

UBER ASSIGNMENT

OBJECTIVE

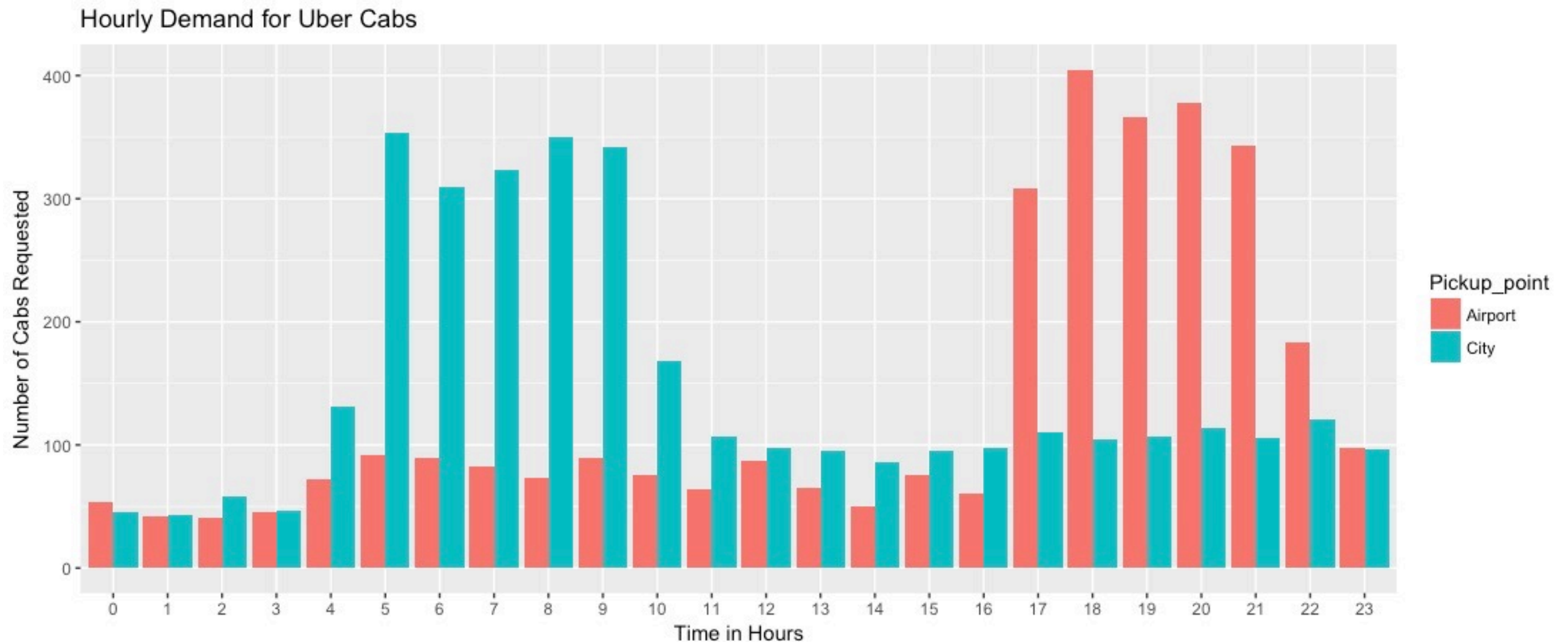
Problem:

to identify the root cause of the problem (i.e. cancellation and non-availability of cars) and recommend ways to improve the situation.

Analysis for: Presenting to the client the root cause(s) and possible hypotheses of the problem(s) and recommend ways to improve them.

ANALYSIS:

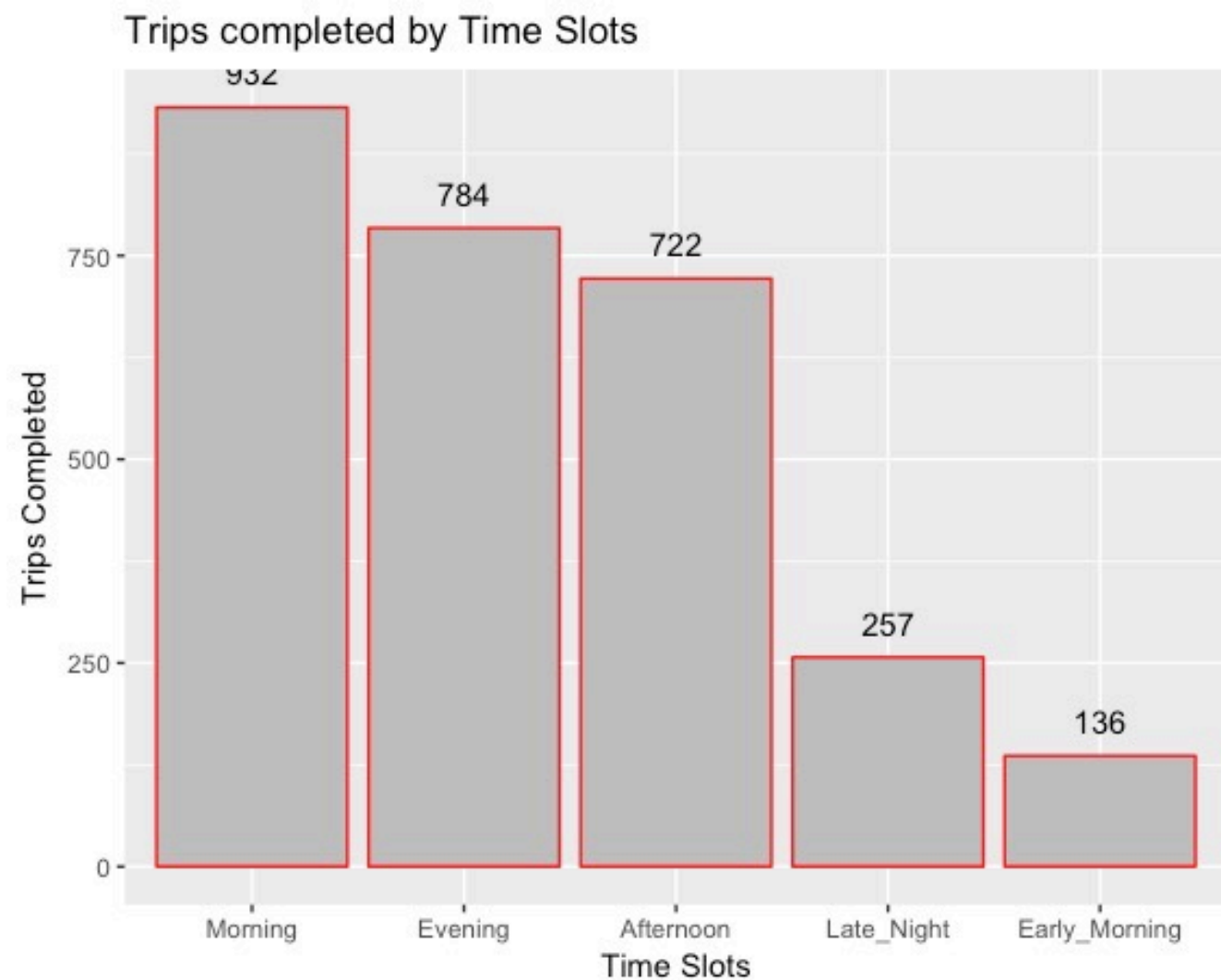
Plot 1: Bar chart depicting the hour-wise trip requests made in the city and the airport. The data is aggregated for all 5 days on the same axis of 24 hours. Each bar should correspond to an hour and pick-up point (city / airport).



In this bar chart, you'll be able to see 5 major time blocks based on the frequency of requests made at the city and airport.

- Early Morning
- Morning
- Afternoon
- Evening
- Late Night

NOTE: The division of time-slots is subjective to my personal choice of creating time parameters. There isn't any standard rule for division.

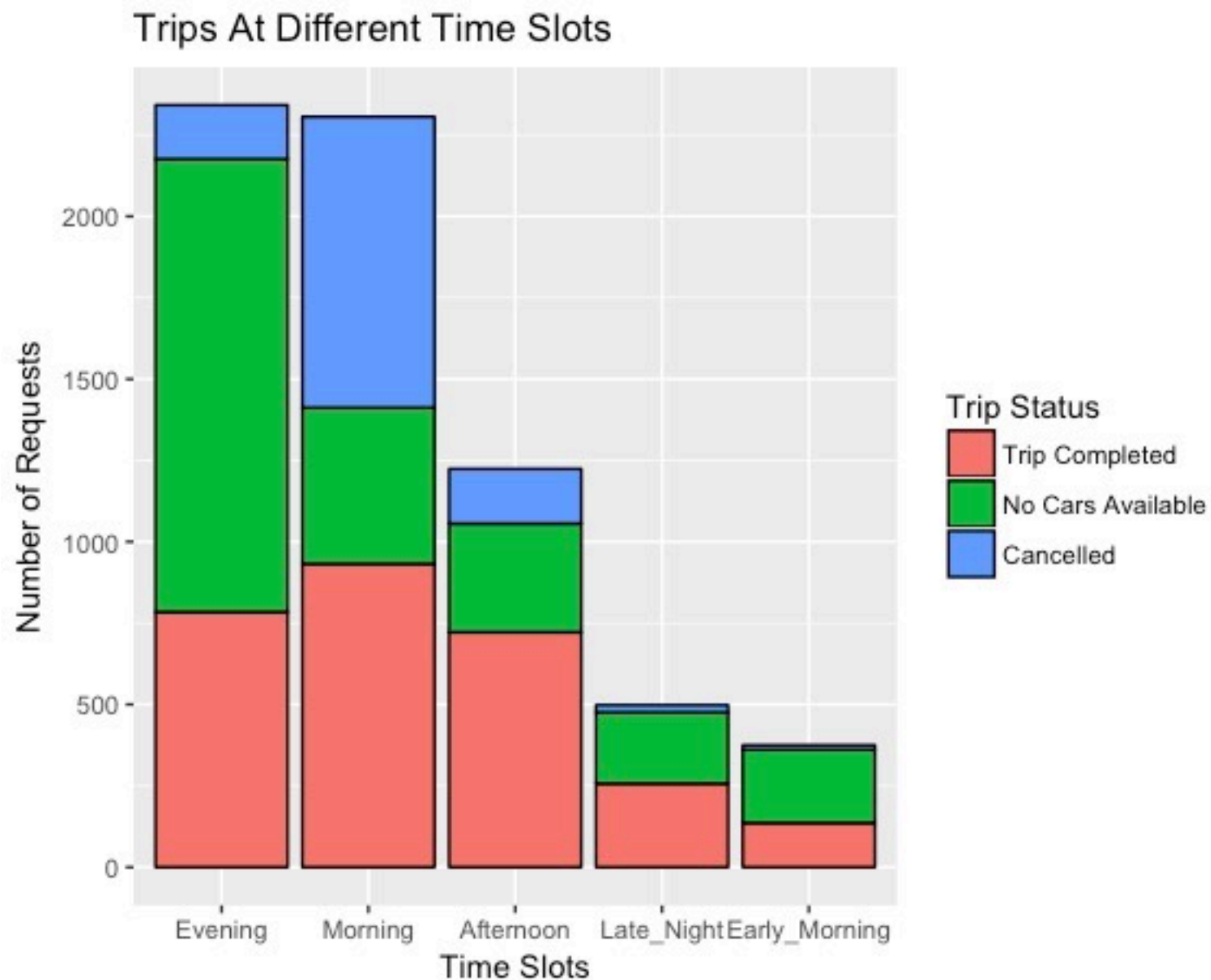


Also give the count of the number of trips made during different time slots you have decided.

- Pre_Morning: 136
- Morning: 932
- Afternoon: 722
- Evening: 784
- Late_Night: 257

Identifying the problem

A stacked bar chart where each bar represents a time slot and y-axis shows the frequency of requests. Different proportions of bars should represent the *complete*, *cancelled* and *no cars available* out of the total customer requests.



Problem 1: A large number of trips got cancelled during the Morning time slot.

Problem 2: Cabs were not available for a large number of requests during the Evening time slot

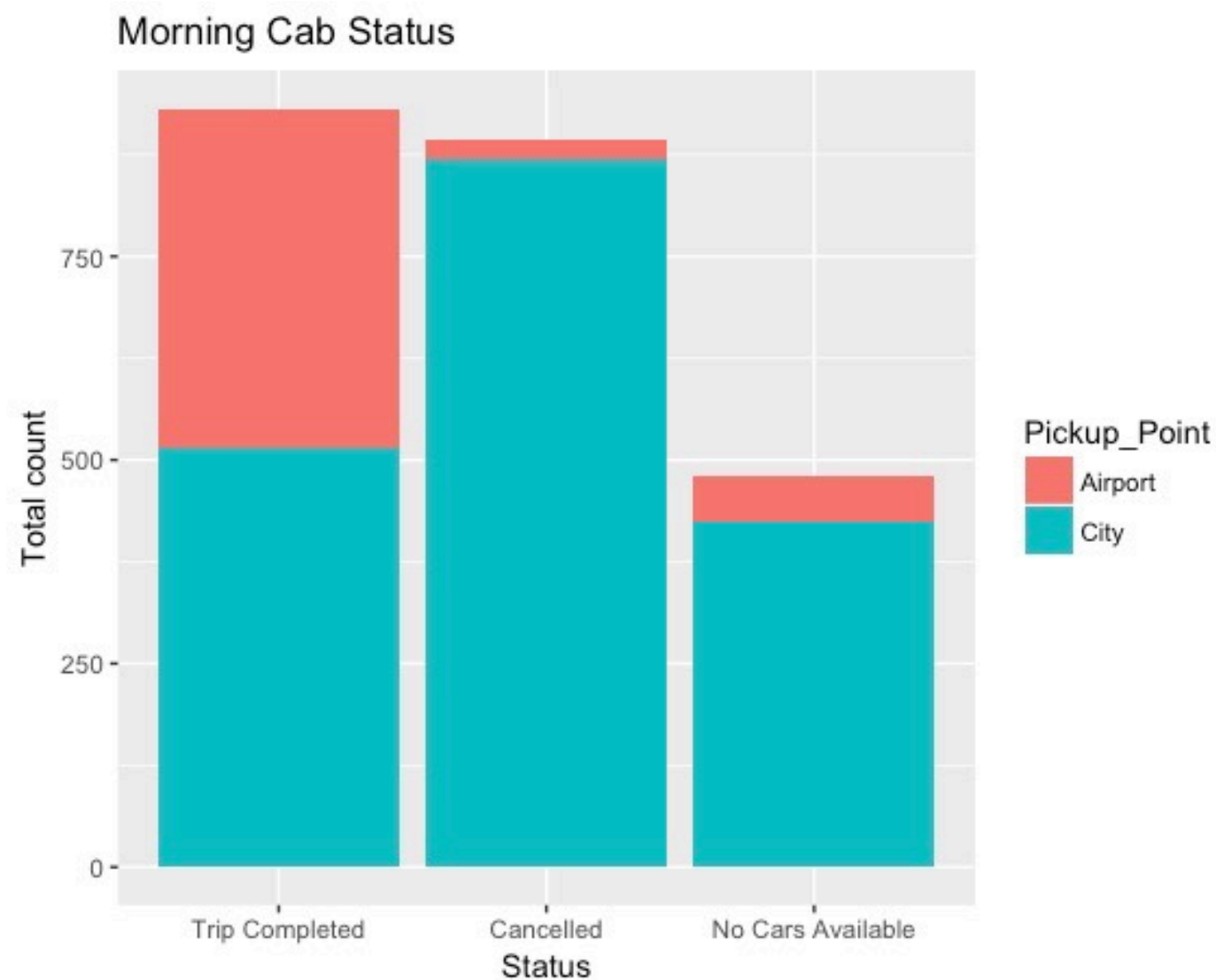
Problem 1:

1. Using a stacked bar chart we will determine if the problem is more severe for pick-up requests made at the airport or the city. As a next step, we will determine the number of times this issue exists.

Percentage of total issues:

Airport: 2.796421

City: 97.20358



2. Finding gap between supply and demand. For this case, the demand is the number of trip requests made at the city, whereas the supply is the number of trips completed from city to the airport.

No. of trip requests made in city: 1808

No. of trips completed from city to airport: 514

3. Reason for the issue of supply - demand gap:

A large number of flights leave the airport during Morning time slot. There are very less incoming flights in the Morning.

- A driver who reaches airport during that time has to spend idle time to pick a customer back to the city. The driver could utilise this idle time for other trips if he chooses not to go to the airport.*
- He has to return back empty seated which is a waste of gas mileage for him.*

Due to this a large number of service requests were cancelled in morning rush resulting in huge supply demand gap.

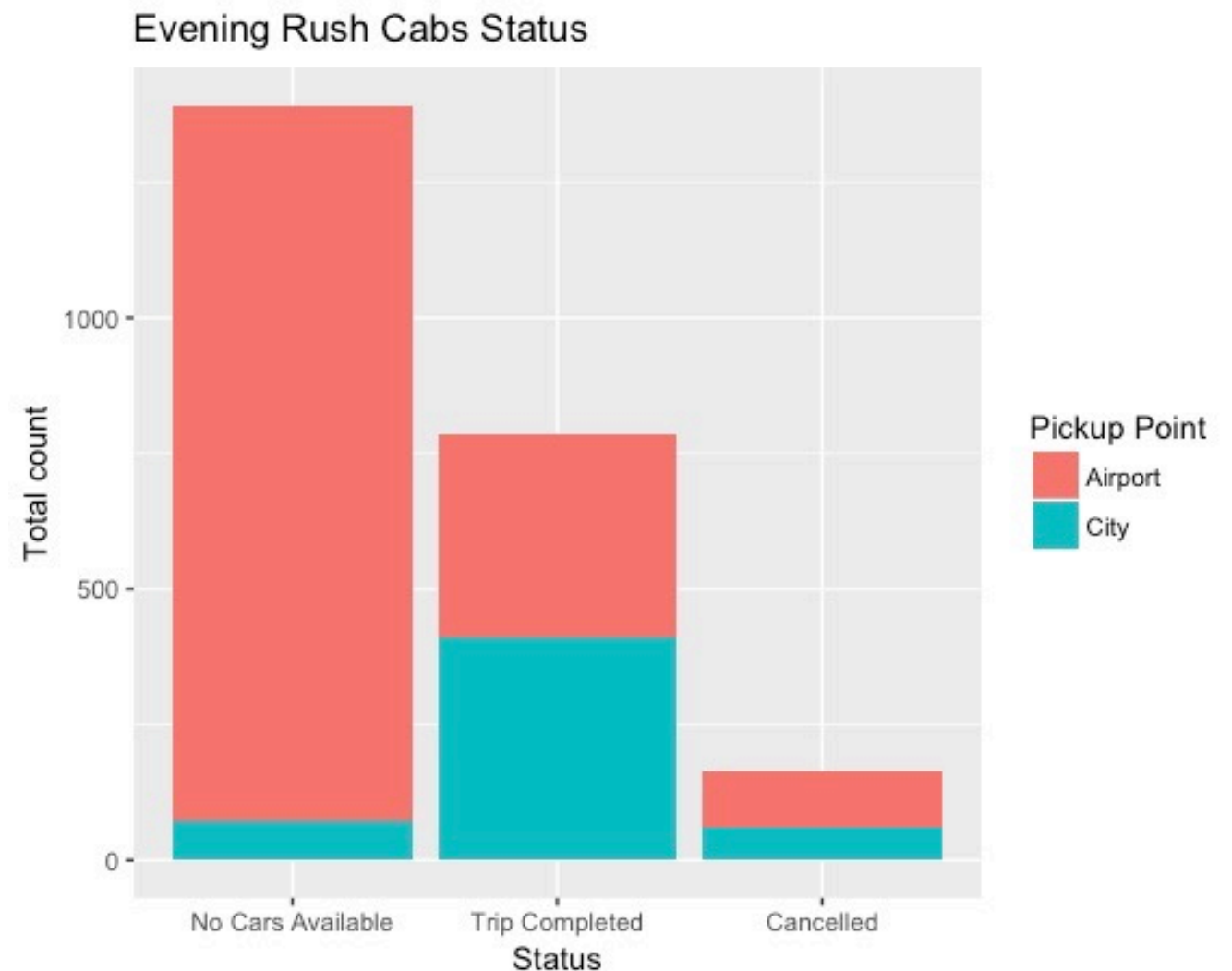
Problem 2:

1. Plotting the stacked bar chart to find the issue for pick-up request made at the airport or the city.

Percentage of no cars available at the city: 5.100575%

Percentage of no cars available at the airport:
94.89943%

2. Finding the gap between supply and demand. For this case, the demand is the number of trip requests made at the airport whereas the supply is the number of trips completed from airport to the city.



Reason for this issue for this supply demand gap

At the airport, incoming flights are more and outgoing flights are less during the Evening slot. As the outgoing flights are less, the cabs coming to the airport are also very less during that time.

This is drastically reducing the availability of cabs at airport in the evening rush time slot. As the incoming flights are more, the passengers are also more in the evening. These passengers are not getting sufficient cabs to leave the airport in the evening. This is leading to a huge supply demand gap at the airport in rush time slot.

Recommendation to Uber:

- Reducing the percentage fee charged from cab drivers for utilising Uber services for making a trip to the airport.
- Charging more money/ surge pricing from the customers for trips

Note - The above analysis is data driven, combined with business logic. It is always a good practice to validate this data by actually speaking to the customers/drivers.