Uber Supply-Demand Gap Assignment Solution

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Process Steps

| Sl.No.	Step
1	(a) Import the pandas, Numpy, Matplotlib, Datetime and Seaborn packages (b)Setting Seaborn Background style as White Grid
2	Read the Uber Request Data.csv file using 'read_csv'
3	Calculating Total Number of Demand By Counting All Request
4	Extracting Request Date of Uber booking from Request Timestamp
5	Extracting Drop Date of Uber booking from Drop Timestamp
6	Extracting Request Hour of Uber booking from Request Timestamp
7	Extracting Request Minute of Uber booking from Request Timestamp
8	Extracting Drop Hour of Uber booking from Drop Timestamp
9	Extracting Drop Minute of Uber booking from Drop Timestamp
10	Defining Time slots in Night, Early Morning,Morning,Daytime,Evening and Late Evening
11	Plot Showing Status of Uber cars at different Time Slots
12	Calculating total Cancelled Status for Morning Timeslot as Morning Timeslot have maximum cancellation
13	Plot Showing Uber Morning Timeslot have Maximum Cancelled Status
14	Calculating Evening Timeslot No Cars Available Status
15	Plot showing maximum number of No Cars Available for Evening Timeslot
16	Plot indicating Status of Uber Cars for Airport to City and City to Airport

Process Steps

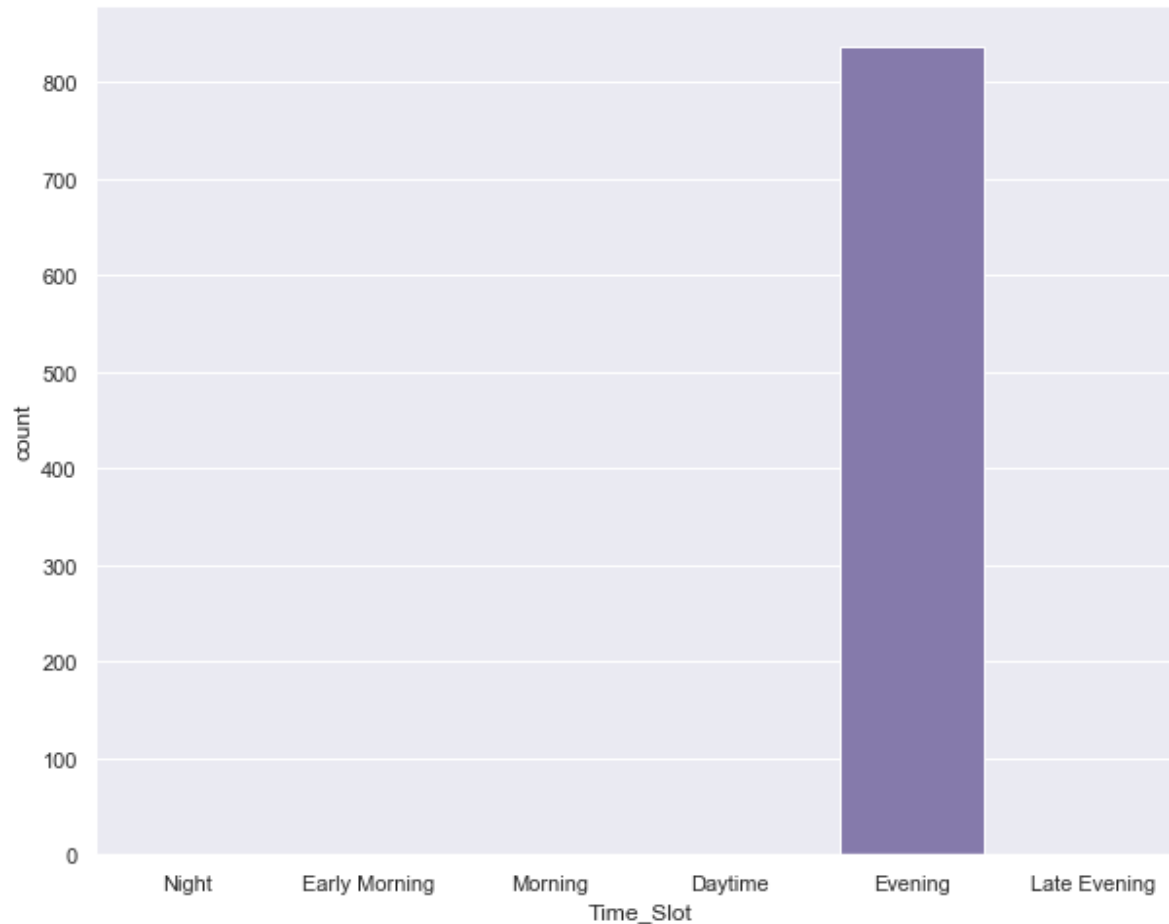| Sl.No.	Step
17	Graph indicating Timeslots for uber Cars for Airport to City and City to Airport
18	Calculating Total Number of No Car Availability for City
19	Calculating Total Number of No Car Availability for Airport
20	Plot Representing No Cars Availability Status for Airport to City in Different Timeslots (As at Airport maximum number of non availabilty of cars found)
21	Calculating Total number of Uber car Cancelled Status for Airport to City
22	Calculating Total number of Uber car Cancelled Status for City to Airport
23	Plot Representing Cancelled Status for City to Airport in Different Timeslots (As City to Airport have maximum number of Cancellation)
24	Calculating Demand Supply and Gap
25	Plot for Gap
26	Calculating Supply for Different Timeslot
27	After Calculation we get Maximum Supply (618) at Morning Timeslot and Minimum Supply (174) at Night Timeslot
28	Plot for Maximum Demand Supply Gap for all Timeslot
29	Plot for Minimum Demand Supply Gap for all Timeslot

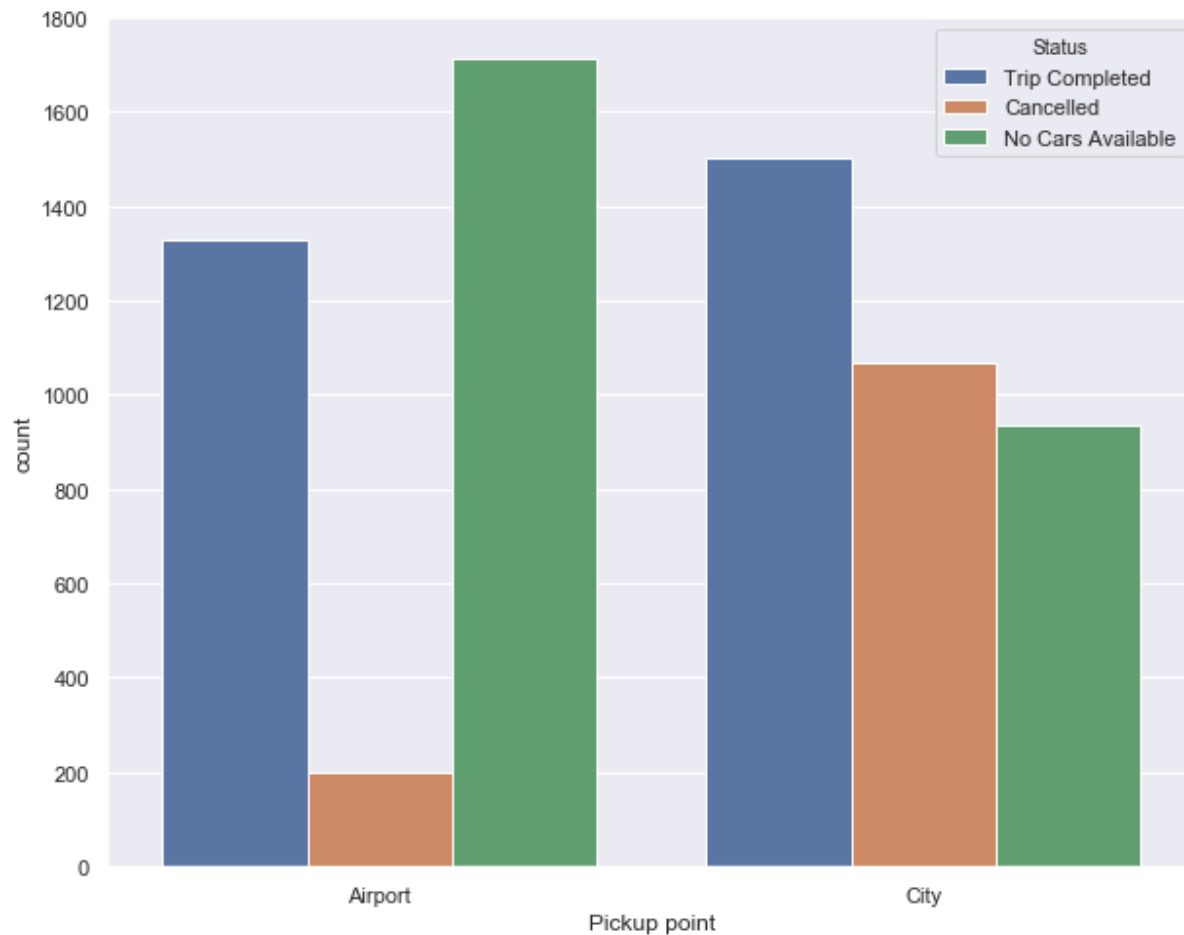# Plot Showing Status of uber cars at different Time Slots
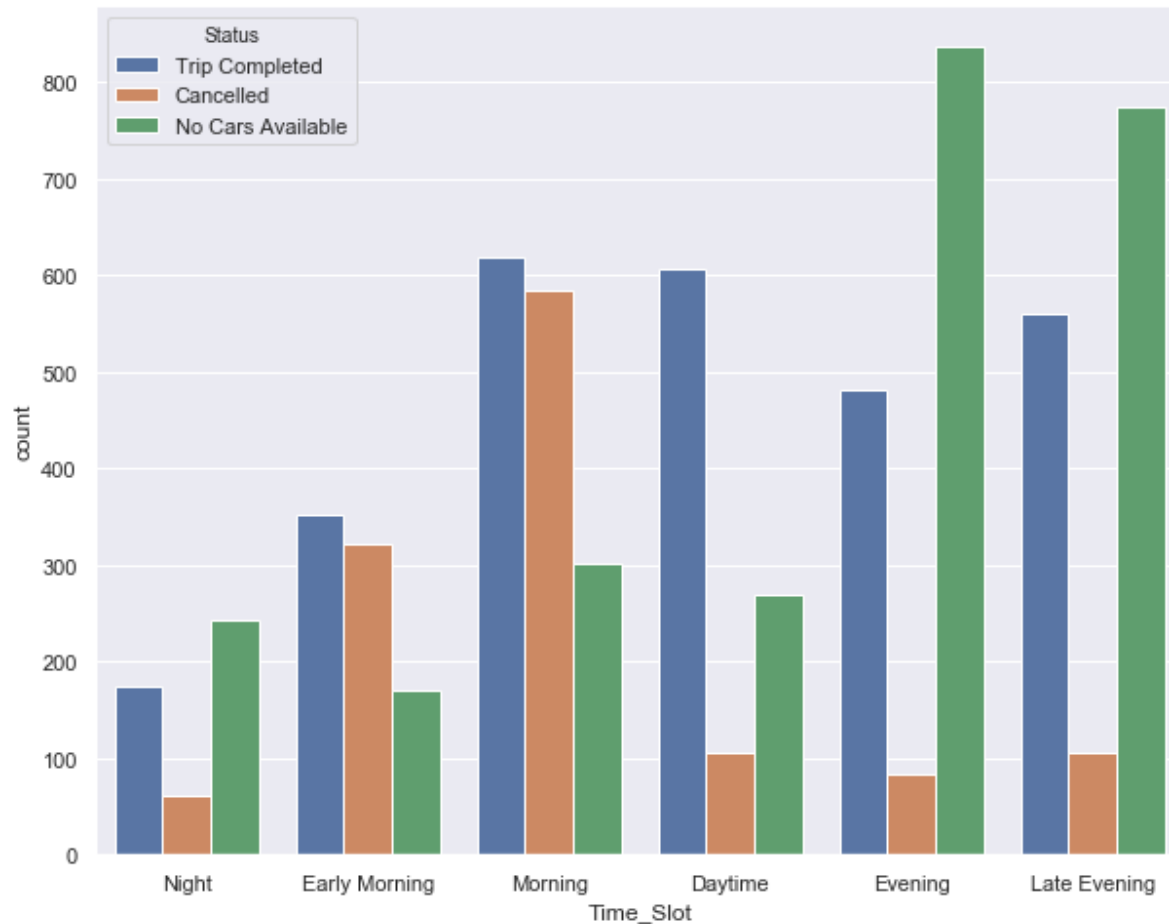
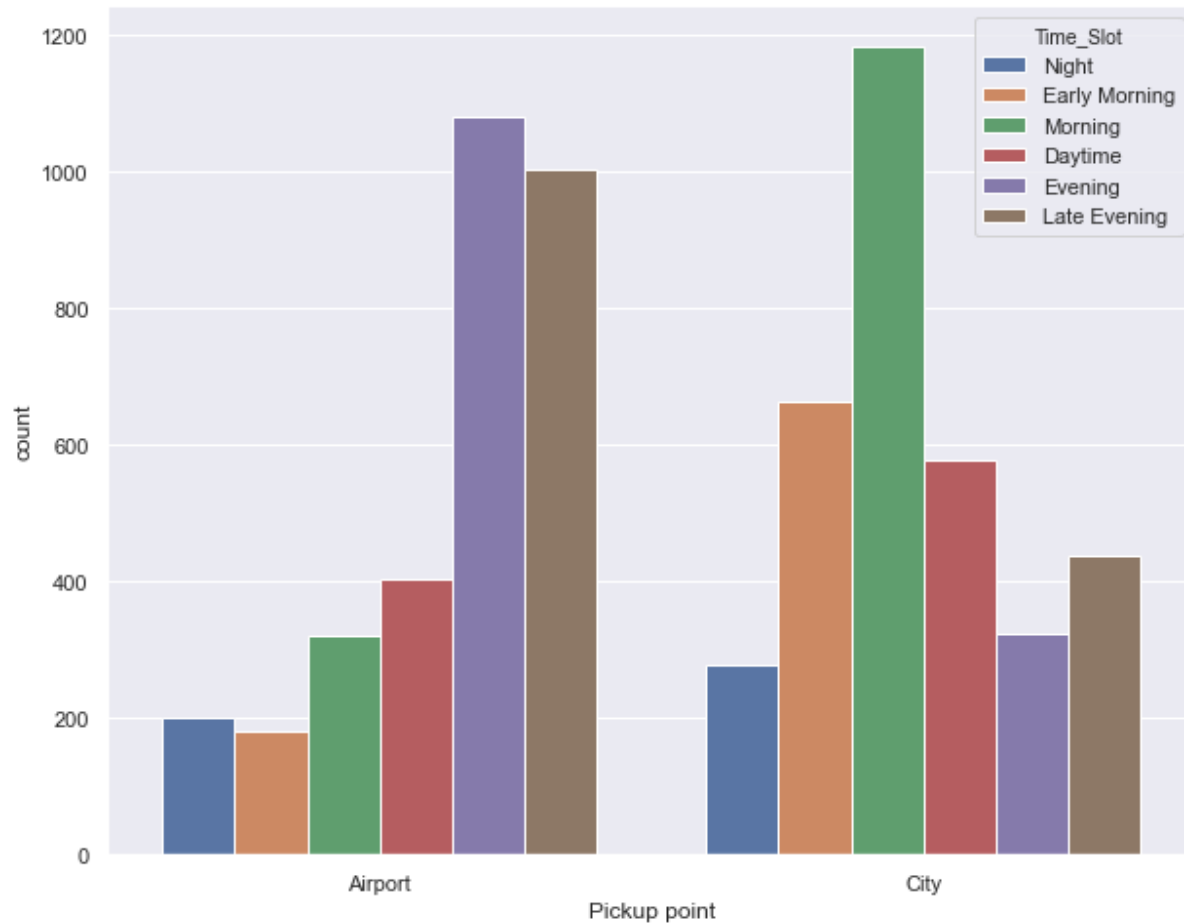# Plot Showing Uber Morning Timeslot have Maximum Cancelled Status
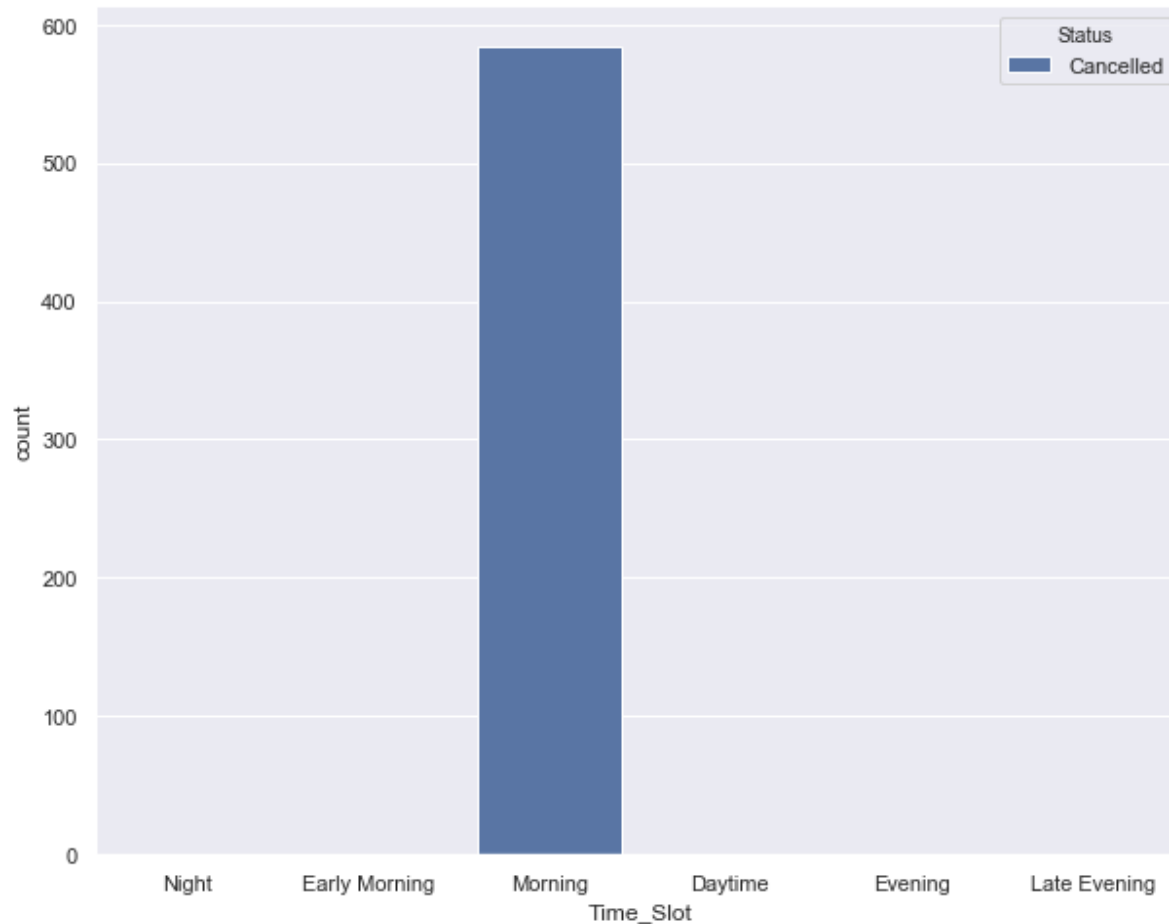
Plot showing maximum number of No Cars Available for Evening Timeslot
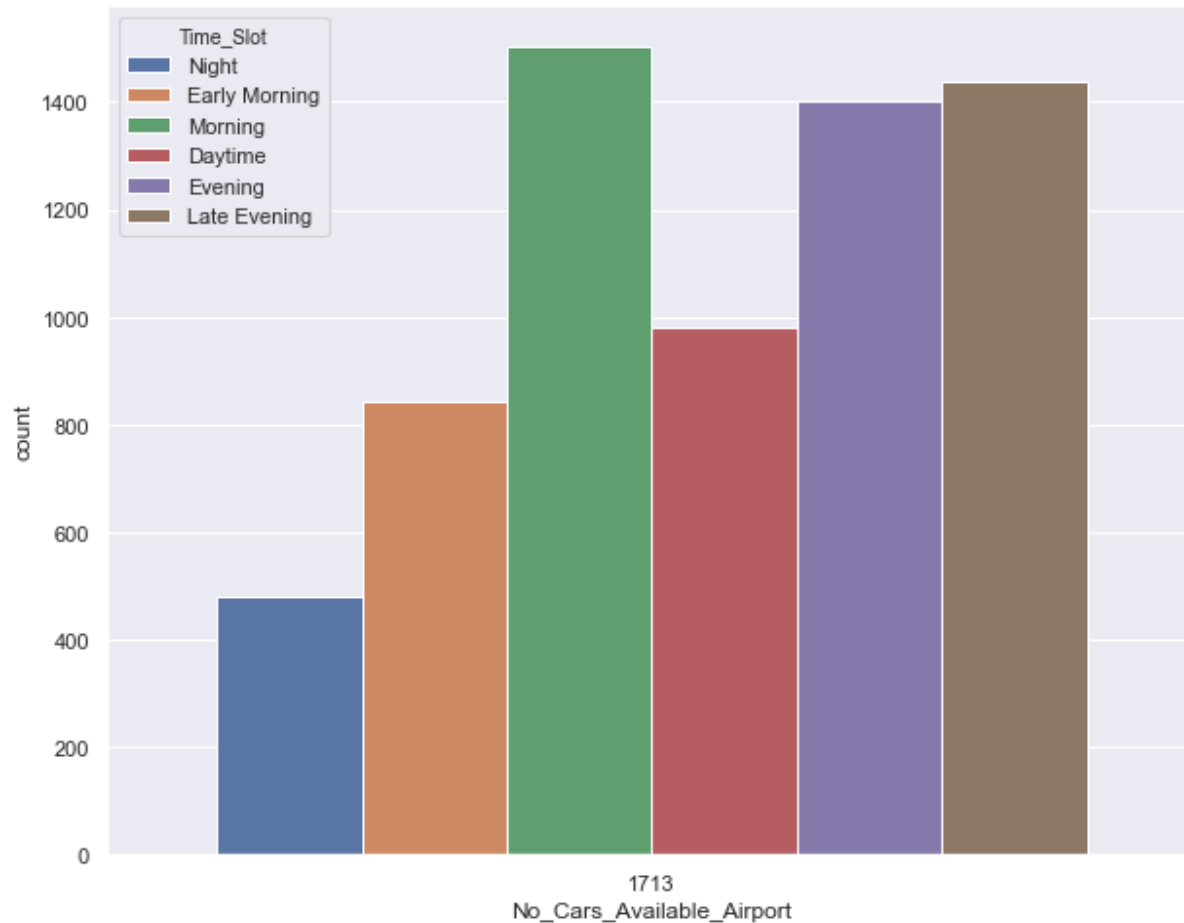
Plot indicating Status of Uber Cars for Airport to City and City to Airport

Graph indicating Timeslots for Uber Cars for Airport to City and City to Airport

Plot Representing No Cars Availability Status for Airport to City in Different Timeslots (As at Airport maximum number of non availability of cars found)
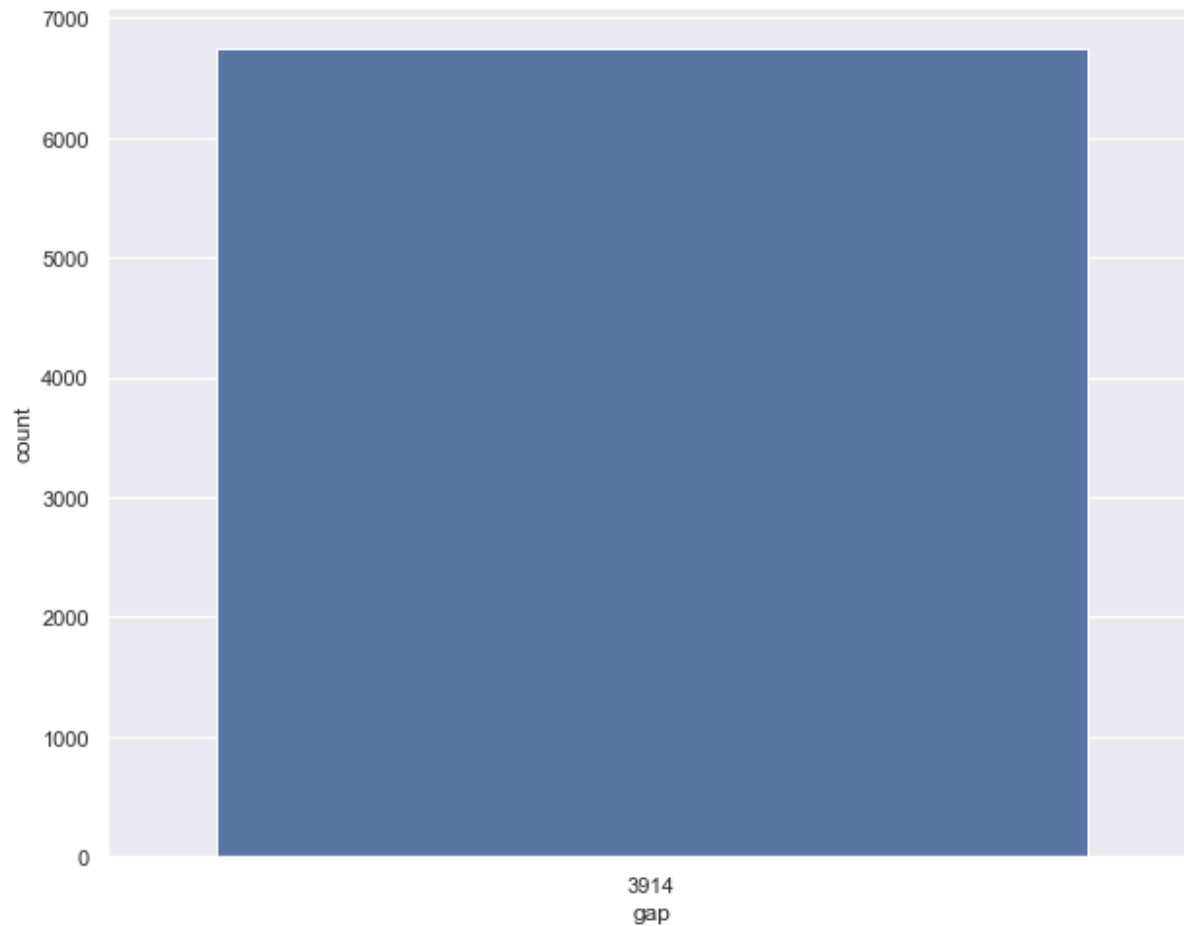
Plot Representing Cancelled Status for City to Airport in Different Timeslots (As City to Airport have maximum number of Cancellation)
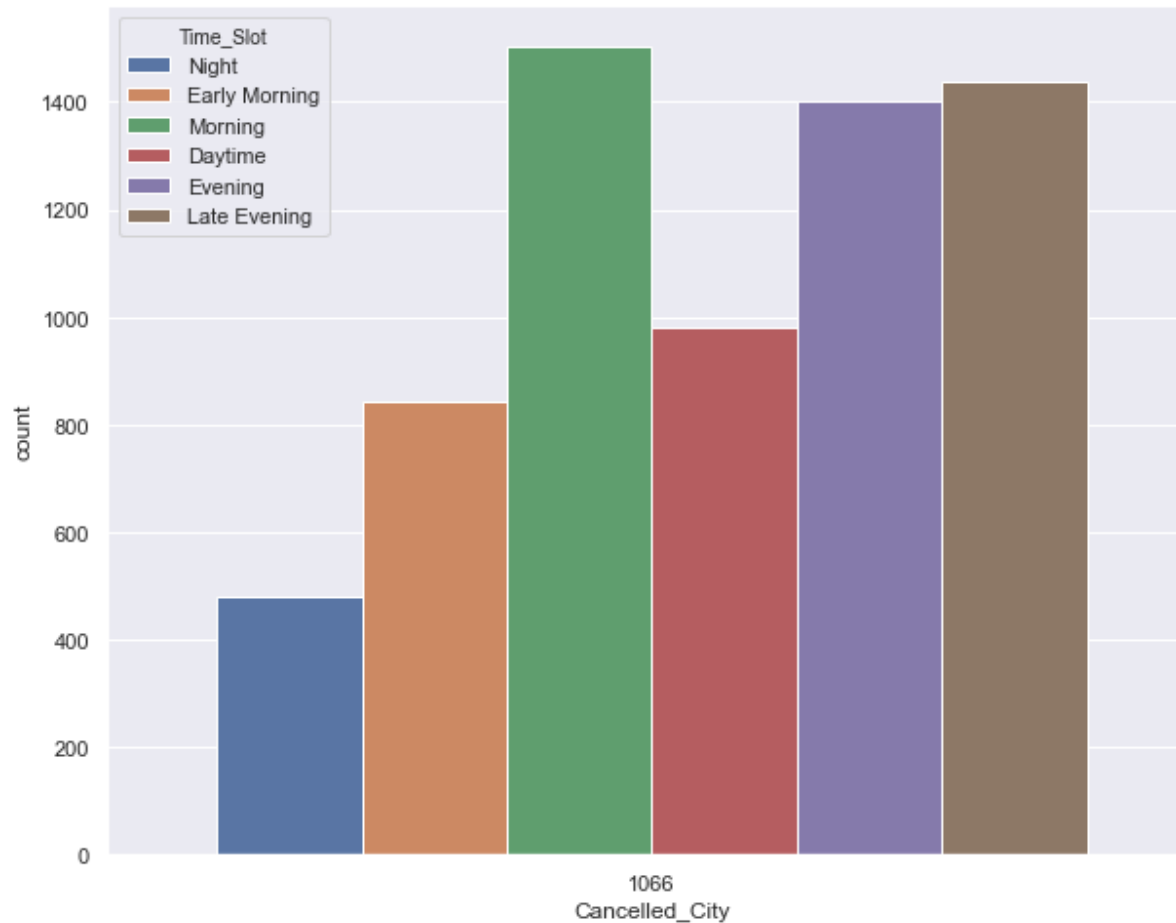
Plot for Gap
(Gap=Demand-Total Supply)

Demand –Supply and Gap

- Demand calculated by Total number of request(6745)

- Supply is Total Number of Trip Completed(2831)

- Gap=Demand-Supply (6745-2831)=3914

- Max Supply Gap(6571)

- Min Supply Gap(6127)

Reason for the issue for the supply-demand gap

- As we filtered out the data we found these facts -

- Morning timeslot have maximum number of No Cars Availability from Airport to City.

- Same case Morning timeslot have maximum number of Cancelled Request from City to Airport.

- **Reason-**Due to higher cancellation of cars from city to airport, car are being not available from airport to city.

Solution

- Uber Cars can provide some discount for First Time Booking for City to Airport Travel at Morning Timeslot. It will be helpful for minimizing cancellation.

- Uber Cars can Reject Customer booking if they Cancel their booking more than 2 times at morning Timeslot for City to Airport Travel.

- If number of cancellation fall down for City to Airport then Car Availability at Airport will automatically increase and Demand-Supply Gap will be minimized.