Uber Demand and Supply Gap

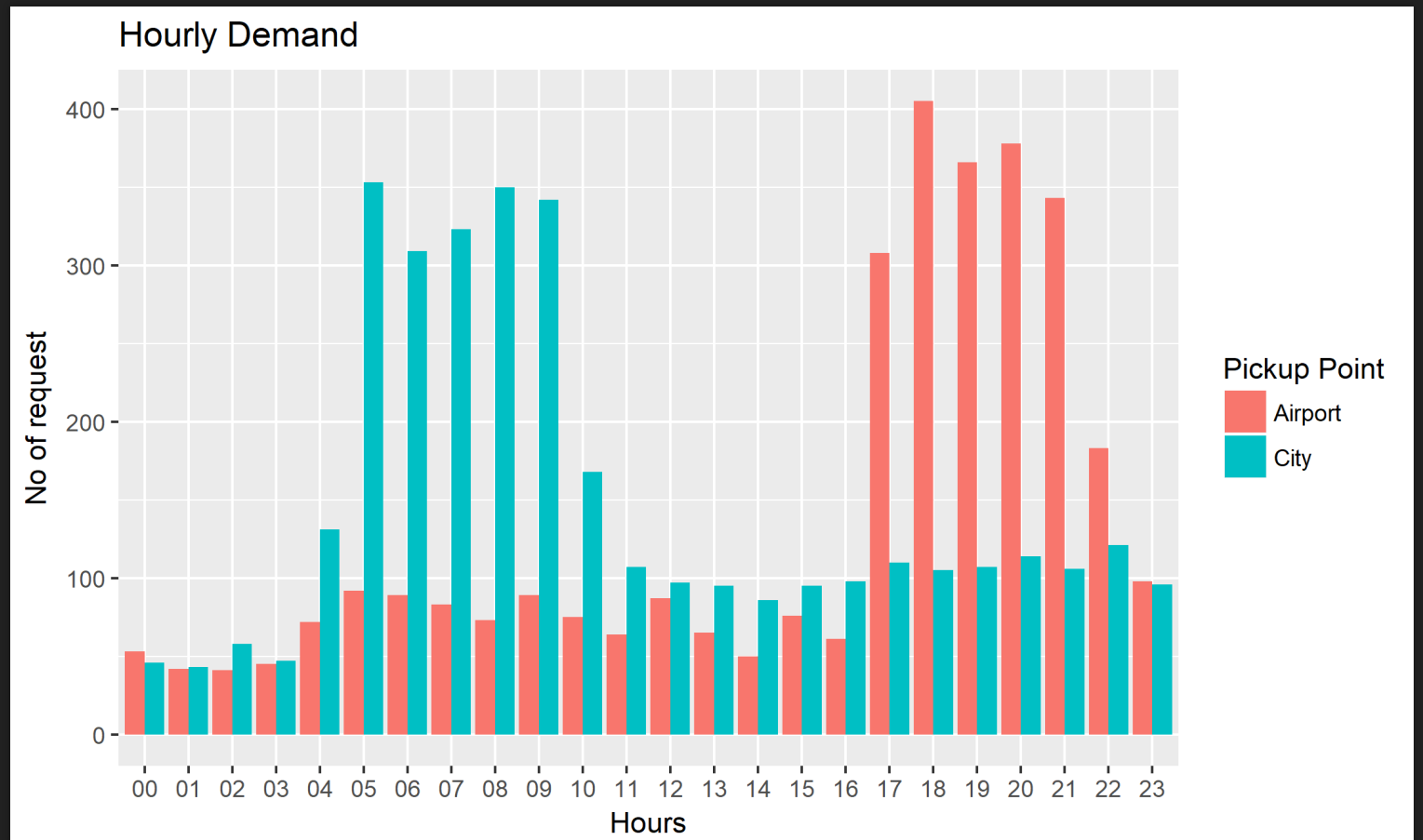Dhruti Contractor

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Data Quality Issues and Cleaning

- The request time provided has different formats with "-" and "/". They will be converted to a unified format "-" using function gsub()

- Seconds are not provided with few request. The request time will be converted to theformat with date, hours and minutes Function as.Date will be used to extract the date and function as.POSIXct() to extract the Hours
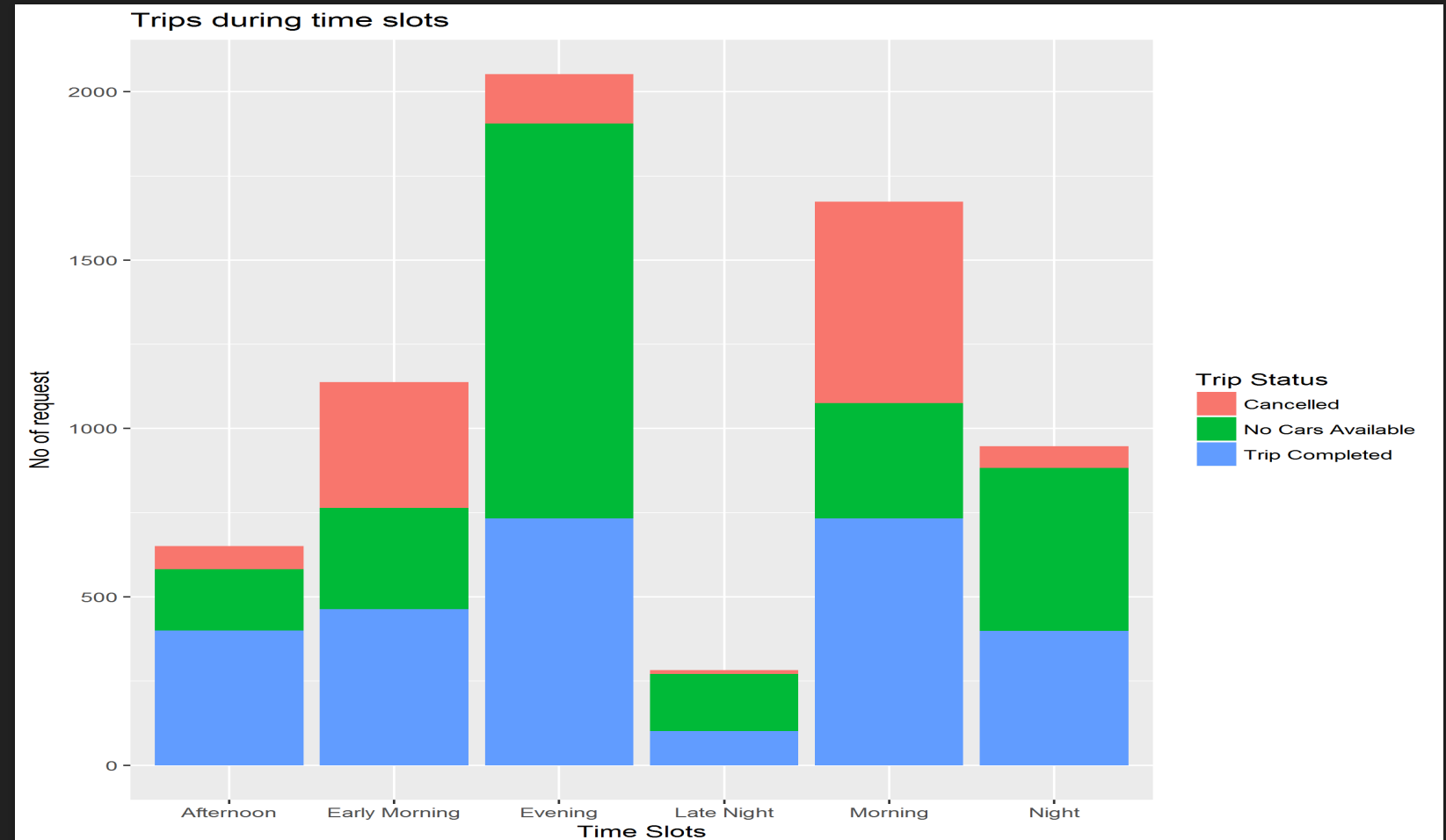
Data Observations

○ Information is provided regarding the status of the trips, to and from Airport, requested by the customer.

○ As observed from the graph, the number of requests to the airport is high in the mornings and that from the airport is high in the evenings.
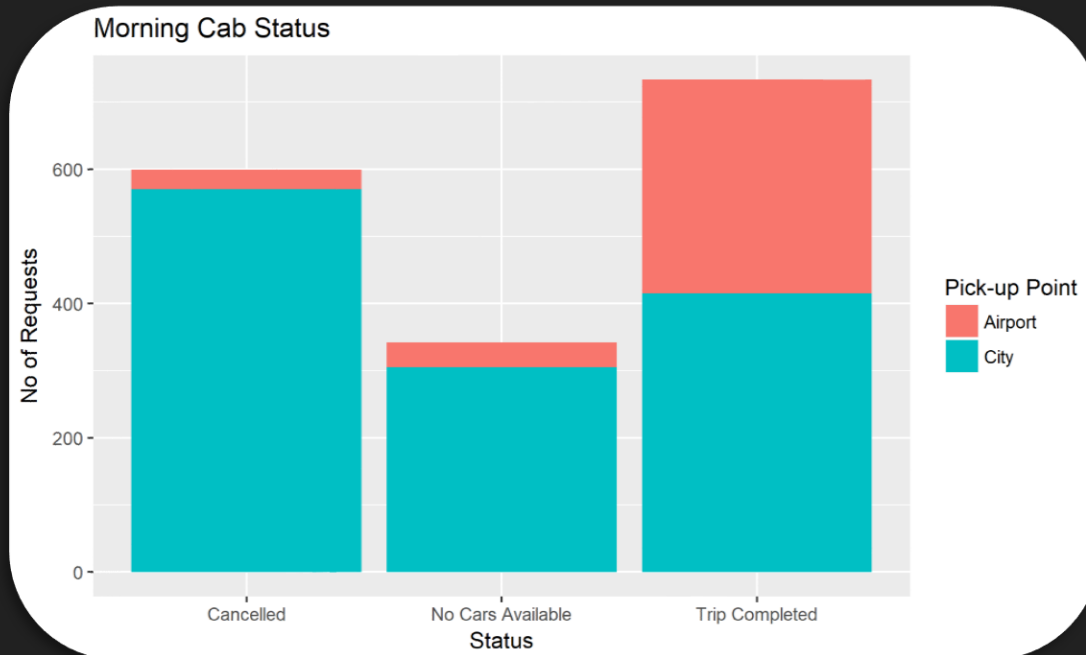

Hourly Demand

Defining Problem

- The request time is divided into six time slots and then plotted against the status of the trip.

- According to the plot, only 42% of the request were completed while the remaining 58% of the request were unattended either due to unavailability of the cabs or cancellation. Hence, Uber is able to fulfil 42% of the cabs demand.

- The trips are cancelled more in morning followed by early morning.

- Cabs were unavailable for the maximum requests in the evening followed by night.

Trips during time slots

No of request — Time Slots

Trip Status
- Cancelled
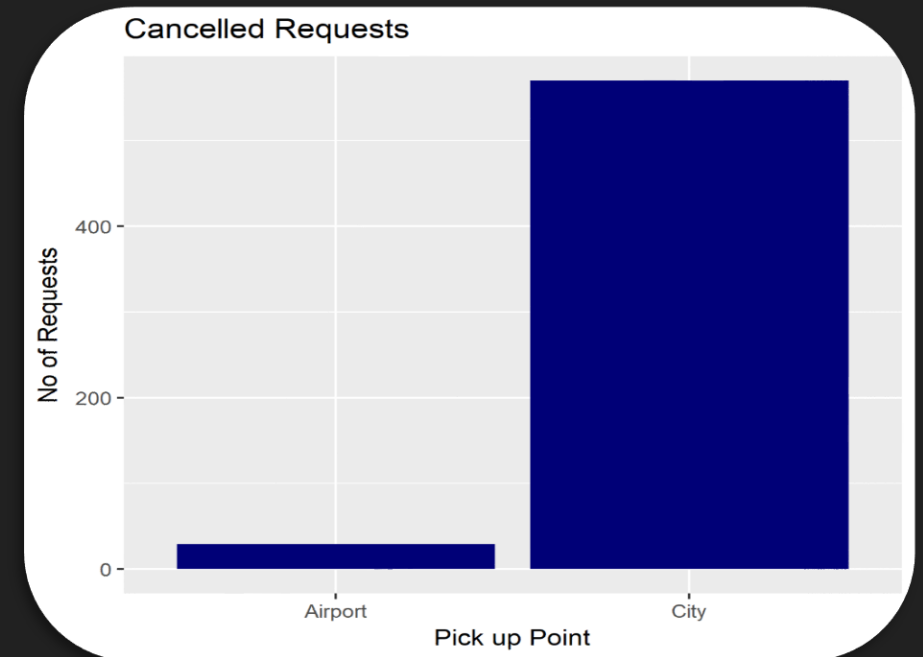- No Cars Available
- Trip Completed

Data Analyses for Cancellation

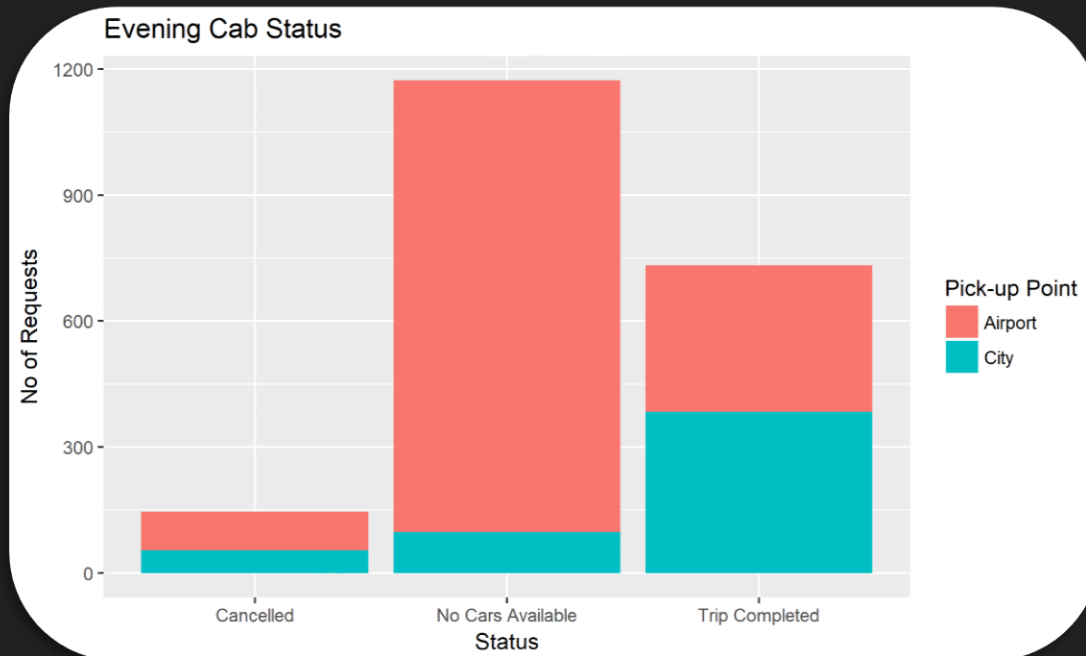In the morning, 36% of the request were cancelled and for 20% of the requests cabs were unavailable

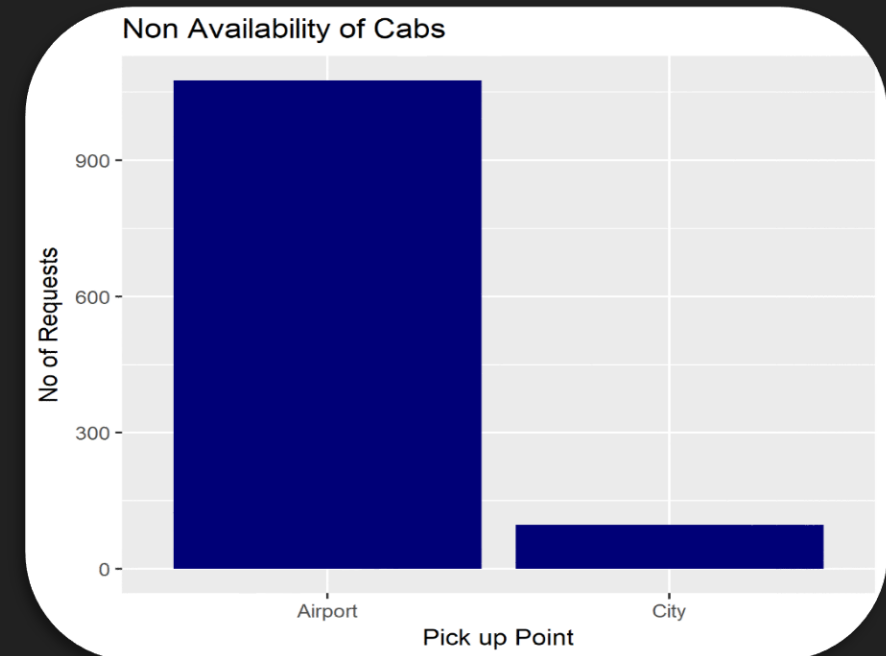95% of the request from the city to the airport were cancelled

Data Analyses

In the evening, for 57% of the requests, there are no cabs available and 7% of the requests are cancelled

There are no cabs available for 92% of the request for pick up from the airport

Reasons and Recommendations

○ There are more number of requests to the airport as there are many flights departing in the morning. The cab drivers accepting the requests do not get sufficient customers back to the city. The driver ends up earning less, spending more on fuel and cancels the requests . Hence, there is more demand but less supply

○ There are large number of pick up requests from the airport in the evening. More flights arrive but less cabs come to the airport. This creates more demand for cabs due to increased number of passengers and less supply due to few cabs in the evening.

○ Few recommendation to resolve the above issues are:

   ○ Increase the fare prices charged for the customers

   ○ Reduce the service charge from cab drivers