Uber Supply Demand Gap CASE STUDY

SUBMISSION

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Uber wants to understand the demand-supply gap existing in trips to and from Airport

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Current State

• Trips completed percentage is very low for trips to and from airports as compared to other major touchpoints

• Car unavailability and Driver Cancellation patterns vary with a number of factors

Questions:
What drives cancellation across different pickup points?
Are these trends constant over different periods of day?
Are drivers reluctant to make trips to airport?

Desired Future State

Uber identifies the root cause of demand-supply gap and takes necessary steps to improve overall Completed/Request ratio
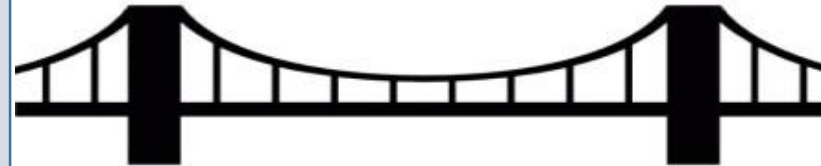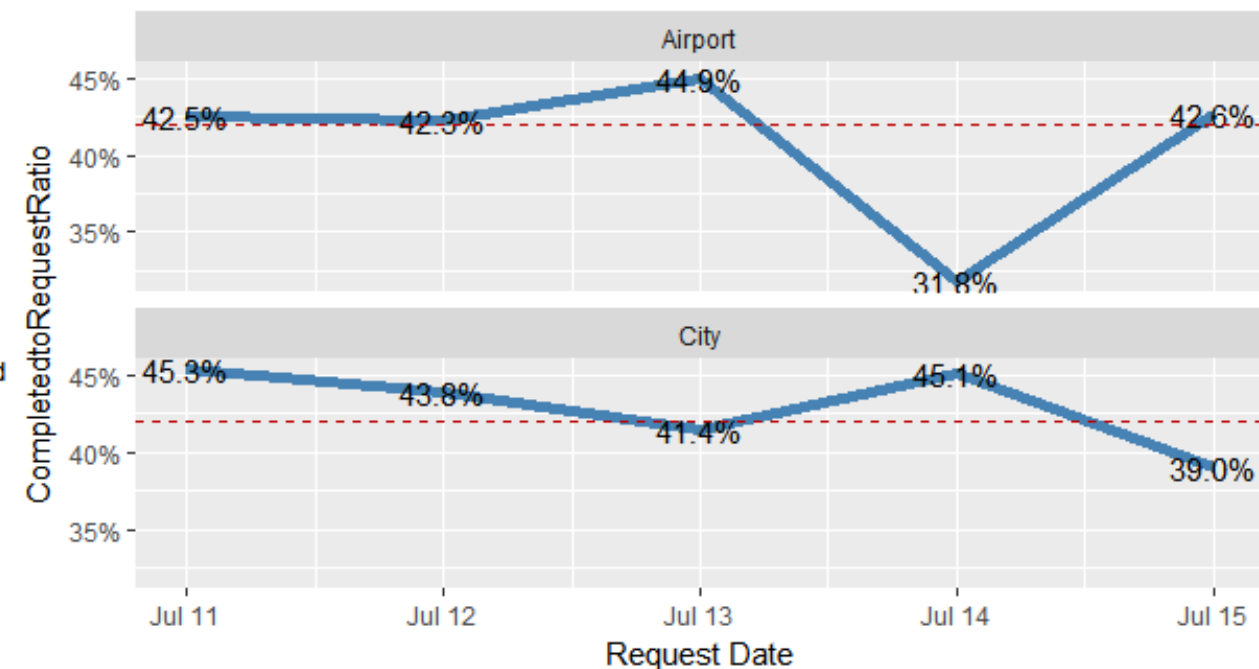
Data Constraints
• Data available for trips to and from airport only
• Data needs to be cleaned before initial analysis

Completed-to-Request Ratio is very low. On Average, **42%** of total demand is met

Requests and Completed trips across days
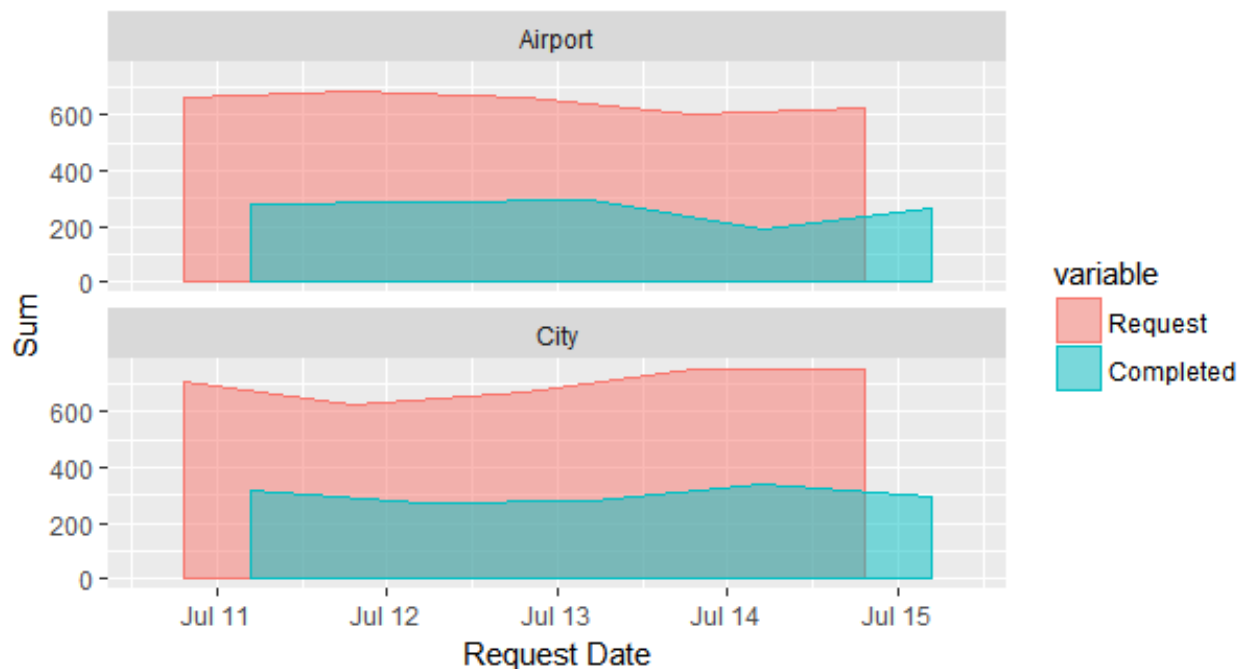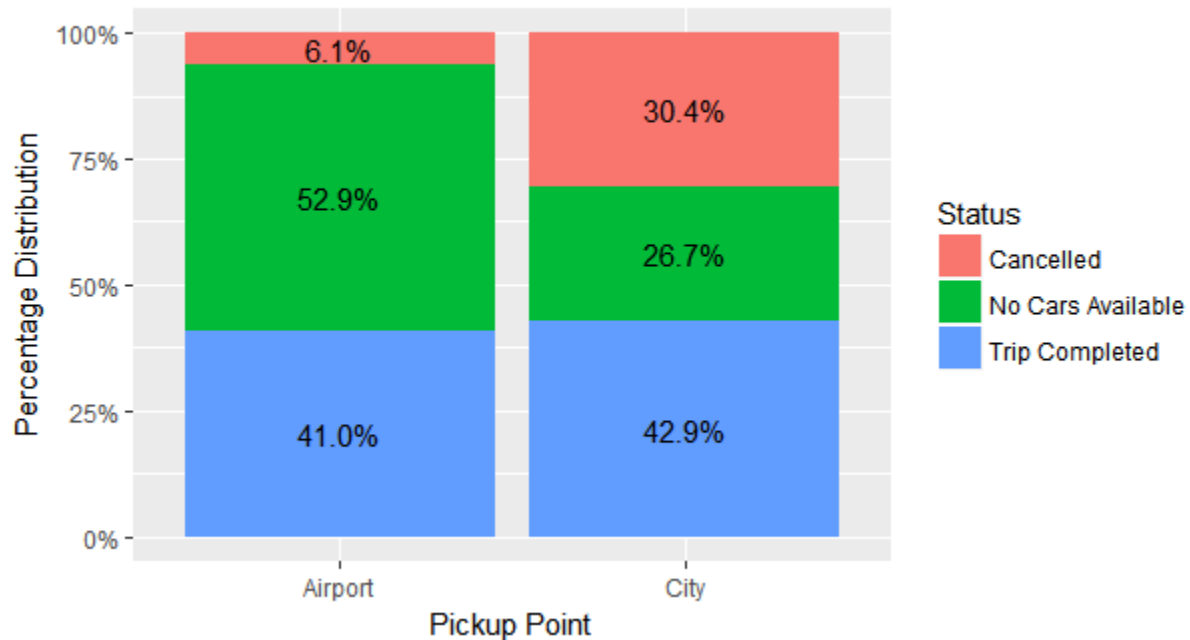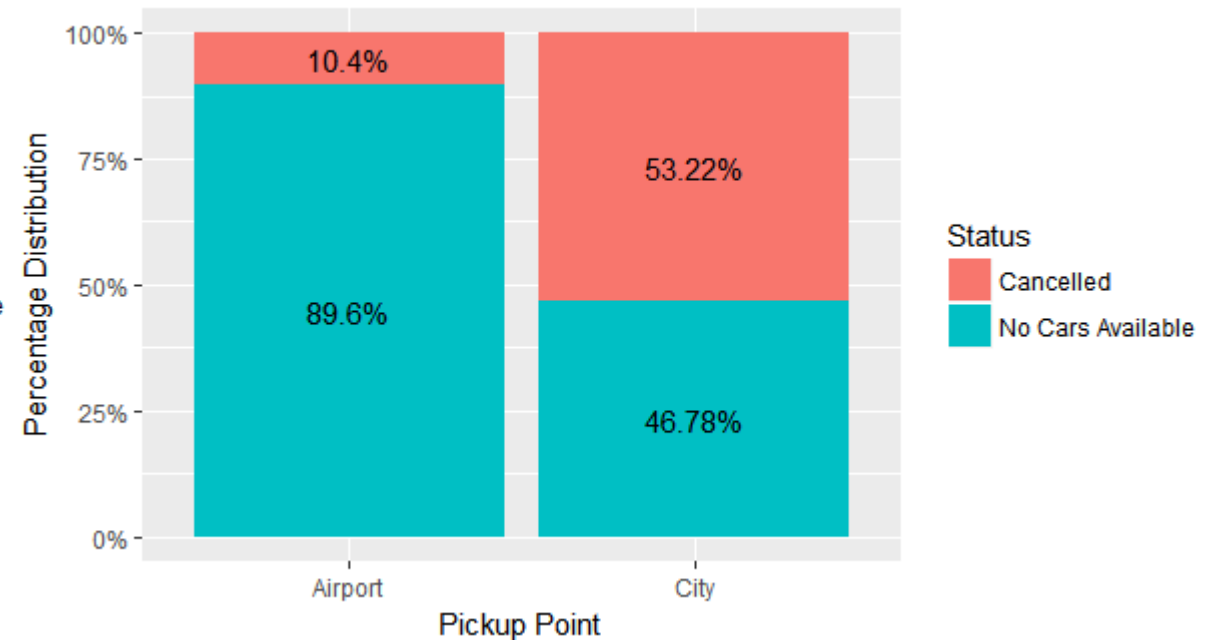
Completed-RequestRatio Across Days

Findings:

*-On July 14, Trips from Airport had a very low Completed-to-Request ratio of ~32%

*- On July 15, Trips from Airport had a very low Completed-to-Request ratio of ~39%

Deep-Dive Analysis of Not Completed Trips suggest that primary reason for low Completed-to-Request ratio varies across pickup points

Percentage Distribution of Trip Status across pickup points

Percentage Distribution of Cancelled Trip Status across pickup point

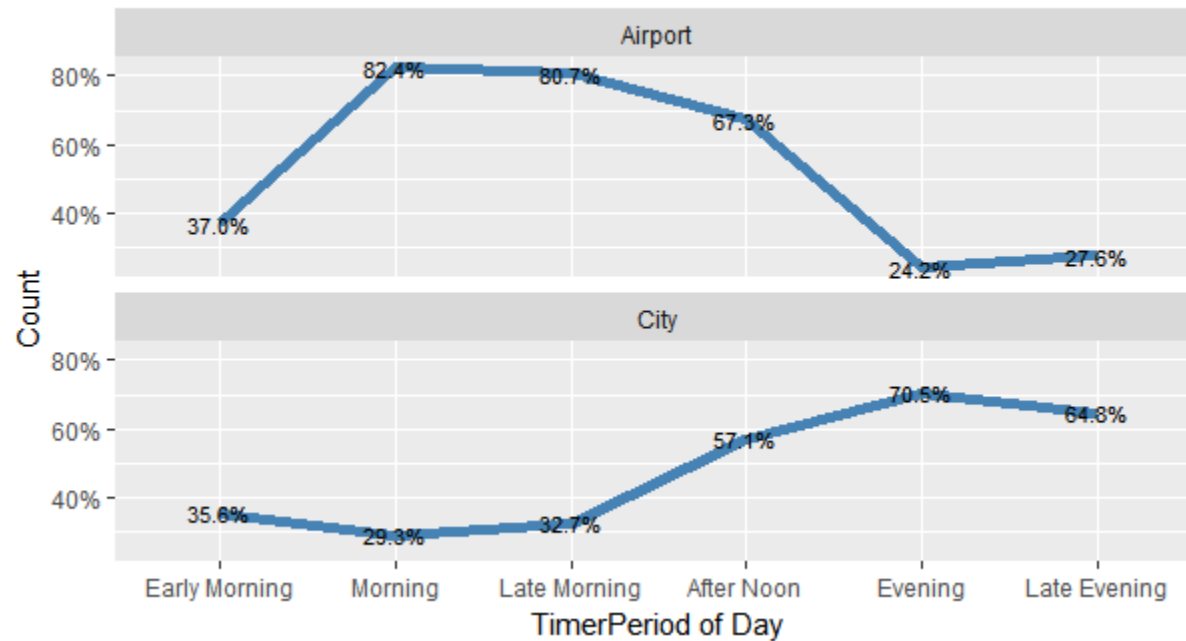**Findings:**

*-53% of total requests from airports have been cancelled due to cars unavailability

*-30% of total requests from cities have been cancelled by drivers and 26% have been cancelled due to cars unavailability
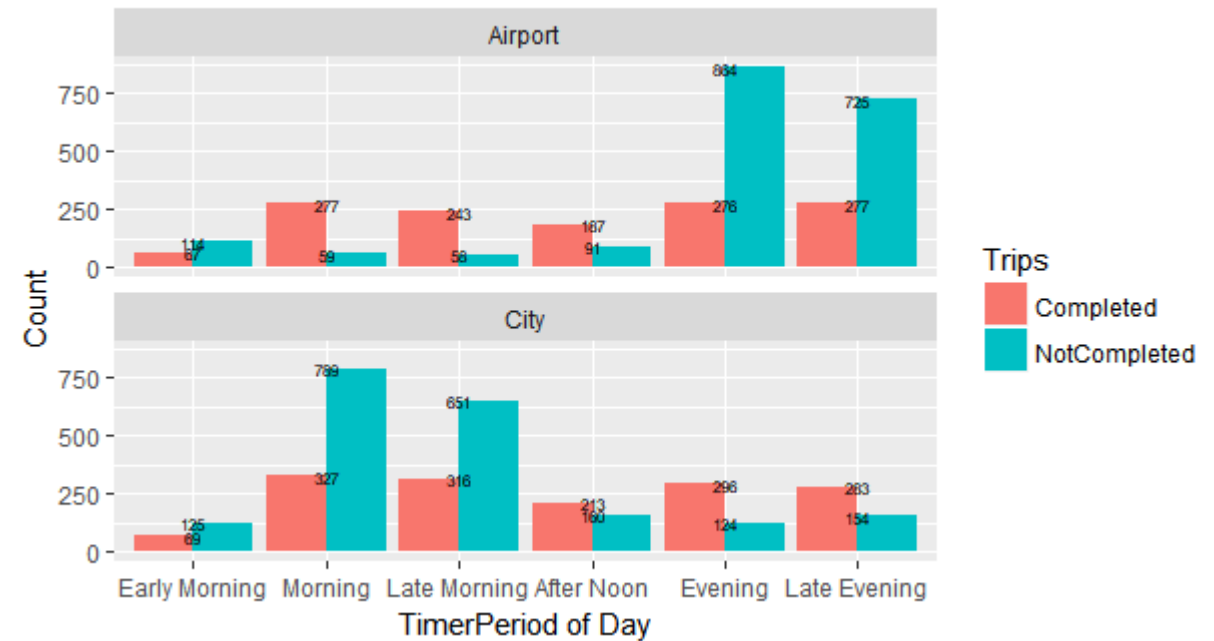
Findings:

*-90% of incomplete trips from airports are due to Car Unavailability

54% of incomplete trips from airports are due to drivers cancellation

Gap peaks at different time periods of day for trips to and from airport
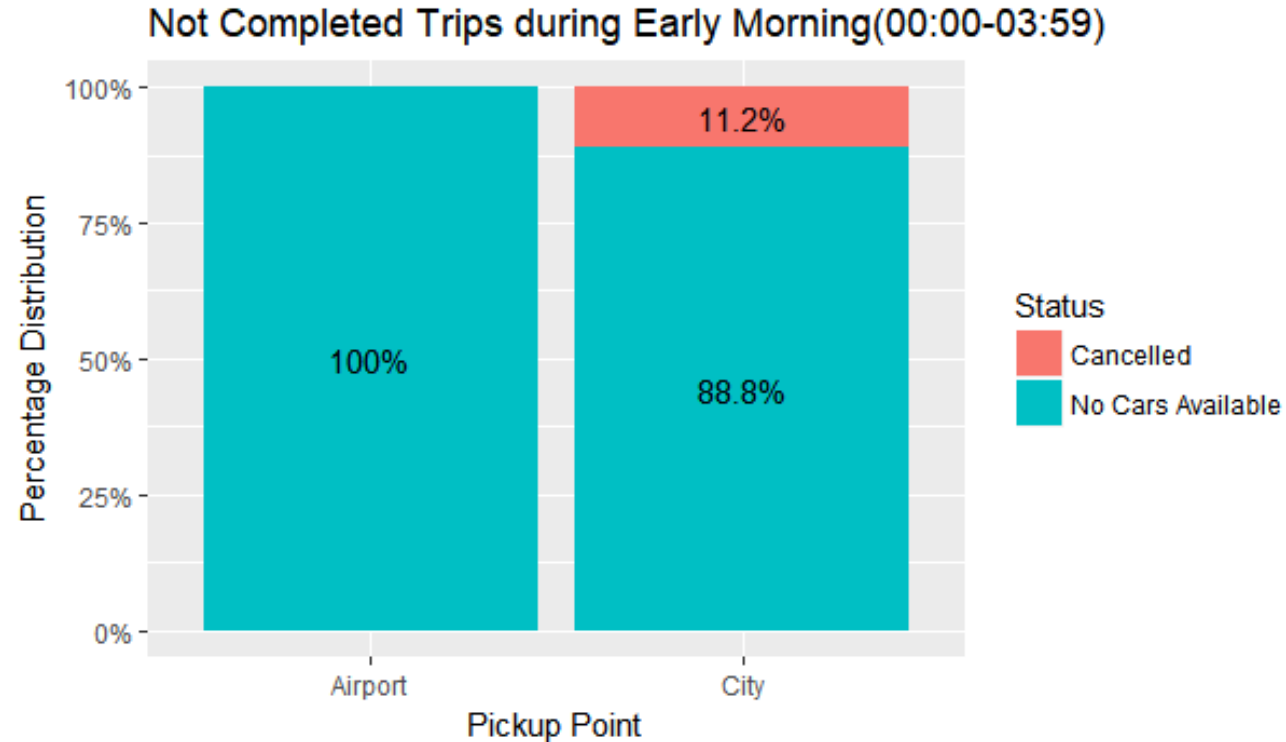

CompletedtoRequest ratio across different time periods

Airport
- 37.8% (Early Morning)
- 82.4% (Morning)
- 80.7% (Late Morning)
- 67.3% (After Noon)
- 24.2% (Evening)
- 27.6% (Late Evening)

City
- 35.6% (Early Morning)
- 29.3% (Morning)
- 32.7% (Late Morning)
- 57.1% (After Noon)
- 70.5% (Evening)
- 64.8% (Late Evening)

Completed and Not Completed Trips across different time periods

Airport
- Early Morning: 67 Completed, 114 NotCompleted
- Morning: 277 Completed, 59 NotCompleted
- Late Morning: 243 Completed, 58 NotCompleted
- After Noon: 187 Completed, 91 NotCompleted
- Evening: 276 Completed, 864 NotCompleted
- Late Evening: 277 Completed, 725 NotCompleted

City
- Early Morning: 69 Completed, 125 NotCompleted
- Morning: 327 Completed, 789 NotCompleted
- Late Morning: 316 Completed, 651 NotCompleted
- After Noon: 213 Completed, 160 NotCompleted
- Evening: 296 Completed, 124 NotCompleted
- Late Evening: 283 Completed, 154 NotCompleted
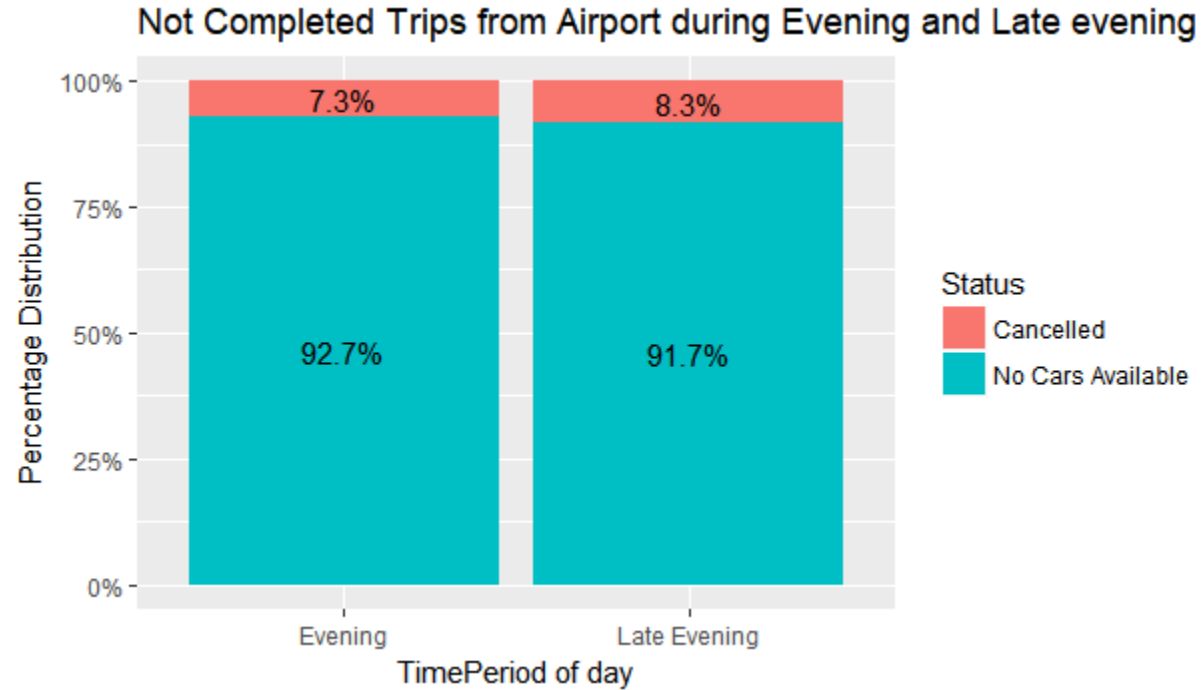
Trips: Completed, NotCompleted

Findings:
*-Early Morning has very low Completed-to-Request Ratio across both the pick up points(~35-36%)
*- Considering airport as the pickup point, Evening and Late Evening have a very low Completed-to-Request Ratio (~24% and ~27% respectively)
*- Considering City as the pickup point, Morning and Late Morning have a very low Completed-to-Request Ratio(~30% and ~32% respectively)

Closer look into Early Morning(00:00-03:59) revealed the root cause of low Completed-to-Request Ratio is Cars Unavailability

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Not Completed Trips during Early Morning(00:00-03:59)

Findings:

*- 100 percent of the time incomplete trips from airport have been because of No cars availability

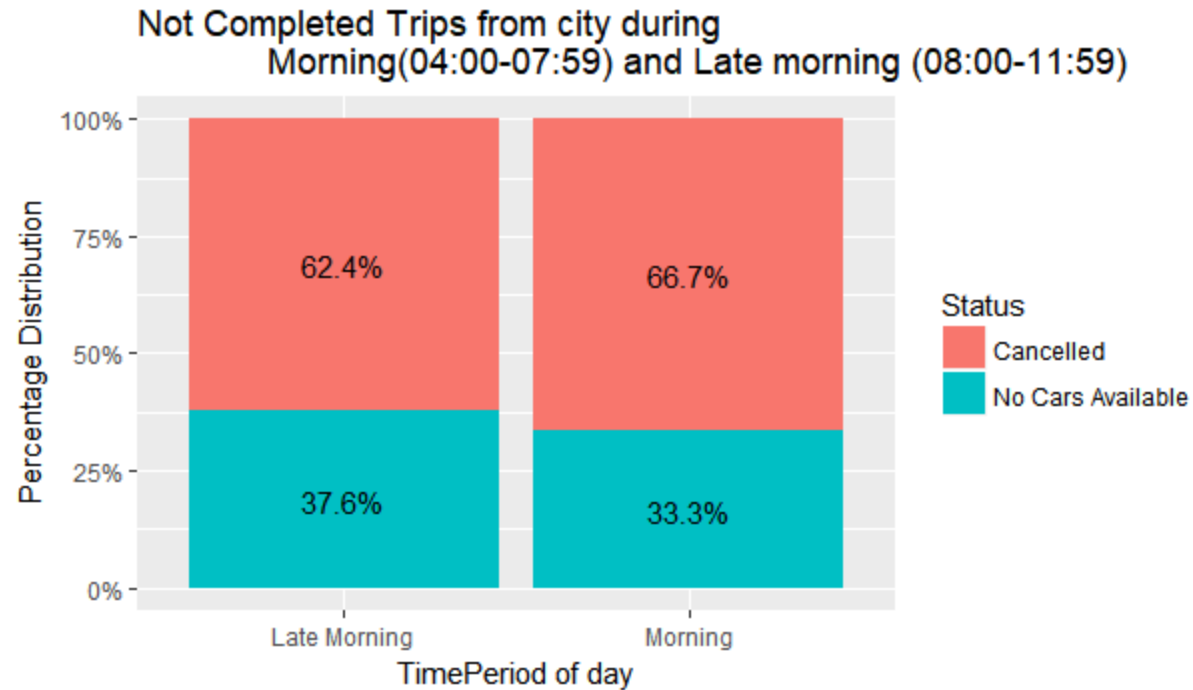*- More than 85% of the incomplete trips from airport have been because of No cars availability

Trips from Airport during Evening and Late Evening have not been completed due to cars unavailability

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Not Completed Trips from Airport during Evening and Late evening

Status
- Cancelled
- No Cars Available

Evening: 7.3% Cancelled, 92.7% No Cars Available
Late Evening: 8.3% Cancelled, 91.7% No Cars Available

Y-axis: Percentage Distribution (0%, 25%, 50%, 75%, 100%)
X-axis: TimePeriod of day (Evening, Late Evening)

Findings:
*-More than 90% of incomplete trips during evening and late evening from Airport are due to cab unavailability

Trips from City during Morning and Late Morning have not been completed mainly due to driver cancellation

Not Completed Trips from city during
Morning(04:00-07:59) and Late morning (08:00-11:59)

Findings:
*-More than 60% of the incomplete trips from City during Morning and Late Morning are because of the drivers cancelling it.

Findings:

*-53% of total requests from airports have been cancelled due to cars unavailability

*-30% of total requests from cities have been cancelled by drivers and 26% have been cancelled due to cars unavailability

*-90% of incomplete trips from airports are due to Car Unavailability

*- 54% of incomplete trips from airports are due to drivers cancellation

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*- Considering City as the pickup point, Morning and Late Morning have a very low Completed-to-Request Ratio(~30% and ~32% respectively)

*- 100 percent of the time incomplete trips from airport have been because of No cars availability

*- More than 85% of the incomplete trips from airport have been because of No cars availability

*-More than 90% of incomplete trips during evening and late evening from Airport are due to cab unavailability

*-More than 60% of the incomplete trips from City during Morning and Late Morning are because of the drivers cancelling it.

Recommendations:

*- Uber should increase the number of cars available during Early Morning

*-90% of incomplete trips during evening and late evening from airport is due to No cars availability. This can be associated to higher number of flights landing during this period and lower influx of cabs to airport during the earlier part of the day

*- More than 60% of the incomplete trips from City during Morning and Late Morning are because of the drivers cancelling it. This can be attributed to increase in wait time of drivers after reaching airport