Uber Case Study

By

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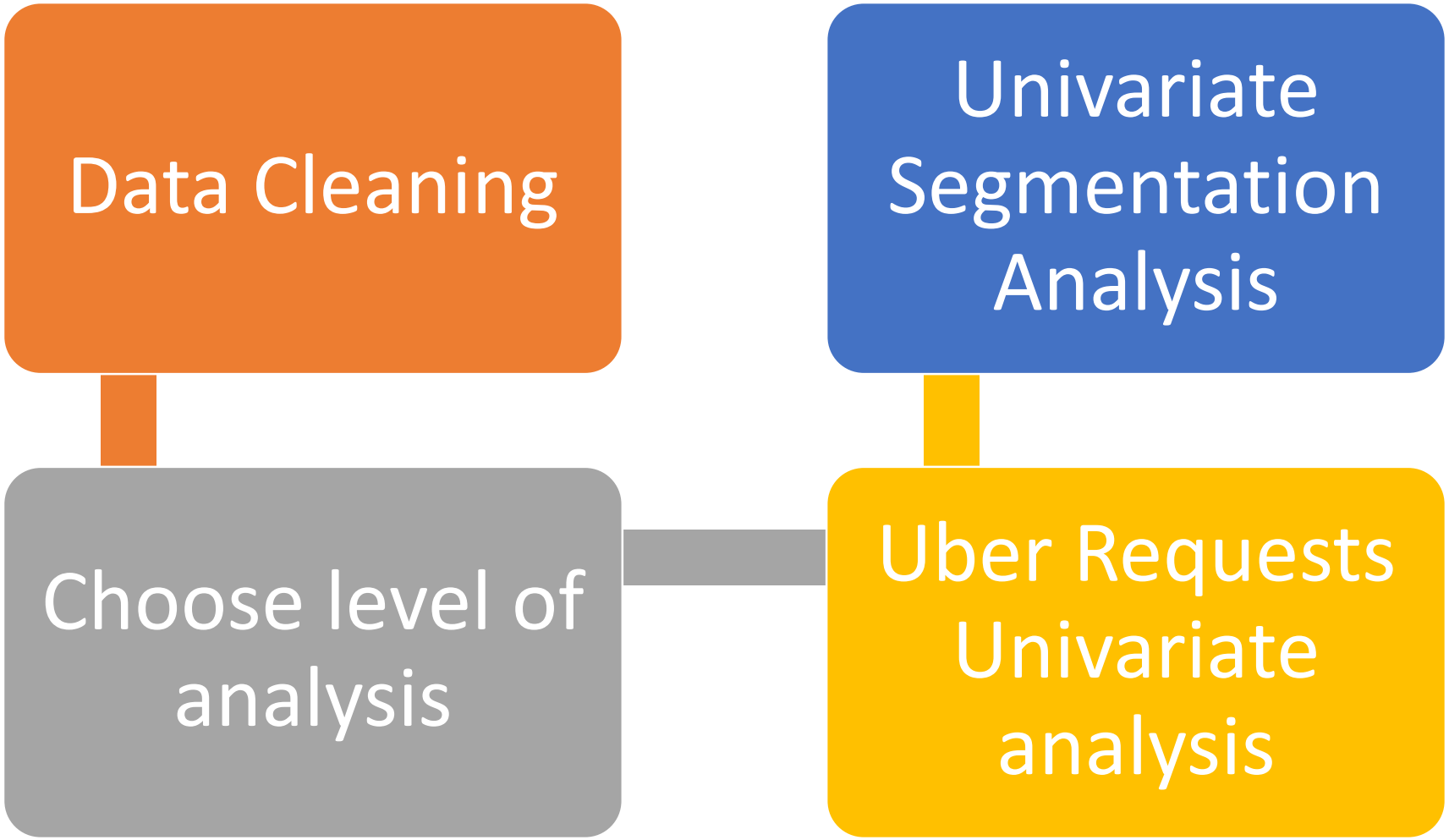
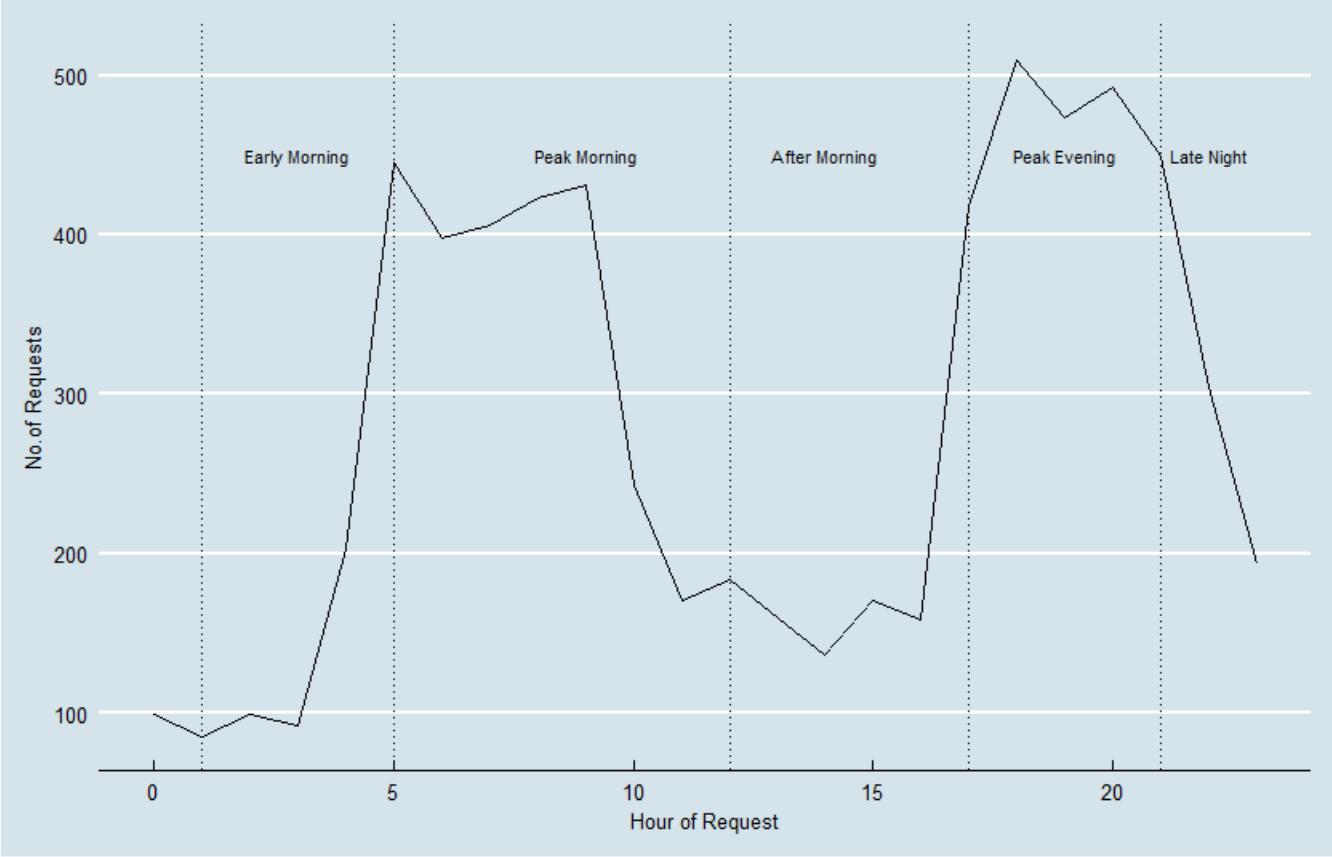
Case Study FlowChart



Data Cleaning and Level of Analysis

- The timestamps are converted to Date, hour and minute format. The seconds have been dropped, as they are not used in the analysis
- The time period of the analysis is from 11/07/2016 (Monday) to 15/07/2016(Friday). **It has been assumed this period reflects the general trend of demand on Uber App**
- Since the number of requests are uniform across days, its conclusive that days (or date) in this analysis does not affect volume of requests
- Hour of the day/Time of the day has been chosen as the level of analysis

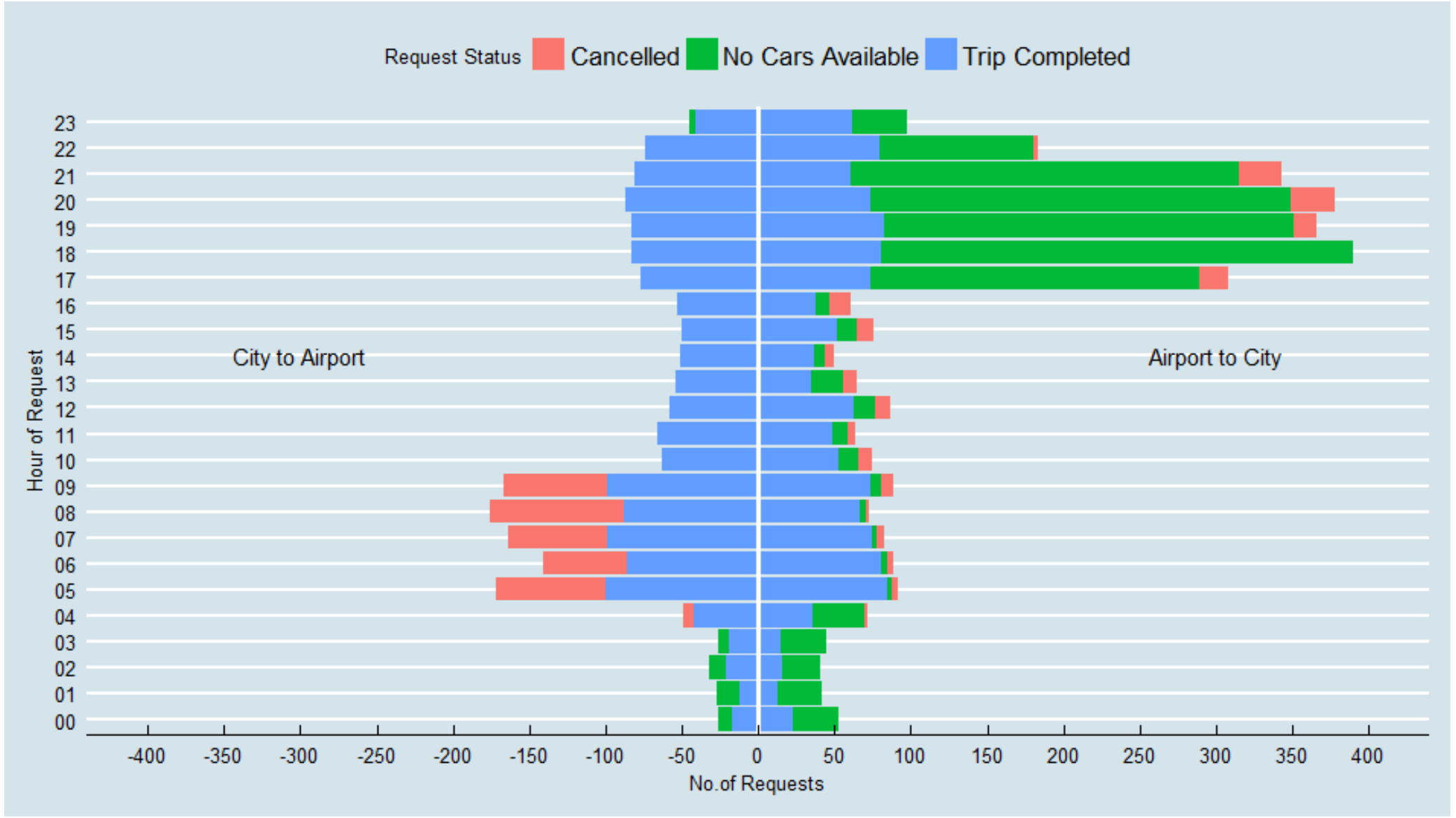
Uber Traffic through-out the day



According to the varying demand the hours of the day have been divided into 5 time-intervals for the analysis:

1) **1 am to 5 am : Early morning hours**
2) **5am to noon: peak morning hours**, since demand traffic is highest during that time
3) **12 noon to 5pm: After morning hours**
4) **5pm to 9pm : Peak evening hours**, since demand peaks again during this time
5) **9pm to 1 am: Late Night Hours**

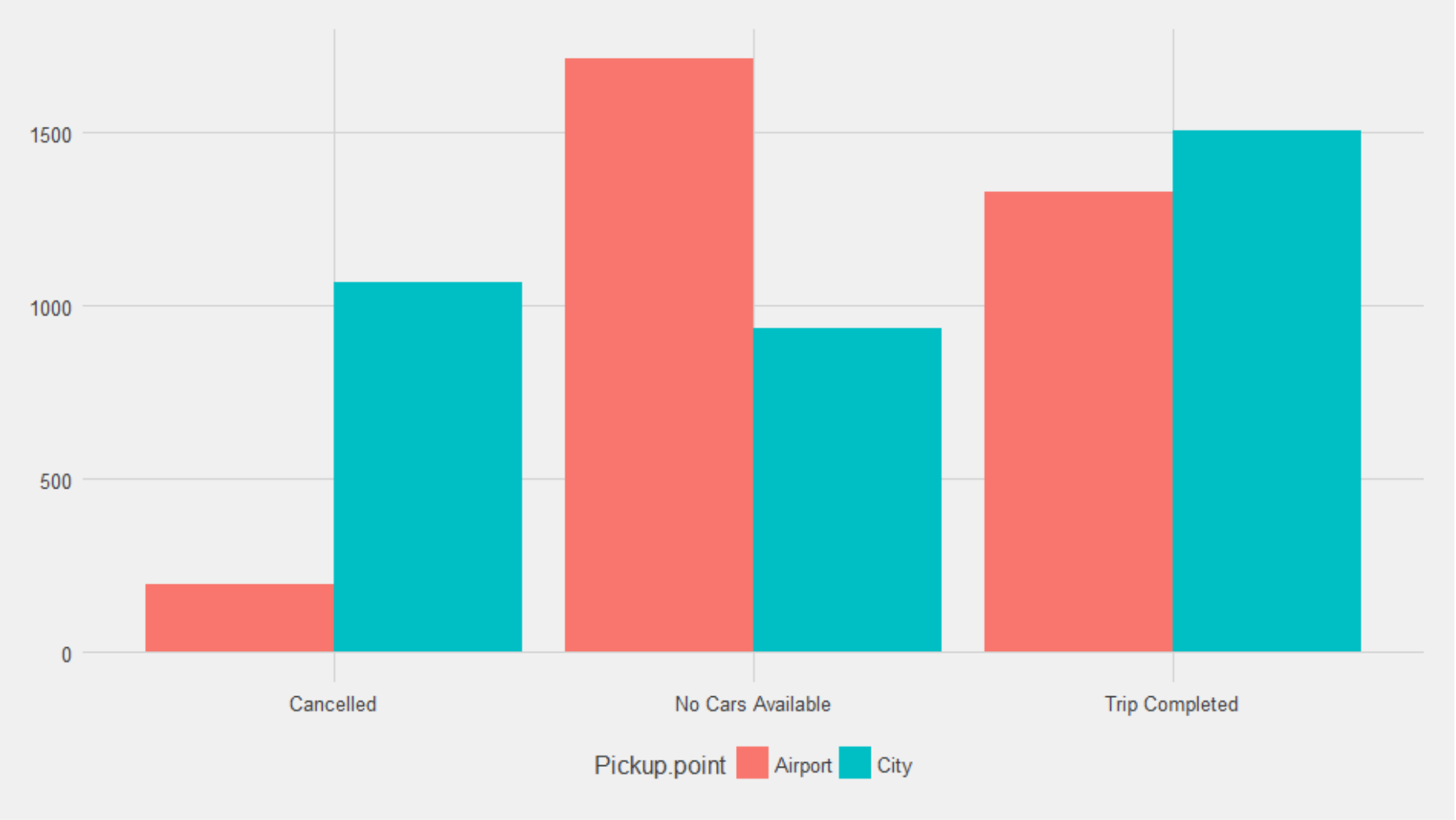
Hourly Uber-Request Analysis



Uber Problem identification

- The demand from Airport to City peaks from 5pm – 9 pm with over 300 requests per hour
- The demand from City to Airport peaks from 5 am -9 am with over 150 requests per hour
- There is also maximum cancellation by drivers with requests from City to Airport from 5 am –9 am
- Although the demand is high for Airport Pickups, >100 times the cabs are not available, which is leading to a high opportunity cost for Uber
- Average time taken for an Airport trip is 52.4 minutes, implying the Airport is far from the city

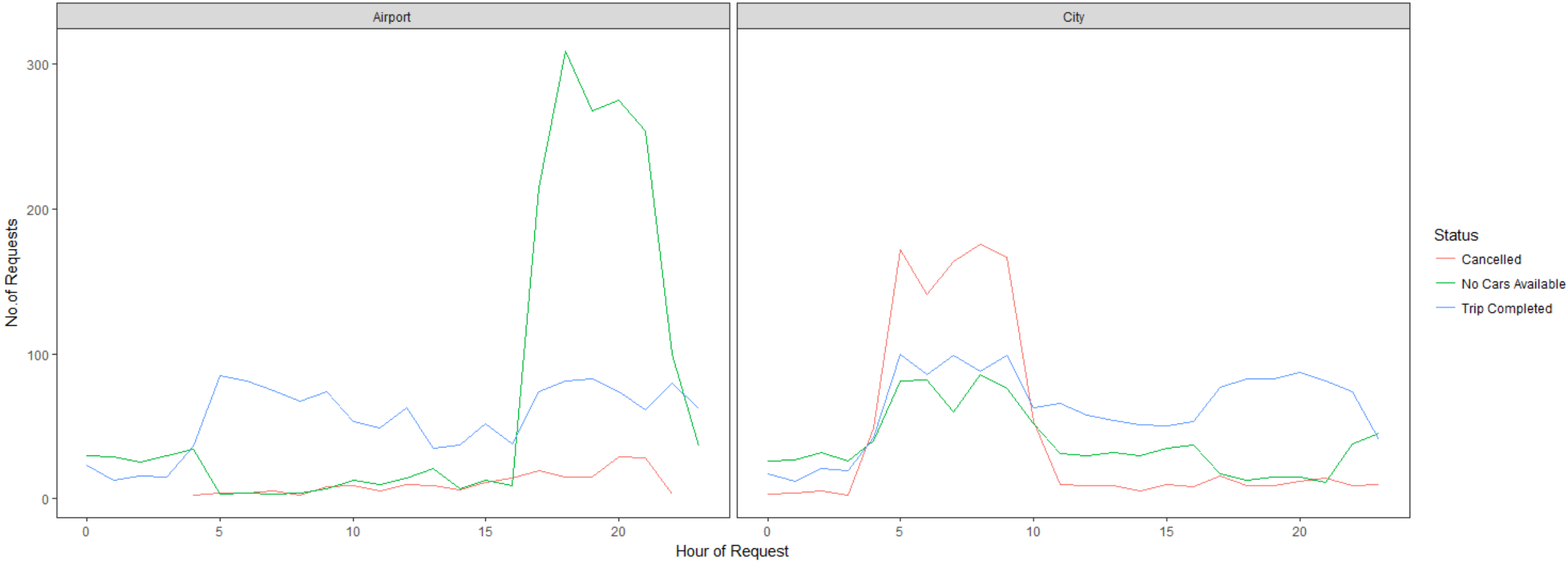
Trip Status Analysis



Trip Status correlation with Pick Up points

- More no of trips were cancelled with City as pickup point
- For 1500+ airport pick up requests the cars were unavailable

Uber Supply-Demand Gap Analysis



Uber Supply-Demand Gap Analysis

- There is a huge demand for Airport Pick-up from 5pm to 9pm, indicating most of the flights land in the evening peak hours
- In Evenings, demand increases within City as well. Hence drivers are unavailable for Airport Pick-ups leading to a supply-demand gap
- During morning peak time 5 am -12 noon, again demand for cabs increase within the city. Taking up an airport ride, would mean drivers would have to pass on potential revenue since airport is far from the city(Average trip time = 53 mins). Hence Drivers cancel in the morning.
- Another reason being,during morning peak time 5am-12noon, the demand for Airport Pickups is low. If Drivers accept morning trips, they will have to do an idle-return trip. This will lead to fuel wastage.

Uber Demand and Supply during different times of the day

Demand and Supply graph during different times of the day confirms the hypothesis that cabs are least available for Airport Pickups during peak evening hours,late night hours and early morning hours

Recommendations

- Incentivize drivers to take up Evening Airport Pick up Requests, since for this city most flights land in evening.
- Drivers should be incentivized to take City - Airport trips in morning peak hours (5am -12 noon) and wait till evening(5pm-9pm) to take return airport - city trips. This is under the assumption that there is enough supply of cabs in city in afternoon as demand during that time is less(as seen from the graph)
- Car-Pool/Shuttles should be introduced for Airport Pick ups to take more passengers per trip, to reduce unavailability of cabs and increase cab/shuttle utilization
- Drivers staying near airport can be directed to take “night shifts” and take all airport requests from 1am – 5am in early morning hours, the last one being from City to Airport.

Thank you!