color shows details about Status. The marks are labeled by count of Status. The data is filtered on Pickup.point, which keeps Airport. The view is filtered on count of Status, which includes values greater than or equal to 2.

In this graph , the frequency against each type of status is written in graph.
So it is pretty obvious that the demand(no cars available) was very high in respect to supply(trips completed or cancelled) where the pickup point was Airport.

Pickup Point - City

The plot of count of Number of Records for Request.hour. Color shows details about Status. The marks are labeled by count of Status. The data is filtered on Pickup.point, which keeps City.

In this graph , the frequency against each type of status is written in graph. So from the data in the graph we can say that supply supply(trips completed or cancelled) was there because we can see number of cancellation is high

Time Slots When The Highest Gap Exists
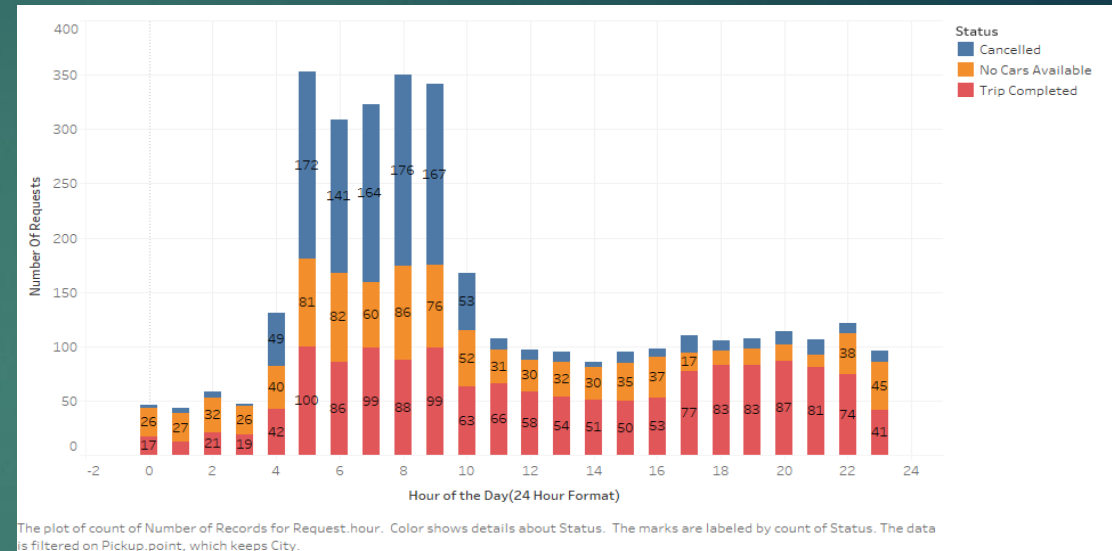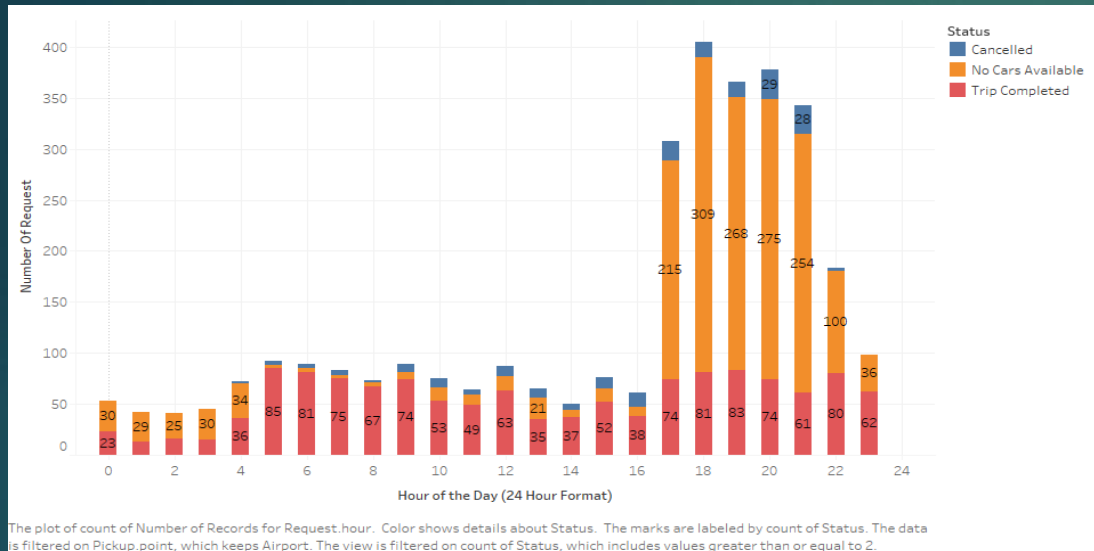
Supply Demand Graph According to Pickup point Airport and City respectively

The data from graph indicates that when the pickup point was Airport , during late evening the demand was high but supply was low because high frequency of no cars available. Now when the pickup point is City , during early mornings the supply is high because we can see high number of cancellation.

Time Slots When The Highest Gap Exists with types of requests….Contd

So our intake from the previous page is that when the pickup point is Airport, highest gap is in the time slot 5PM to 10PM. Now when the pickup point is City , highest gap is in the time slot 5AM to 9AM.

Reason for Supply Demand Gap

When Pickup point is

1. Airport (Late evening)
    1. The number of cars going from city to airport is very less as in comparison to number of requests of no cars available.
    2. The reason for less number of cars going to airport maybe due more waiting time in comparison to revenue of the drivers
2. City (Early Morning)
    1. The reason for high cancellation maybe due to fare generated in comparison to distance or traffic
    2. The turn around time from airport to city maybe high because there might be no incoming flight
    3. High cancellation may also be due to a particular customer trying to book various number of times but all the drivers are cancelling.

Some Ways To Resolve The Supply-Demand Gap

When Pickup Point is

1. Airport to City
   1. Uber can bring in designated cars for airport to city with slightly increased fare.
   2. Uber can similarly increase the incentive of drivers coming to airport from city so that there is steady supply of cabs.
2. City to Airport
   1. For this the only option that I can see is that Uber can give more incentive to drivers when the route is from city to airport. It is because the number of cancellation requests are high as in comparison to no cars available , so cars are available but they are not ready to go.

Comments

1. I have used everywhere Bar Graphs – reason being we need to show the count of the request , which can be easily understood in Bar Charts
2. Aesthetics
   1. Colour Fill – I have used the either status or pickup point whichever was to required in the graph , reason being bar charts plots total number of count for the variable on x axis . So to find the number of requests in total request for a particular type of status or pickup point was written in the fill so as to easily identify the count on basis of two conditions .
3. I have plotted the graph in R as well but the used the one plotted in Tableau for presentation purpose.