



Uber Supply Demand Gap

Statistical And Exploratory Data Analysis

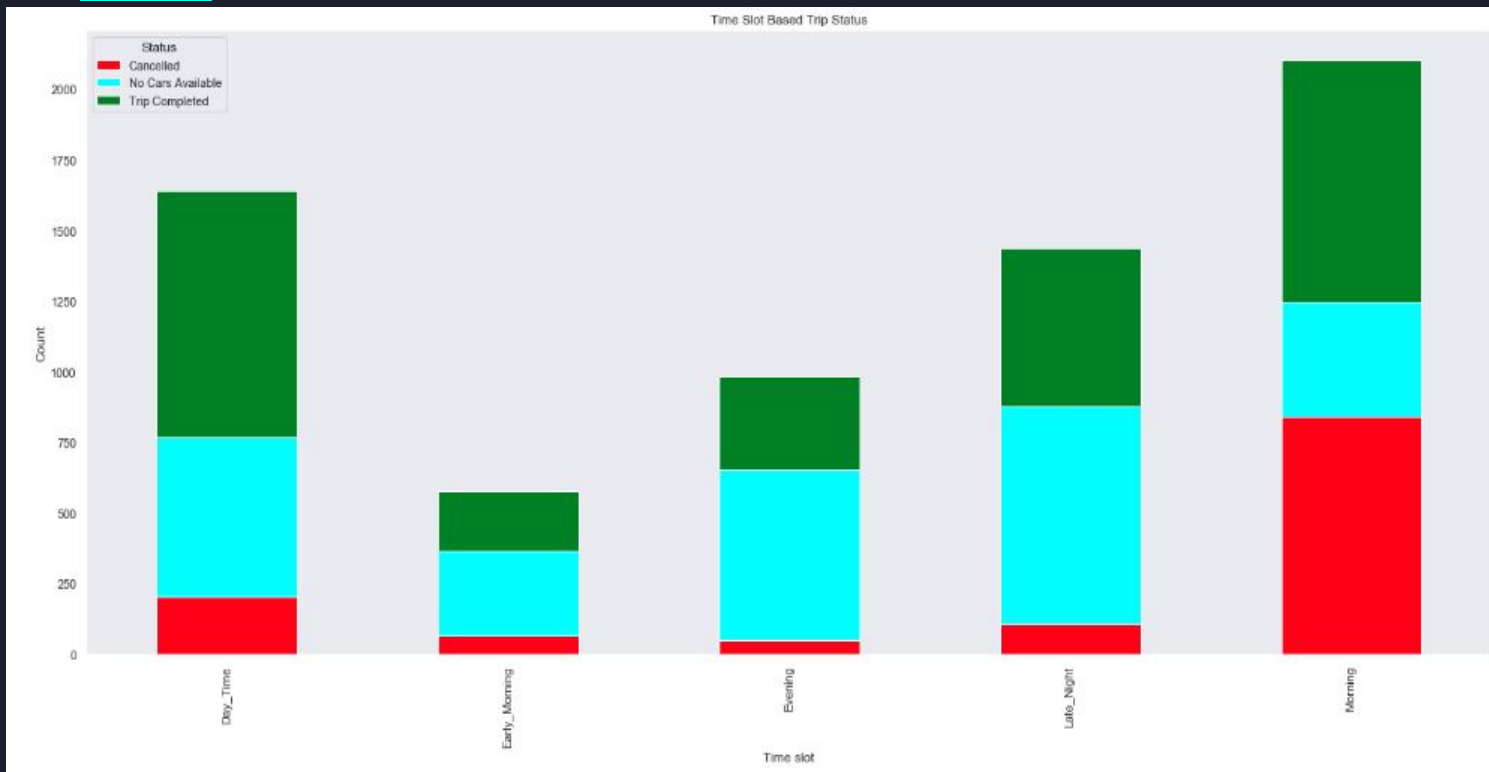


Business Objective

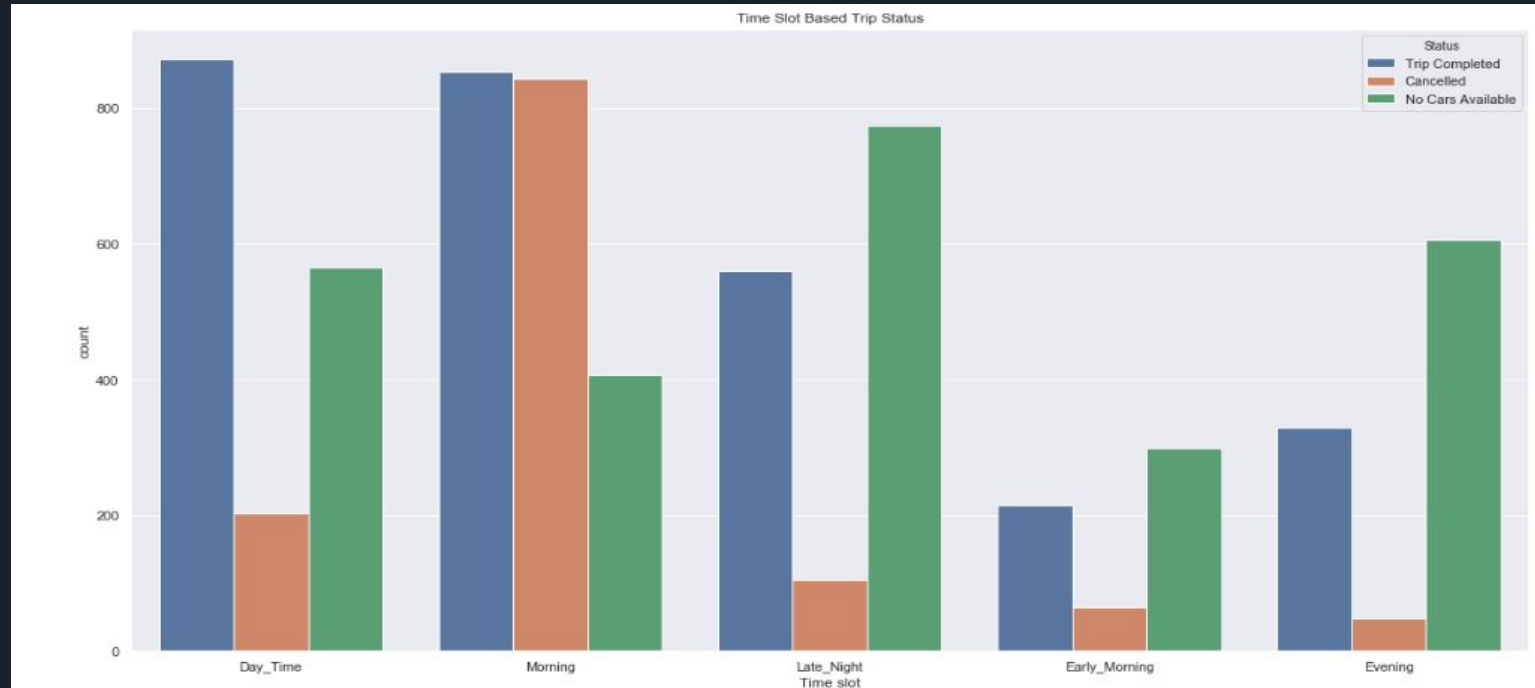
- The aim is to analyze and identify the root cause of the problem (i.e. cancellation and non-availability of cars).
- Identify ways to improve the situation.

Business problems

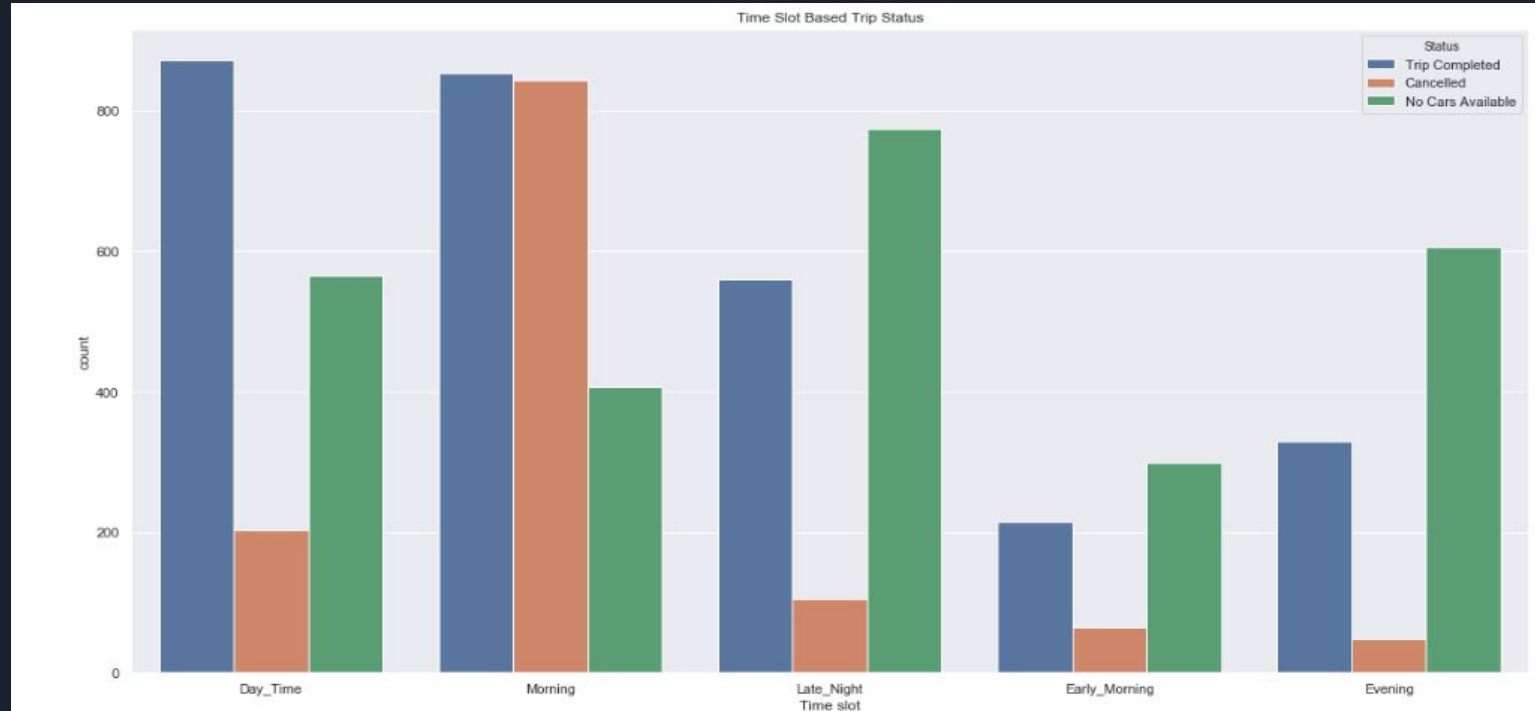
- Below figure clearly depicts **Morning Hours** supply demand gap, there are lot of **requests cancellations** (843) out of total 2,103 requests. Likewise, during **evening and Late night** time slots, there's huge **gap between ride requests and Cab Availability**.



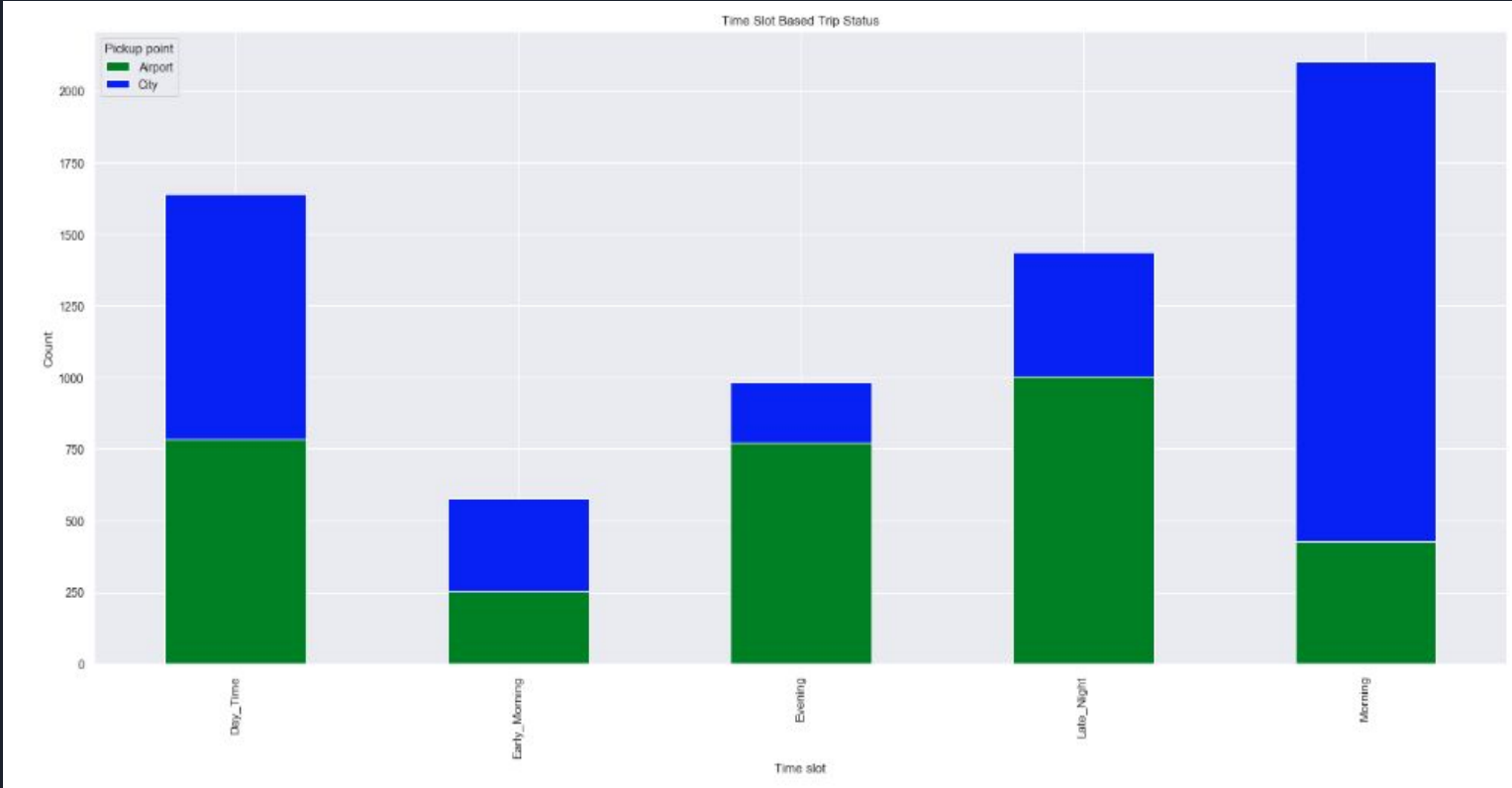
- Following up from the previous slide,
 - During Morning hours, there are more requests(1677) from City to Airport. Whereas just 426 requests from airport to city. And this is the same time slot where we are seeing around **843 cancellations** and **406 non-cab availability**. So out of total 2103 total requests only **854 were fulfilled**.



- During Evening and late-night hours, there are more requests(1773) from Airport to City. Whereas just 649 requests from city to airport. This is the same time slot where we are seeing around **1,379 non-cab availability** and **153 cancellations**. So out of total 2422 requests only **890 were fulfilled**.
- Non-cab availability is a problem which is almost common for all the time slots irrespective of pick up point.

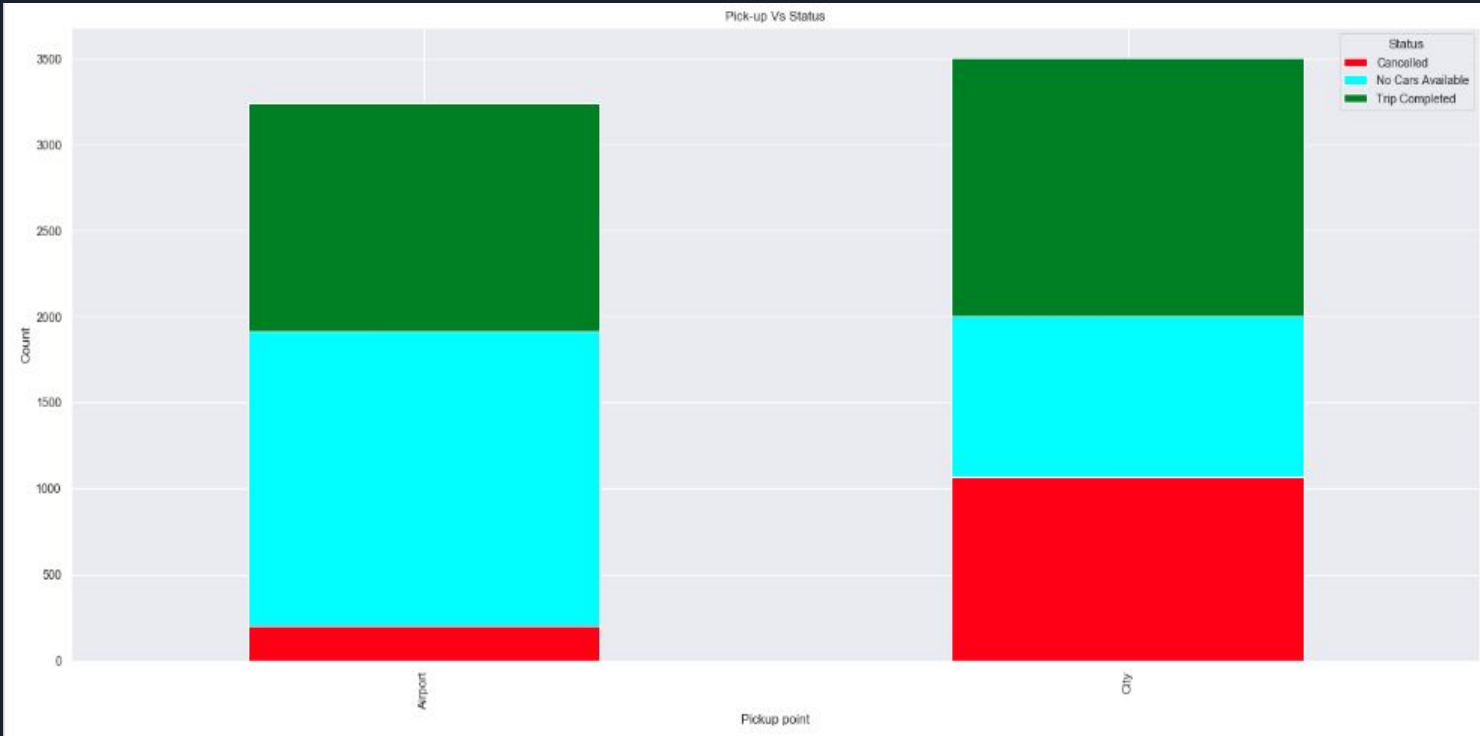


Below plot shows the number of bookings origination from either city or airport.



Pick-up Point Vs Trip Completion Status

Below figure shows the how is the trend of 'Cancelled' or 'No Cars Available' with respect to the pick up point.



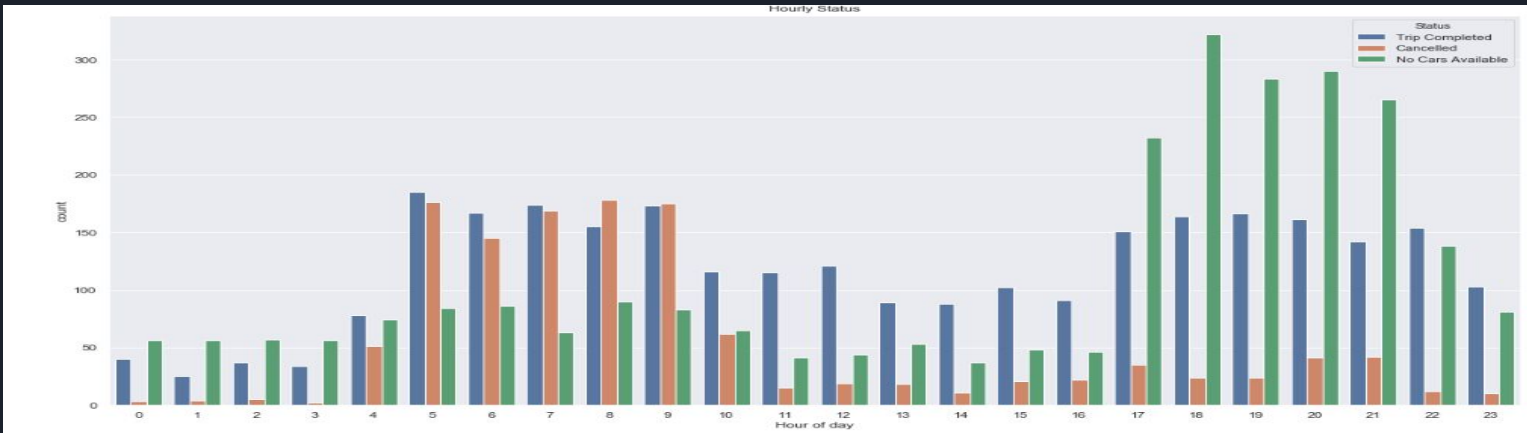
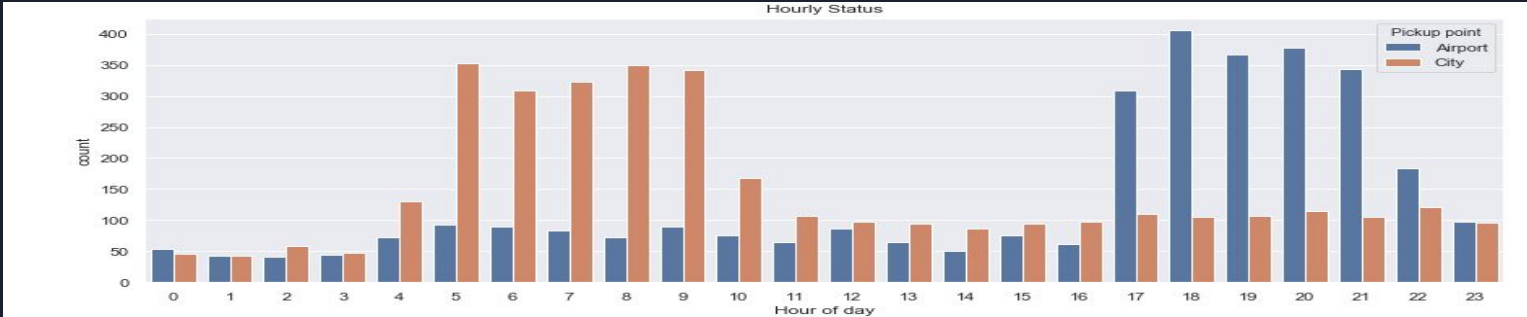
Hourly Cab Request Visualization

Below figure just confirms our previous analysis on the Cab requests Status binned in 5 different time slots in terms of cars availability and number of requests cancelled during particular hour of the day.



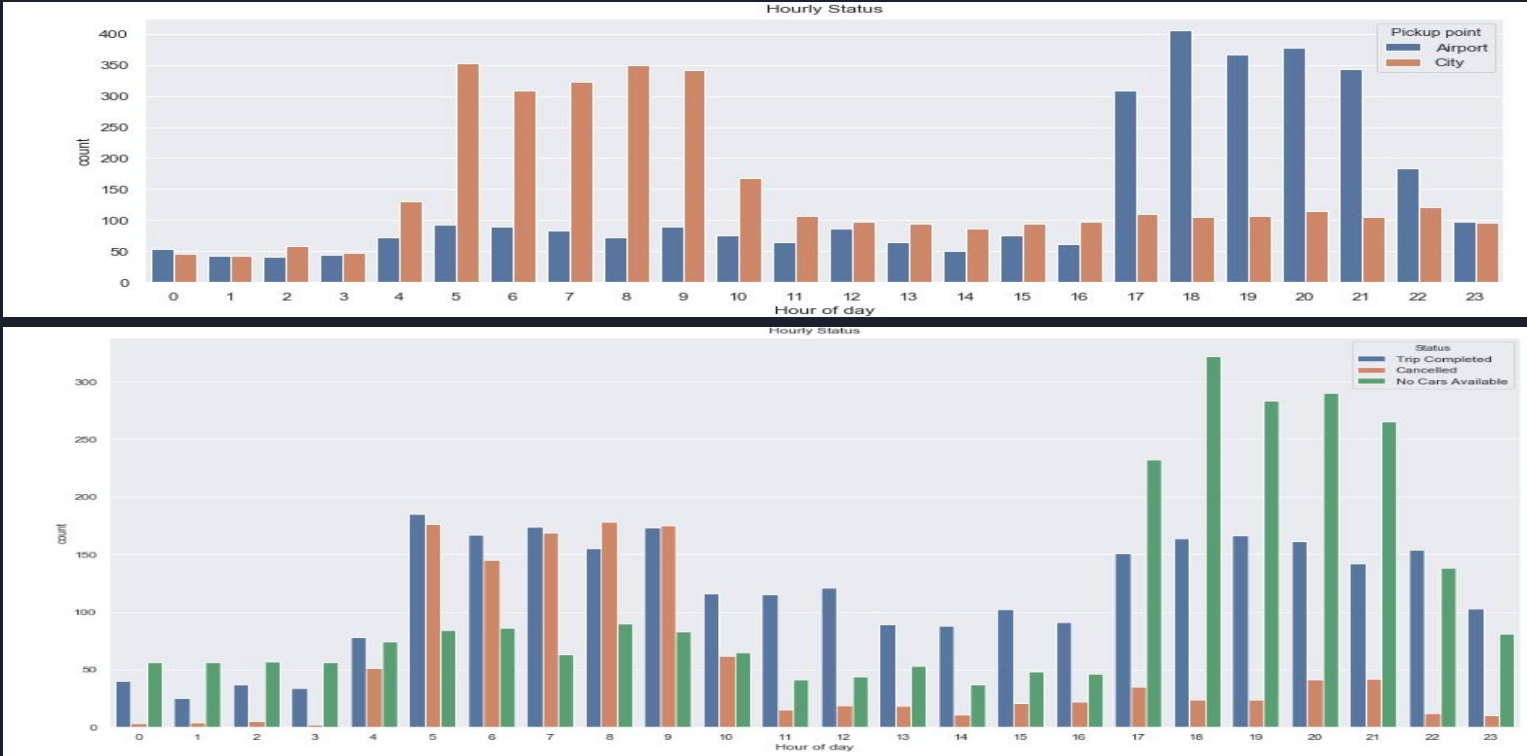
Business Problem Analysis

We see that there's huge spike in the Cab request for Airport drop between 5-9 AM. There's also a huge number of cancellations due to the fact that not many customers available at Airport for the drivers to take them back to the City, as a result drivers would incur loss in return journey. Hence, Uber drivers are may be cancelling the requests.



Business Problem Analysis..cont

We also that there's huge spike in the Cab request for city drop between 5-9 PM till late evening and along the same lines there's a huge gap in the Cab availability during that interval, maybe because not many drivers are preferring to stay at Airport after 5 PM or the drivers are signing off from work or are preferring to drive within city limits.





Recommendations

- Increase tariffs for Airport to City bookings between morning 5-10 AM and 5-10 PM evening which would attract more drivers to be available to cater to the customer needs. Thus we may be able to bring down the number of cancellations in the Mornings and increase Cars availability during evening hours.
- Company can also give extra bonus to the drivers for trips made during the identified hours where the problem of Supply-Demand Gap exist.