UBER-Demand and Supply Gap

ANALYSIS WITH VISUALIZATION

BUSSINESS OBJECTIVE

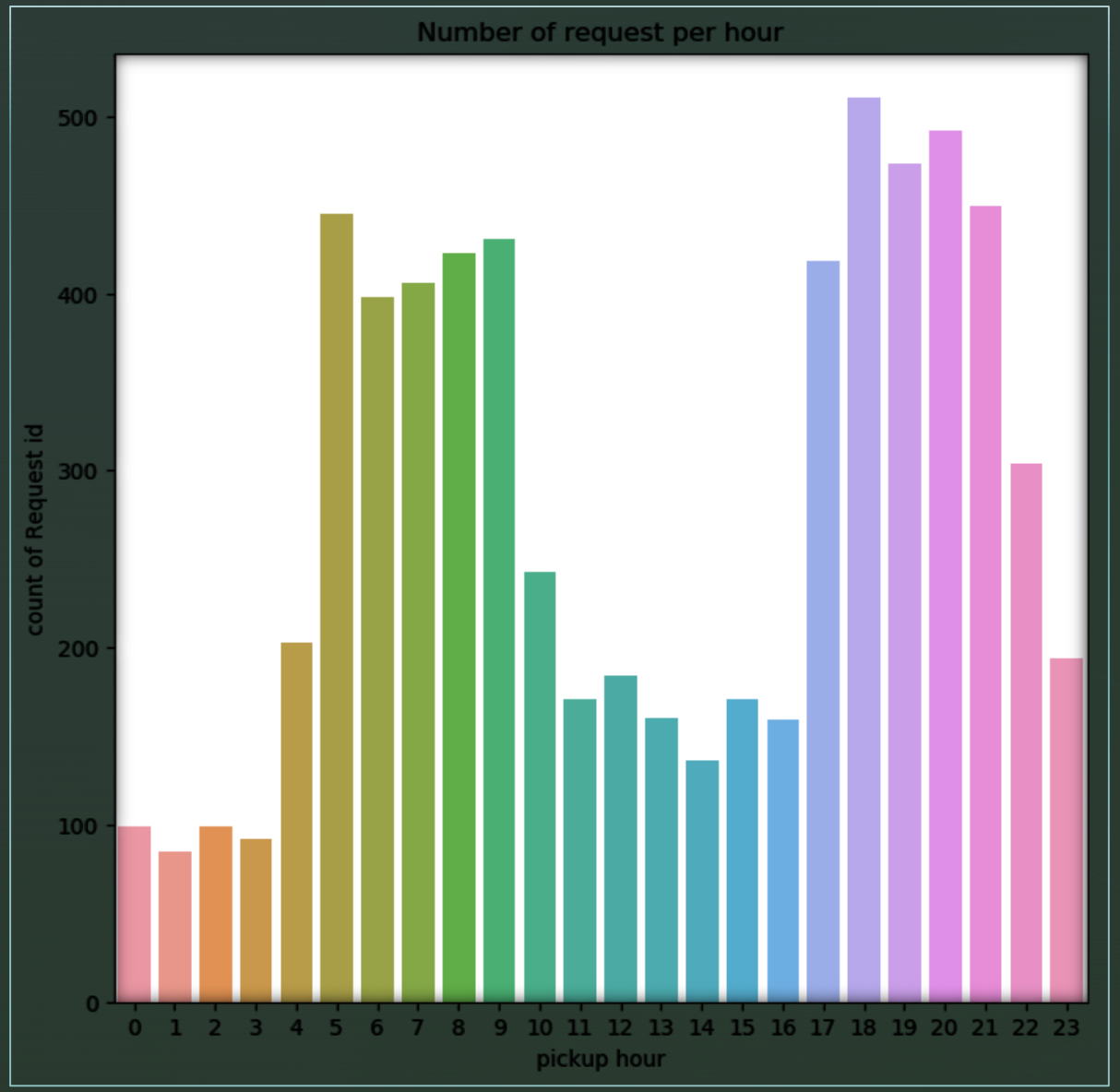
- To identify the root cause of problems of cancellation of request and non availability of cabs and recommend suggestions to tackle the problem

DATA PROVIDED FOR THE ANALYSIS

- 6 attributes provided for in the csv file:-
- 1) Request id- Id of the request made. Unique in nature
- 2) Pickup point- Location from where the request is being made.
- 3) Driver id- Unique id of the driver.
- 4) Status – Status of request i.e whether its been completed, cancelled or the cab is not available.
- 5) Request timestamp- Date and time of the request
- 6) Drop timestamp- Date and time of completion of request

ANALYSIS OF THE PROBLEM

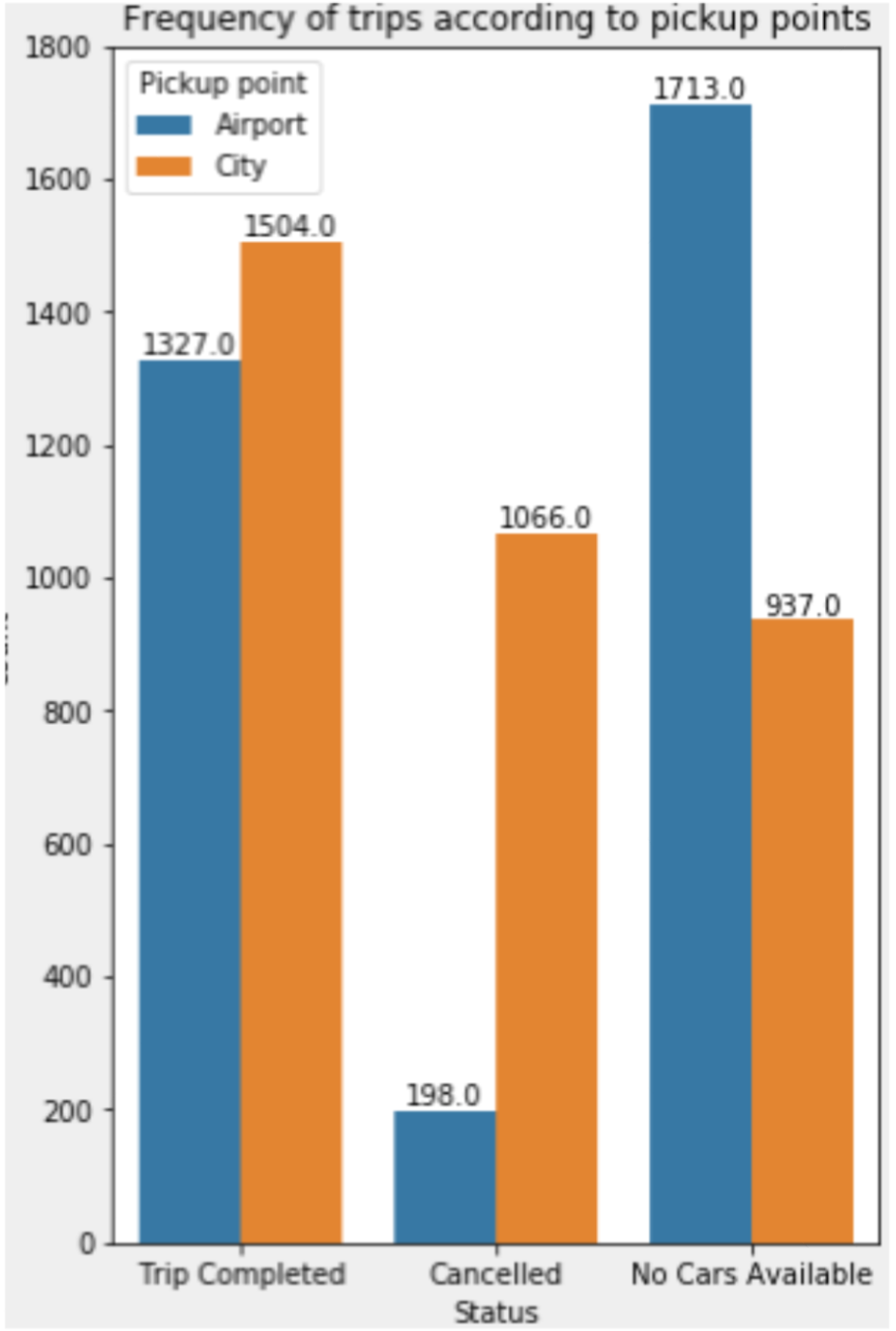
- 1) Importing the data.
- 2) getting the data in the required format.
- 3) Making new columns for hours and timeslots.
- 4) Identifying the problem for uber based on pickup points and status according to timeslots.
- 5) Creating demand, supply and gap between them for every timeslot .



Primary analysis

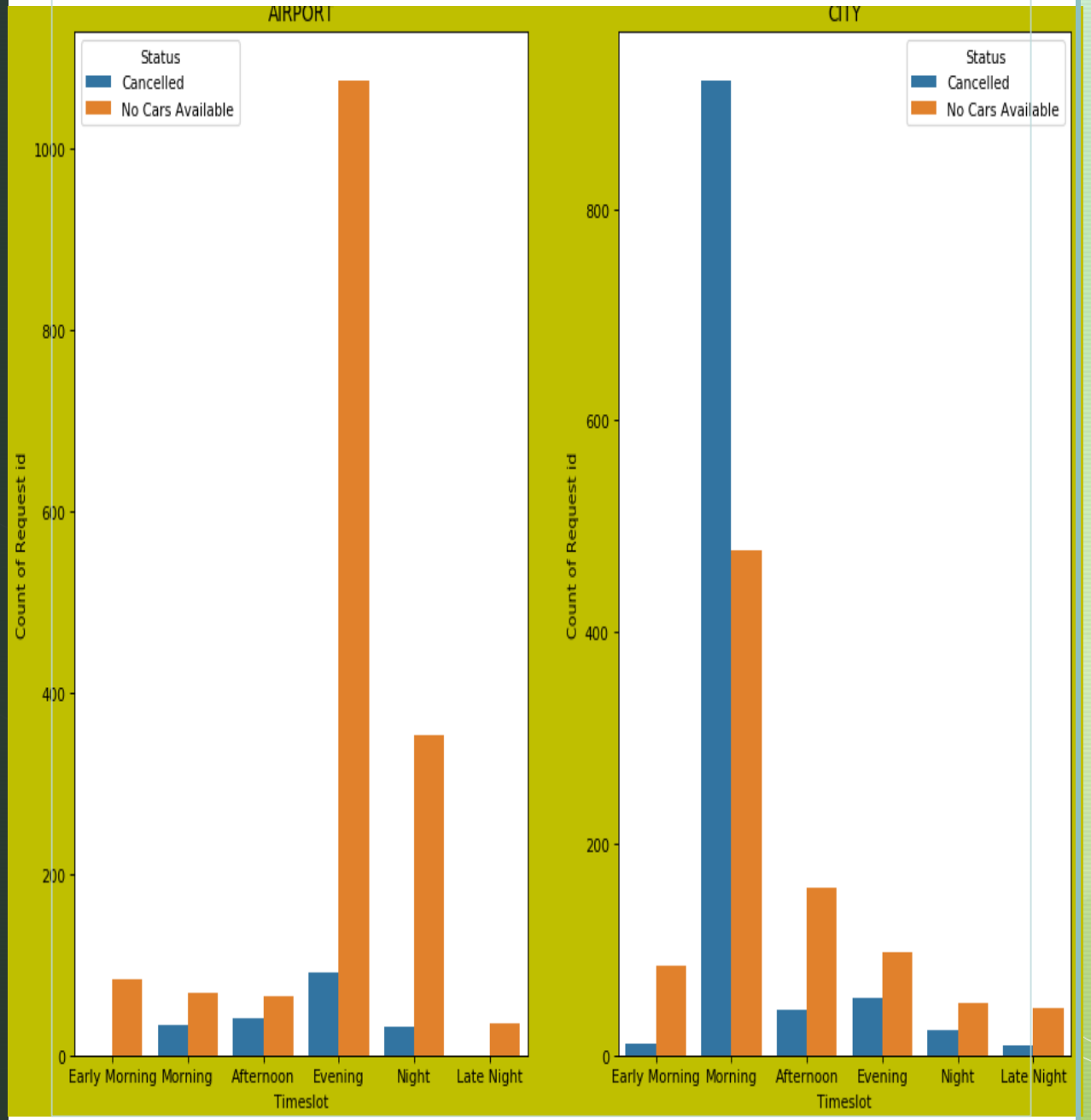
- The plots between frequency of requests and hour tells us that maximum request are been made in morning and evening from 5 am-10 am and from 5 pm - 10 pm

The plot showing the requests from airport-city and city-airport



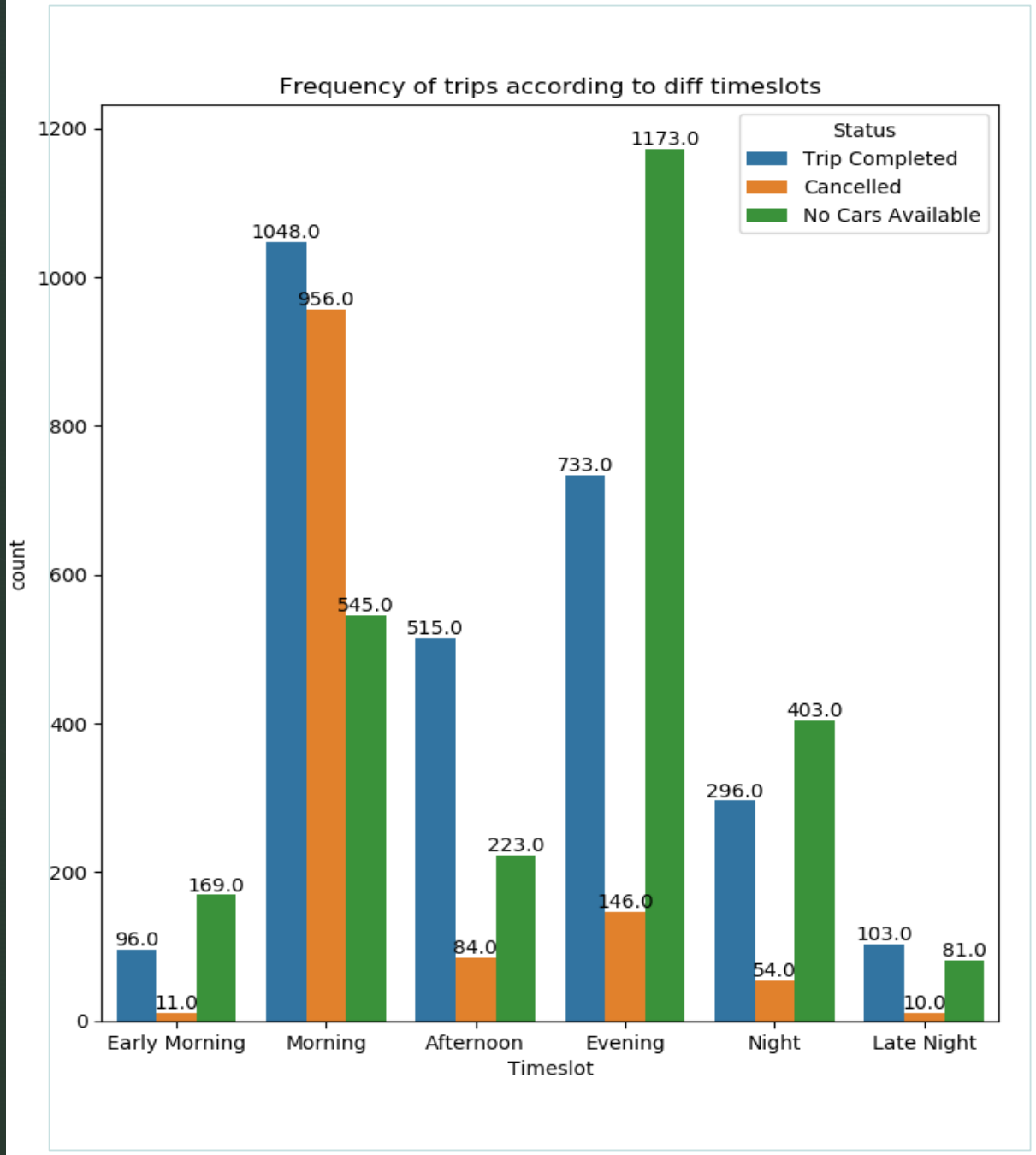
Cancelled requests and non availability of cars timeslot wise for city and airport

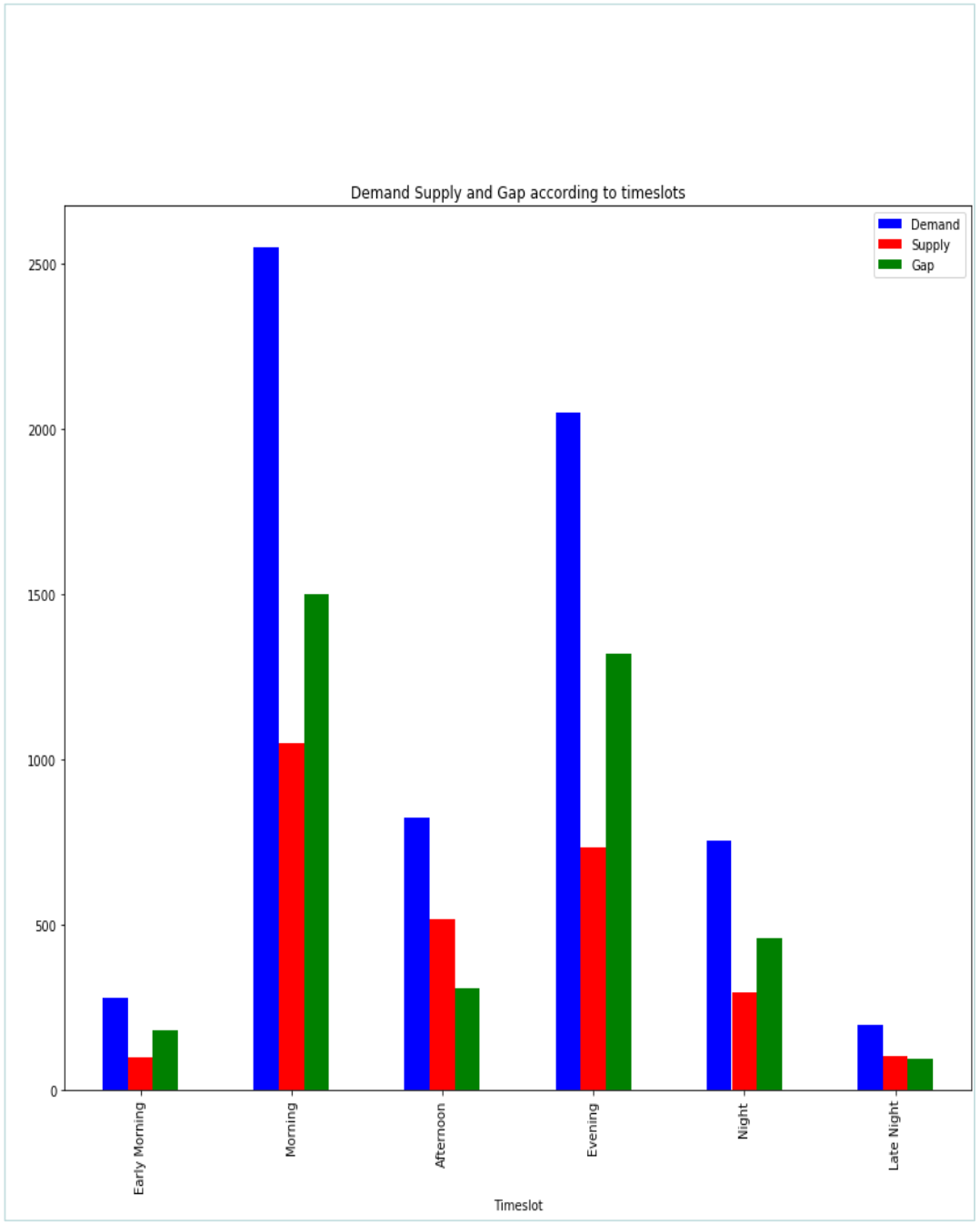
- From the plot we can make out that in the morning time many requests that are being cancelled or the cars are unavailable for the customer from city and the same scenario occurs for the airport in evening.



Status of requests according to timeslots

- From the plot it can be viewed that while in the morning maximum requests are being completed while at evening and night large no of requests show no cars available.



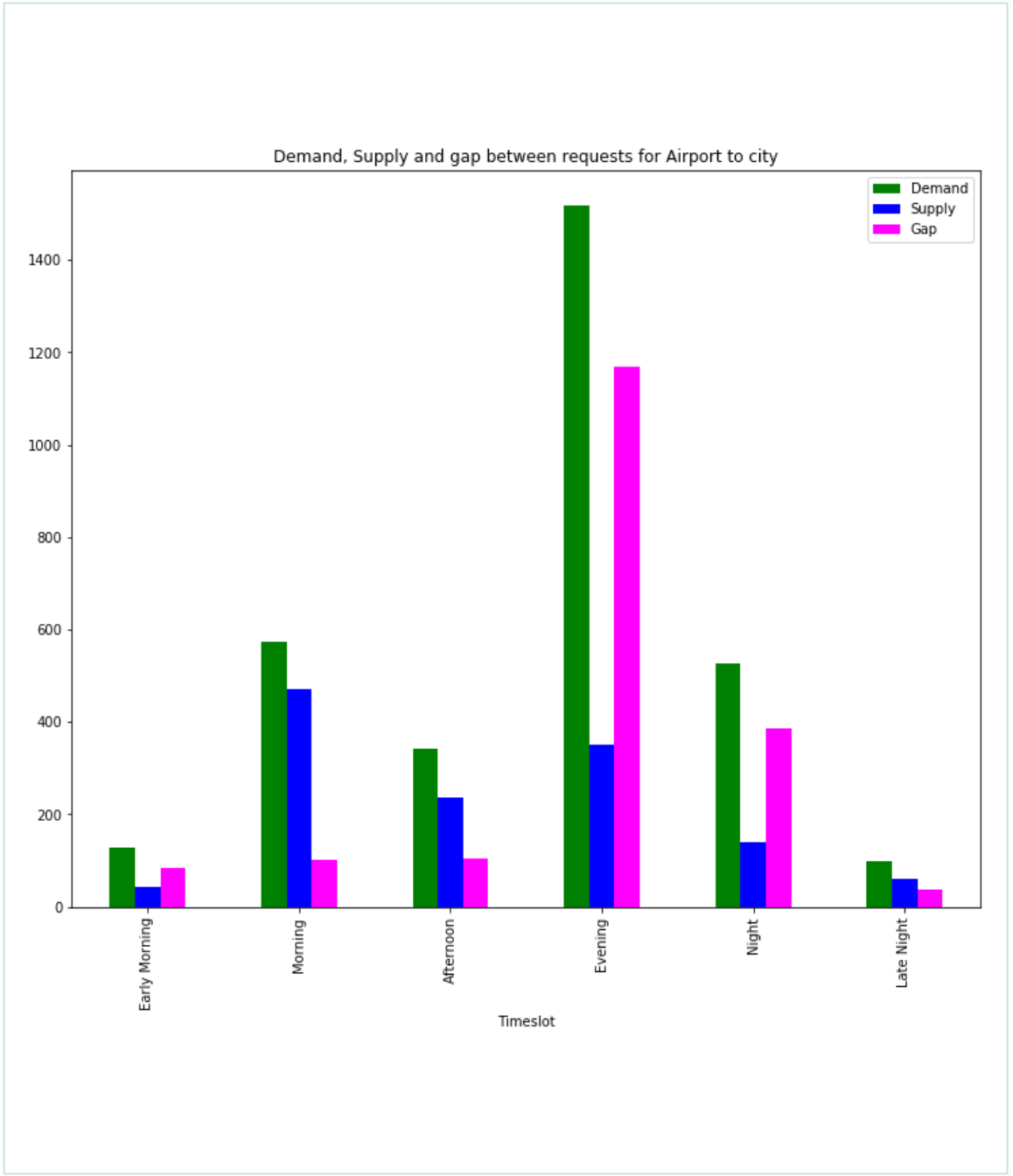


The supply and demand and the gap between them

- From the graph it is evident that the main problem occurs in the morning and evening timeslots where there's a big gap between demand and supply

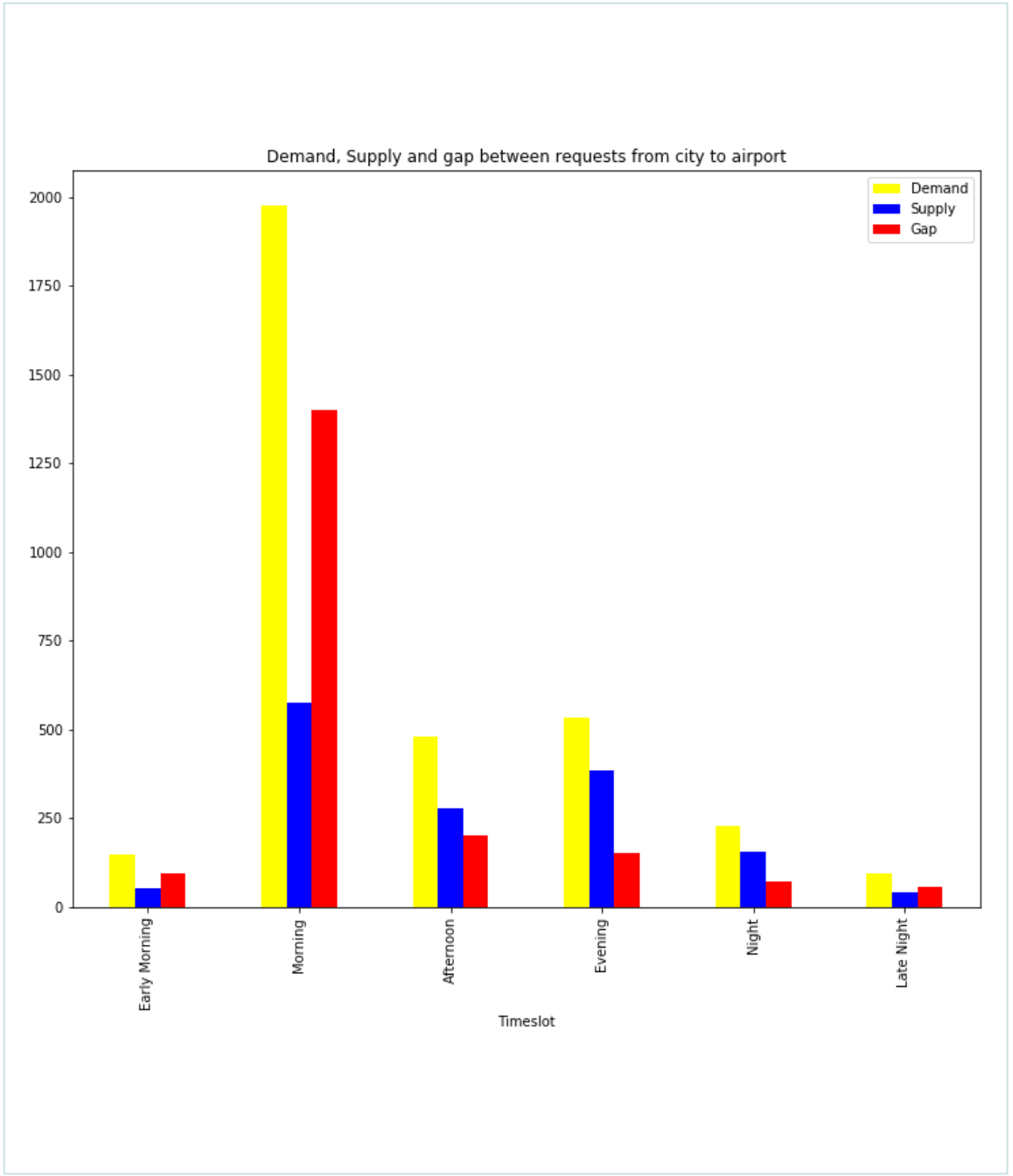
Supply and demand being individually plotted for Airport

- When the supply ,demand and the gap between them is individually plotted for different timeslots for requests being made for airport it can be analysed that in the evening and at night large gaps are present between supply and demand which has to be solved.



Demand and Supply being individually plotted for City

- When the supply ,demand and gap between them is plotted for each timeslot for requests being made in City, we can make out that large number of requests that are made in the morning are going unmet, there is large gap between supply and demand which has to be brought down.



Analyzing the solution and presenting the solution

- 1) The main problematic timeslots which are creating problems are morning, evening and night.
- 2) Maximum requests that are being made in city in morning go unmet and there’s a big gap between supply and demand.
- 3) For the requests that are being made in evening and at night in airport ,a large gap persists between supply and demand

The problem lies in

- Since the airport is far away from the city and located in a suburb and so it takes a considerable amount of time going from city to airport and in the morning there aren’t many flights coming to the city so there’s not so much crowd at the airport and so the ride requests from the airport to the city are very less and hence a driver has to wait longer to get a request from airport to city that’s why a large number of drivers cancel the requests in the morning and this creates a large gap between demand and supply

Recommendations to narrow the gap

- 1) Encourage pooling of customers going from city to airport ,this will create a bigger income for the driver and hence he won't cancel the requests.
- 2) Incentivize the drivers going for morning drive from city to airport.
- 3) Recruit more drivers who live near the airport ,so they don't have to travel long distance for the ride, and hence they won't cancel.
- 4) Permit the drivers to leave the airport area without any passenger if it is taking too long and give him some compensatory allowance for this, in this way he won't cancel the requests in future because he will be knowing that he wont lose money even if it takes a long time for any request.