

UBER SUPPLY DEMAND GAP ANALYSIS

PRESENTER

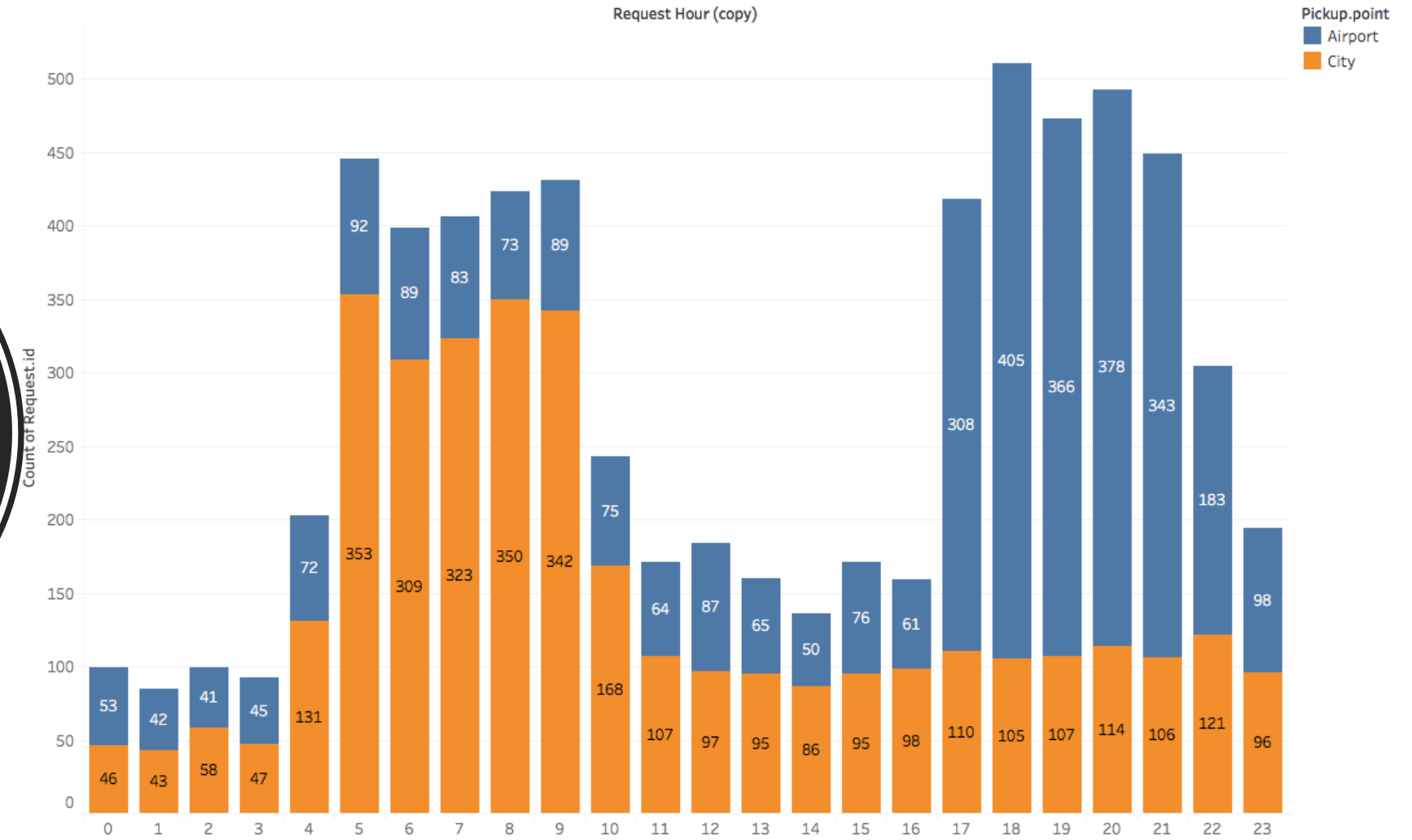
ANINDYA CHATTERJEE

DATA PREPARATION

- The Date formats of the data frame to a particular format which makes analysis simple and easier
- Create separate columns for request hour and date to use apply time slot analysis at a later point of time
- Also apply logic to create time slots for analyzing which time slots we are seeing the maximum supply demand gap and analyze the cause for the issue
- We should not remove the NA values in driver id column as those are only for trips for which cabs are not available

DATA
PREPARATION —
UBER REQUEST COUNT
(HOURLY)

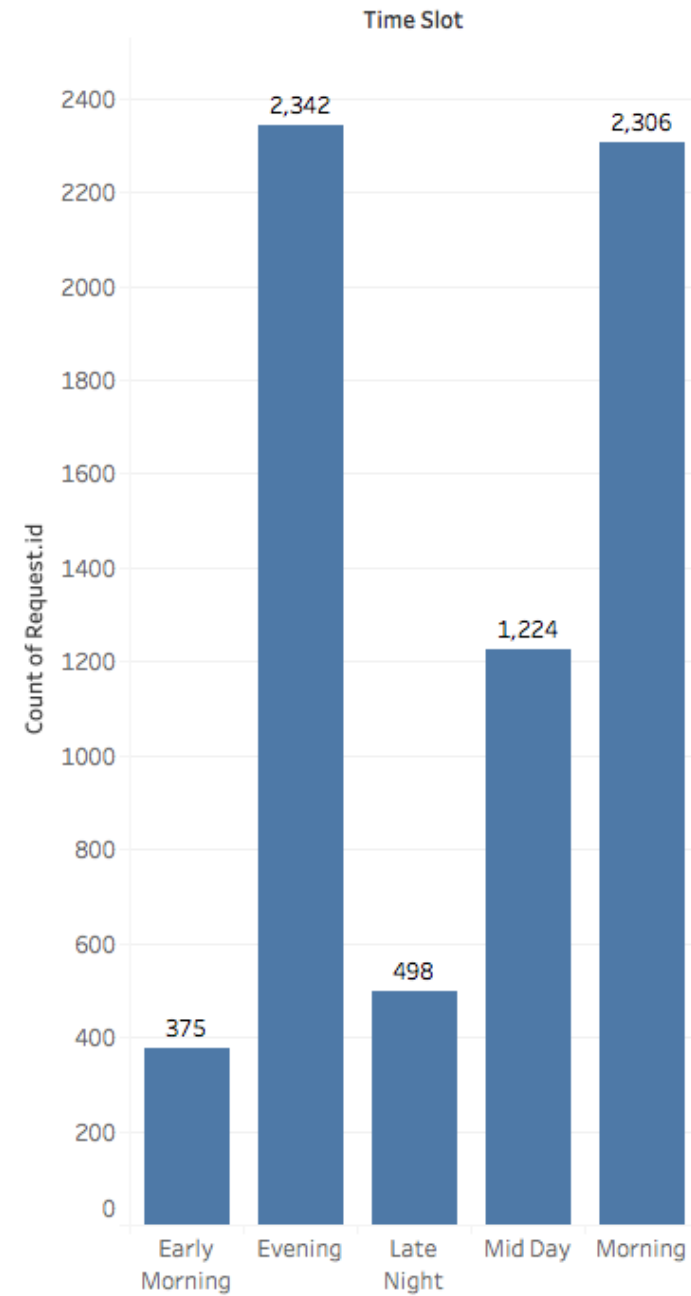
Uber Request Count (hourly)



Count of Request.id for each Request Hour (copy). Color shows details about Pickup.point. The marks are labeled by count of Request.id.

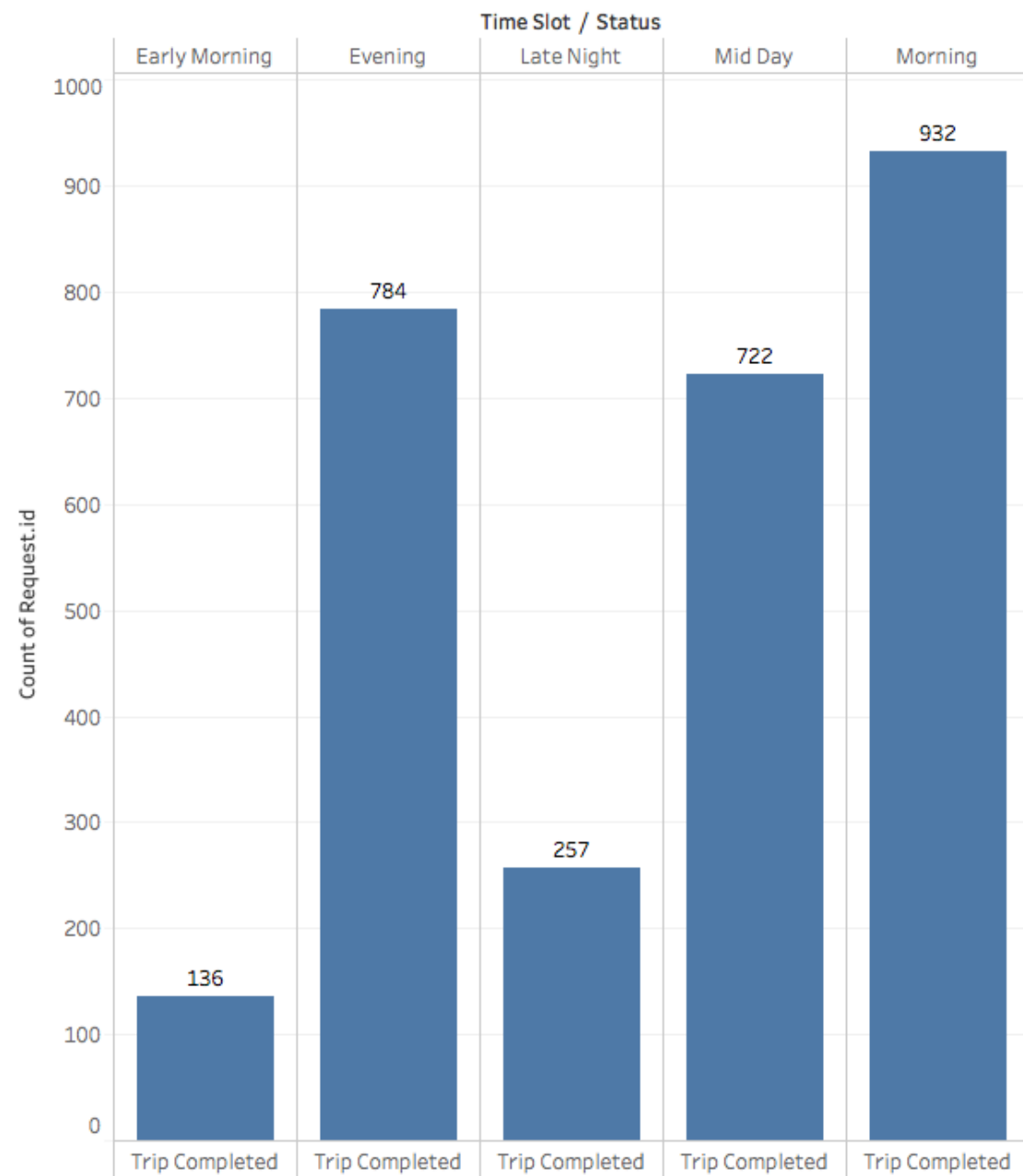
Request
Count per
time slot

Request Count per time slot



Trips
completed
per time
slots

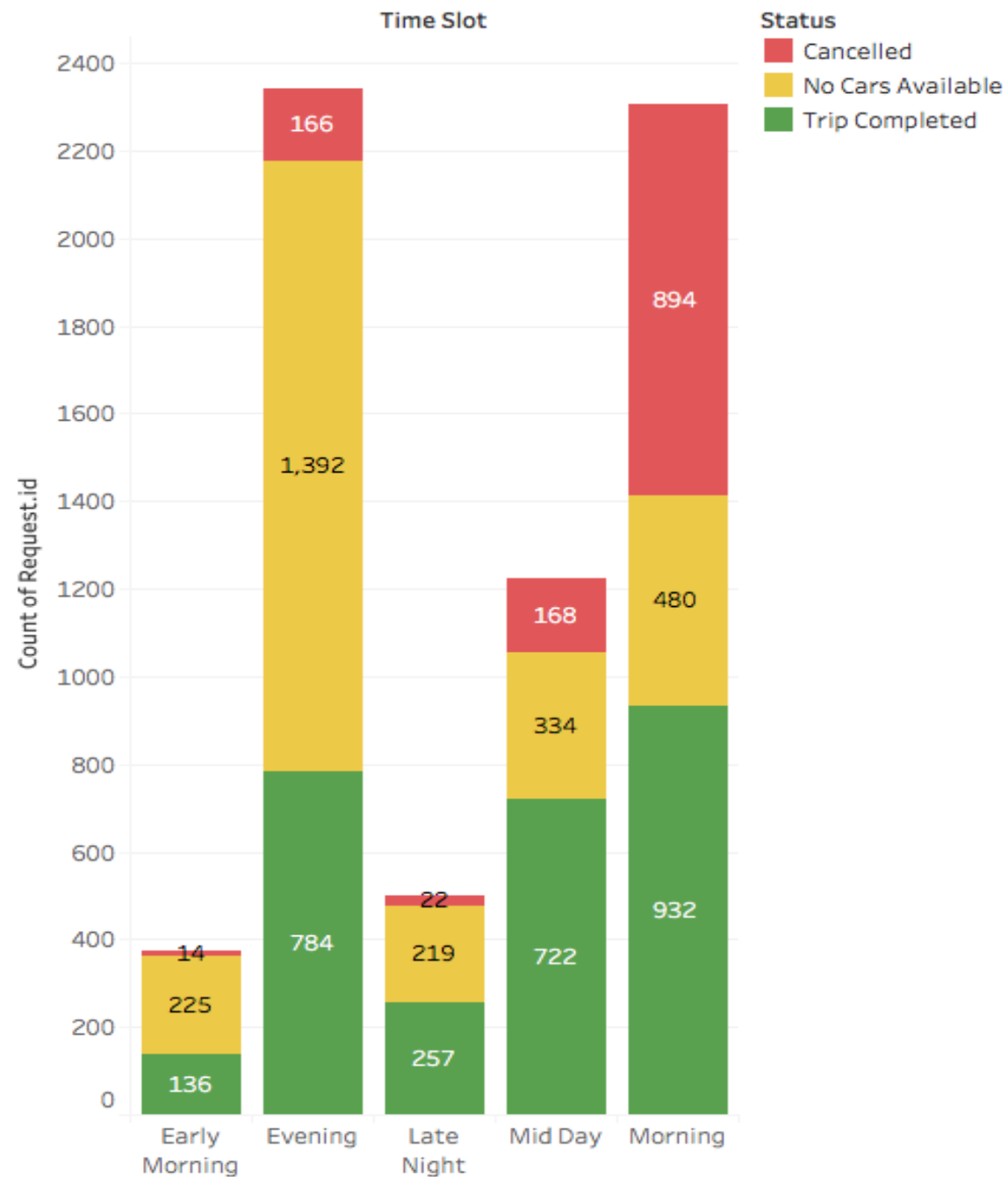
Trips Completed per time slot



Count of Request.id for each Status broken down by Time Slot. The view is filtered on Status, which keeps Trip Completed.

Trip status analysis per time slots

Trip status per time slot



Deductions from the trip status analysis from time slots

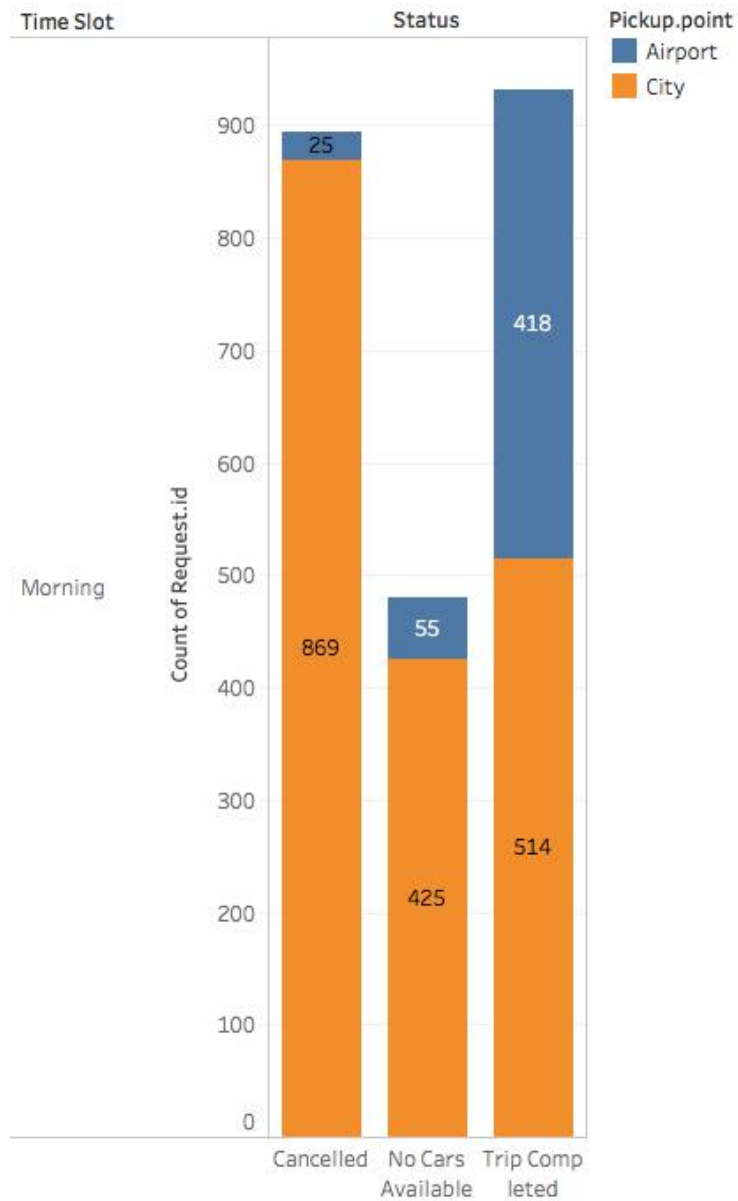
- There are two most notable problems for Uber in the cab request during the time slots
- Below are the deductions:
 - Problem 1: During the morning time slot there were a large number of requests that got cancelled by the driver
 - Problem 2: A large number of requests were cancelled due to unavailability of cars during the evening time slot

Problem 1 :Cancelled Requests during morning slot

- We noticed there is a large number of requests getting cancelled during the morning slots
- Percentage of requests getting cancelled during this slot
 - City – 97.2%
 - Airport – 2.8%
- Supply demand gap
 - Number of requests made from city to airport - 1808
 - Number of requests completed from city to airport – 514
- **Reason for the supply demand gap** – There are a large number of flights which take off during this time of the day and very fewer flights land, therefore a driver who goes to the airport has to wait a long time at the airport to get a ride back which idle time he would be using to complete other trips if he chooses not to go to the airport or else come back empty which will cost him gas. The other reason could be, airports are far away from the city and takes a lot of time complete the trip which affects the minimum trips that a driver has to complete in a day.
- **Recommendations to Uber to solve the issue**
 - Have some monetary reward for the drivers for completing trips to the airport at this time
 - Charge a surge price from customers
 - If the drivers goes to the airport during this slot in a particular day, reduce minimum trips for the driver for that particular day

Problem 1 : Cancelled Requests during morning slot

Morning Cab Status - Airport vs City



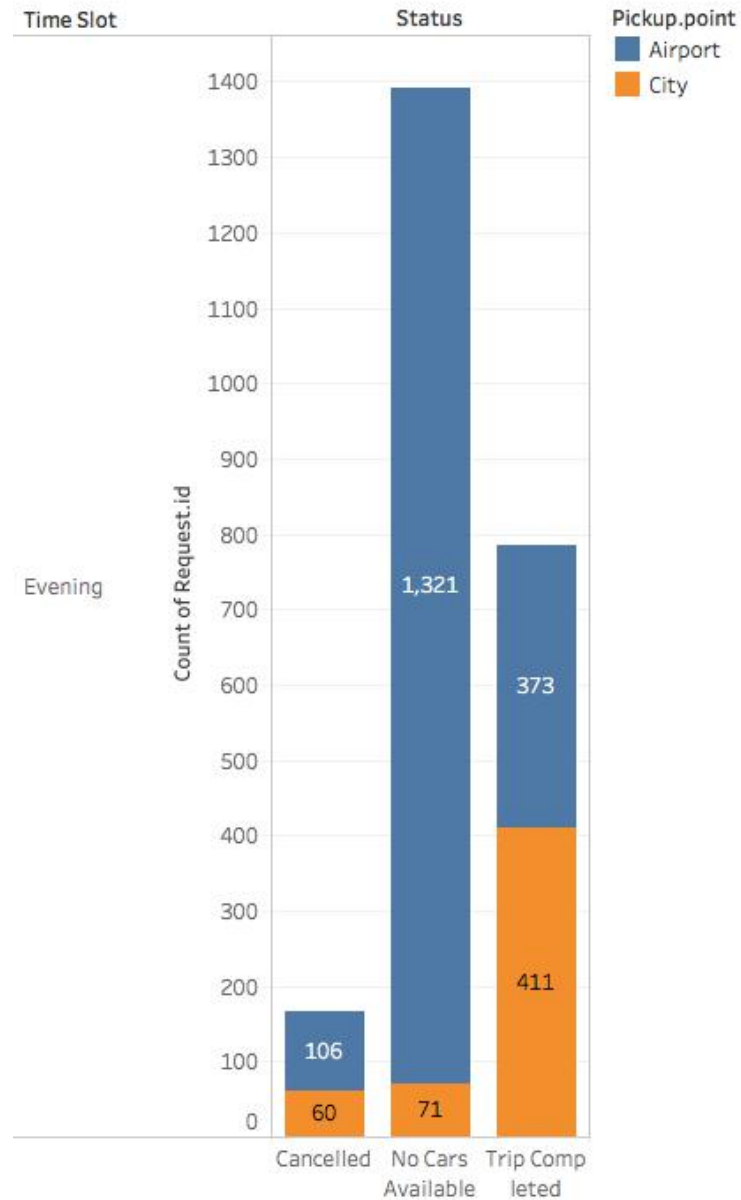
Count of Request.id for each Status broken down by Time Slot. Color shows details about Pickup.point. The view is filtered on Time Slot, which keeps Morning.

Problem 2 :Unavailability of cabs during evening slot

- We noticed there is a large number of requests getting cancelled during the evening slots due to unavailability of cabs
- Percentage of requests getting no cabs available during this slot
 - City – 5.1%
 - Airport – 94.9%
- Supply demand gap
 - Number of requests made from airport to city- 1800
 - Number of requests completed from airport to city– 373
- **Reason for the supply demand gap** – At the airport flights landing (international also) are more and outgoing flights are less during evening time slot. As the number of outgoing flights are very less there are cabs incoming to the airport. This is reducing the availability of the cabs at the airport. As there are a lot of incoming flights at this time, the number of passengers are also more and not getting sufficient cabs to leave the airport. This is leading to the supply demand gap
- **Recommendations to Uber to solve the issue**
 - Have some monetary reward for the drivers for completing trips from the airport at this time
 - Charge a surge price from customers
 - Have some specific drivers on airport duty at this time slot and reduce the minimum trips from the airport if the driver is on airport duty.

Problem 2 : Unavailability of cabs during evening slot

Evening Cab Status - Airport vs
City



Count of Request.id for each Status broken down by Time Slot. Color shows details about Pickup.point. The view is filtered on Time Slot, which keeps Evening.