

Assignment: Uber Supply - Demand Gap

By Suresh Balla

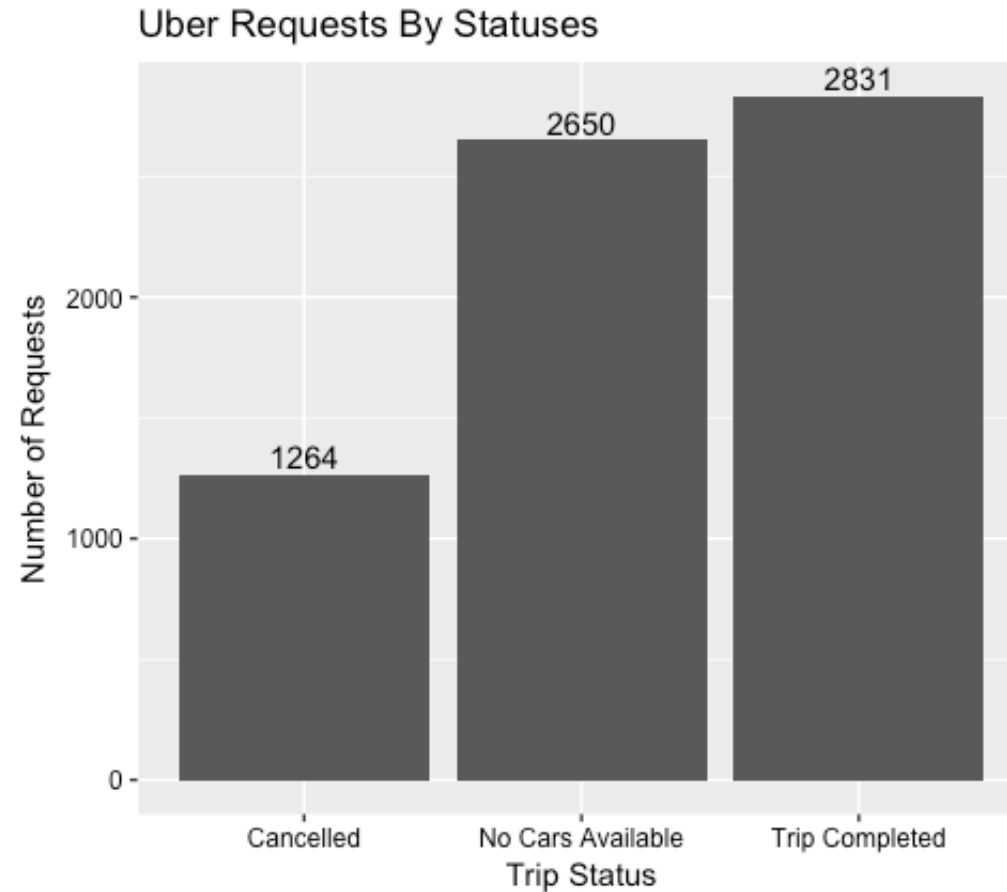
Business Objectives

- The aim of analysis is to identify the root cause of the problem (i.e. cancellation and non-availability of cars) and recommend ways to improve the situation

New Derived Dimensions

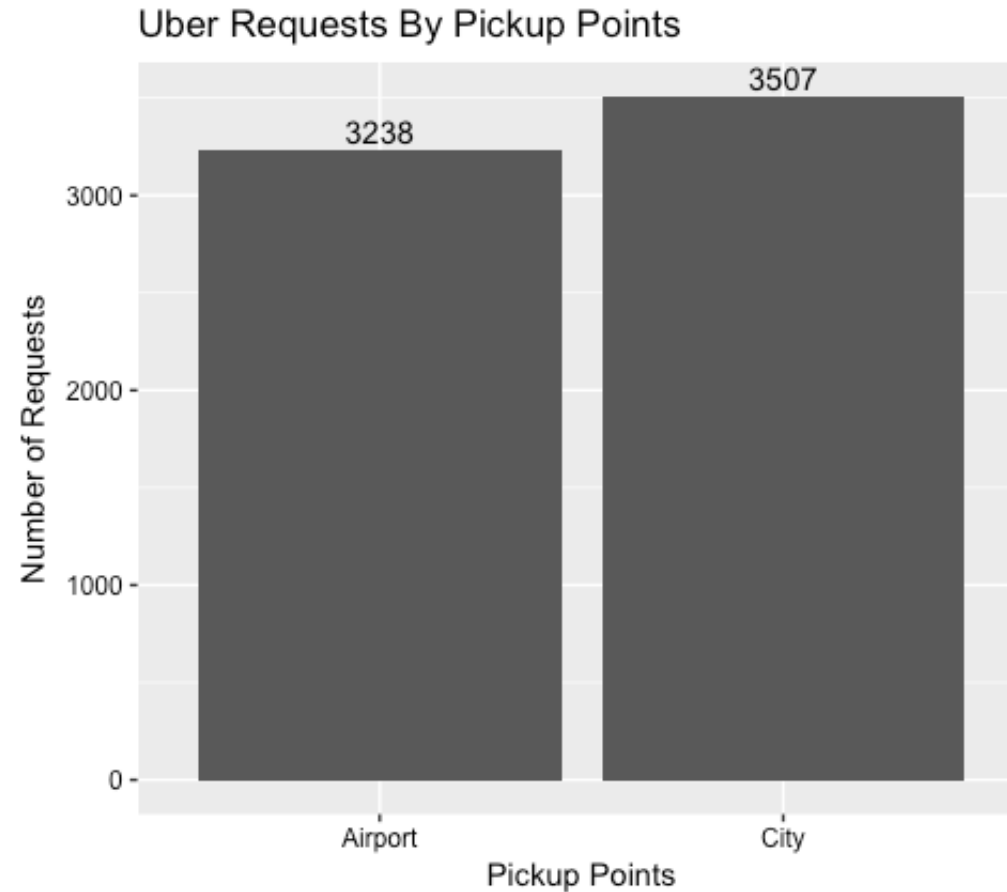
- Request date (0 to 31)
- Request hour (0 to 23)
- Request time slots
 - mid night to 4 am: night
 - 4 am to 8 am: early morning
 - 8 am to 12 pm: late morning
 - 12 pm to 1 pm: noon
 - 1 pm to 3 pm: early afternoon
 - 3 pm to 6pm: late afternoon
 - 6 pm to 9 pm: early evening
 - 9 pm to mid night: late evening
- Request Day (Sunday to Saturday)
- Request Month (Calendar months – Jan to Dec)
- Request Quarter (Q1, Q2, Q3 and Q4)
- Request Week (weekdays and weekends, not used for analysis as request data is available only for week days)
- Request Ride Duration (not used for analysis, as it is only applicable for trips completed)
- Request Ride Duration Class (short, medium and long – not used for analysis, as it is only applicable for trips completed)

Uber Requests By Statuses



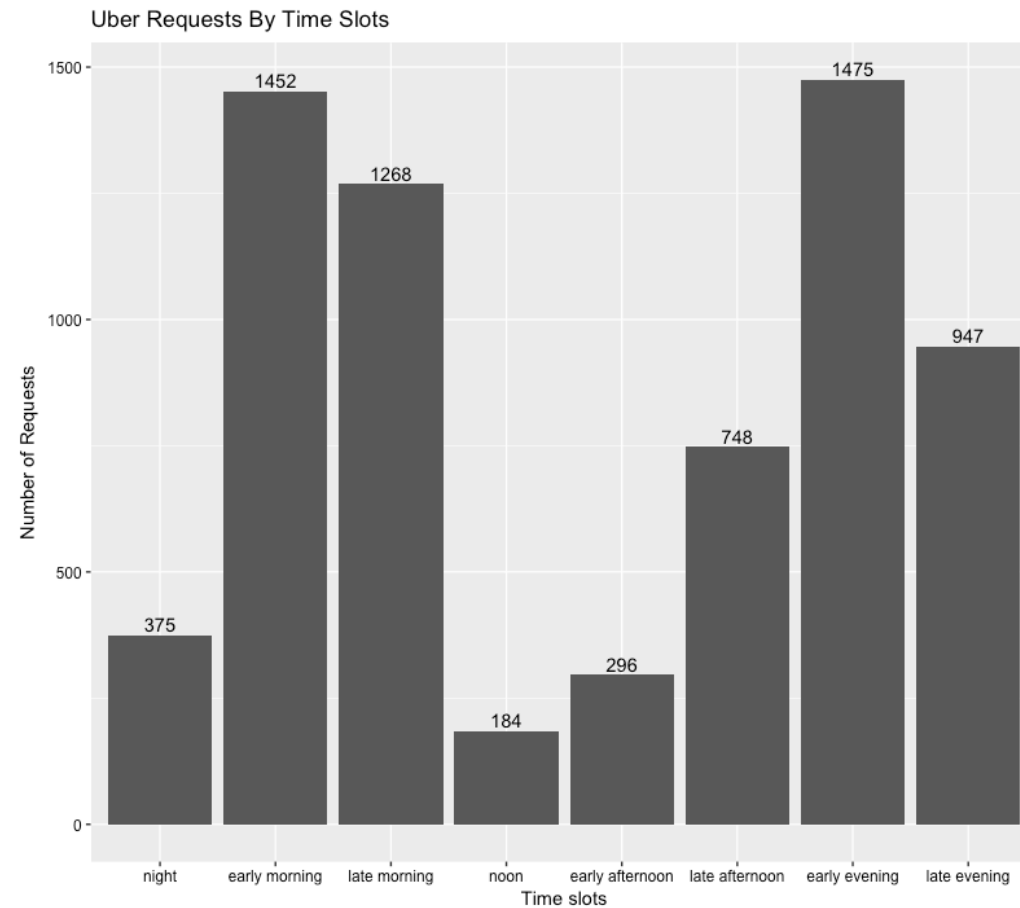
Unfulfilled request are way more than fulfilled requests leading to huge supply demand gap

Uber Requests By Pickup Points



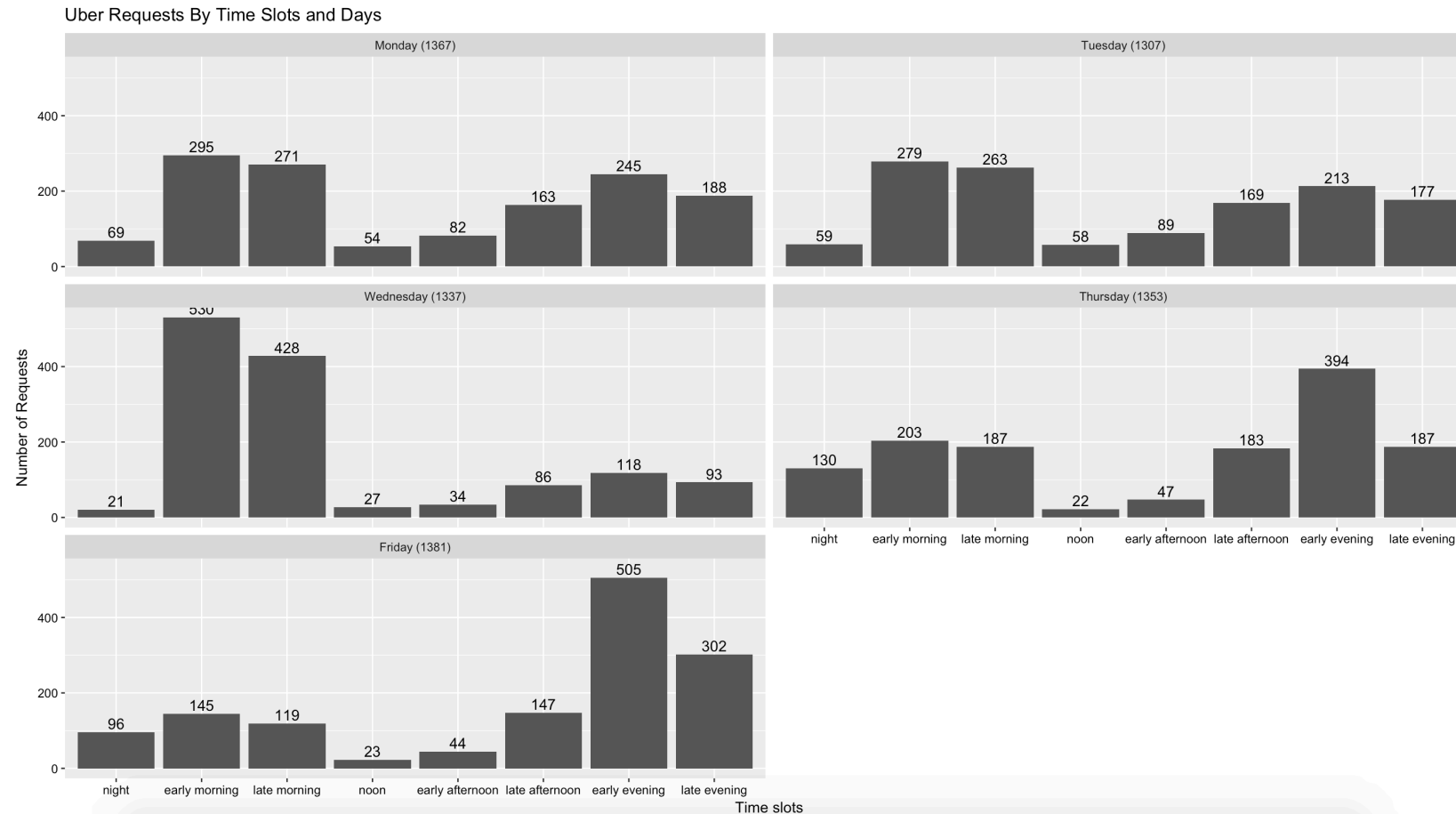
City pickup points has more demands compared to Airport pickup point

Uber Requests By Time Slots



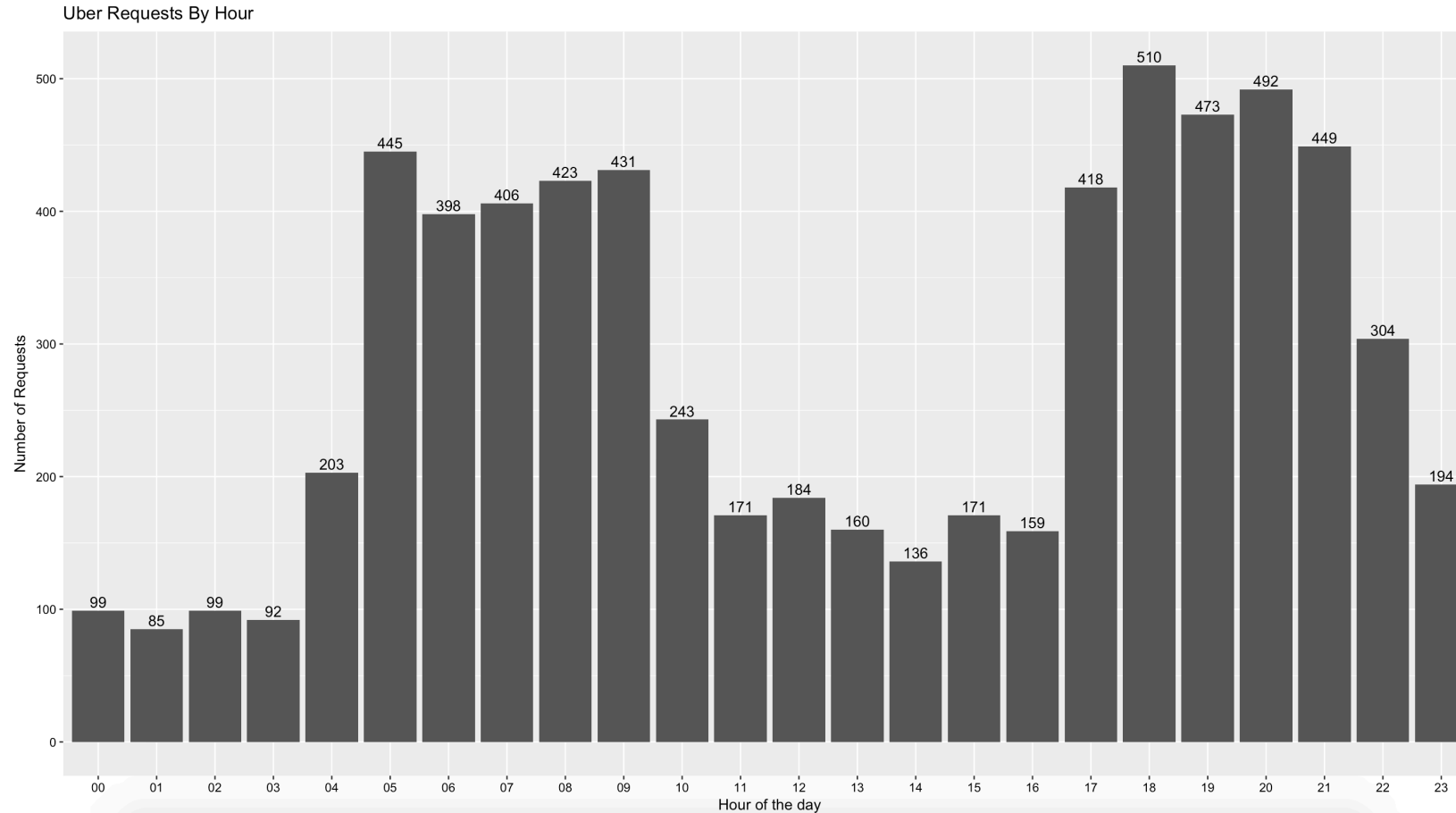
Demand is more during mornings and evenings

Uber Requests By Time Slots and Days



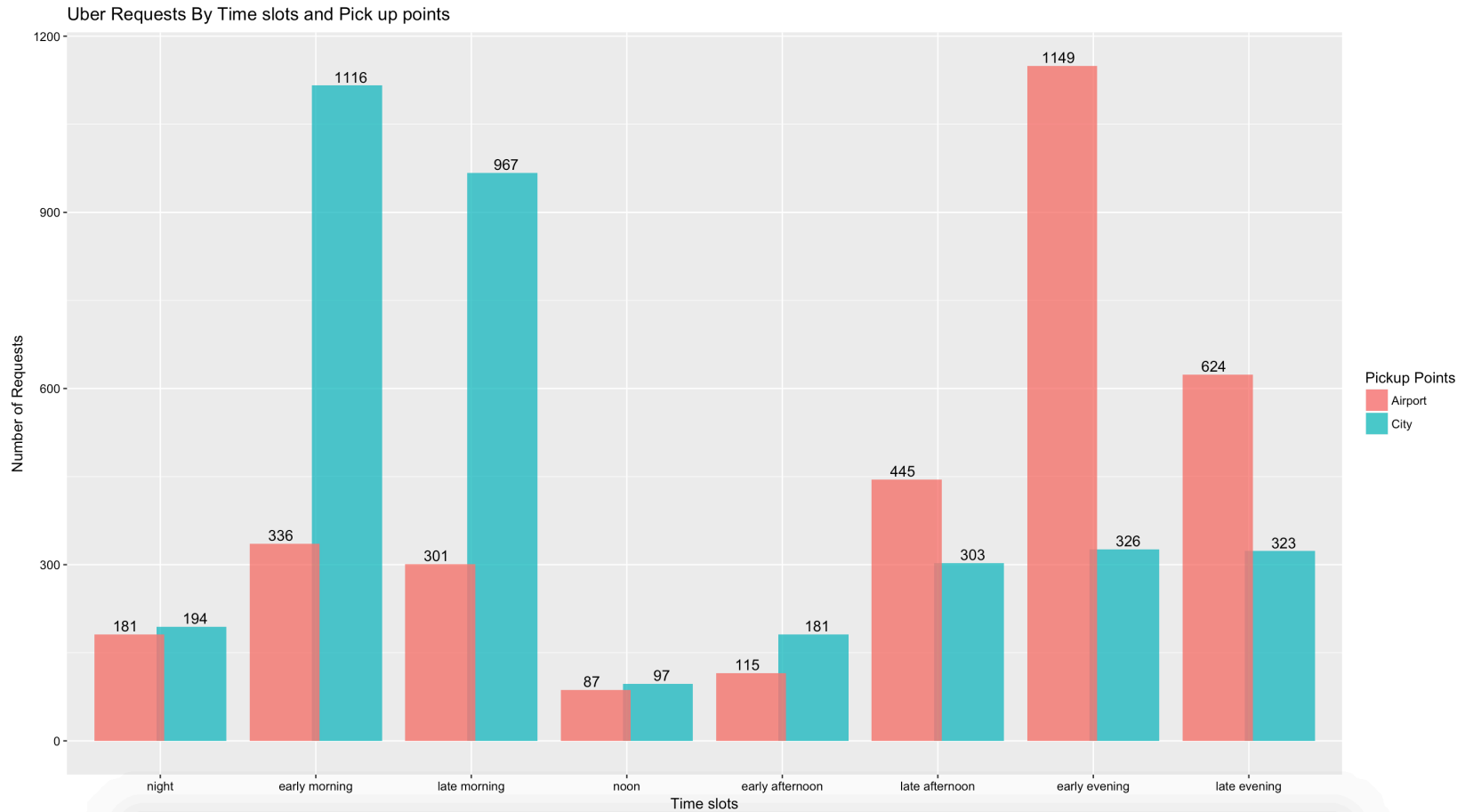
Mondays and Fridays are more busy days than mid week days

Uber Requests By Hour



Mornings 5 am to 10 am and Evenings are 5 pm to 11 pm are busy hours

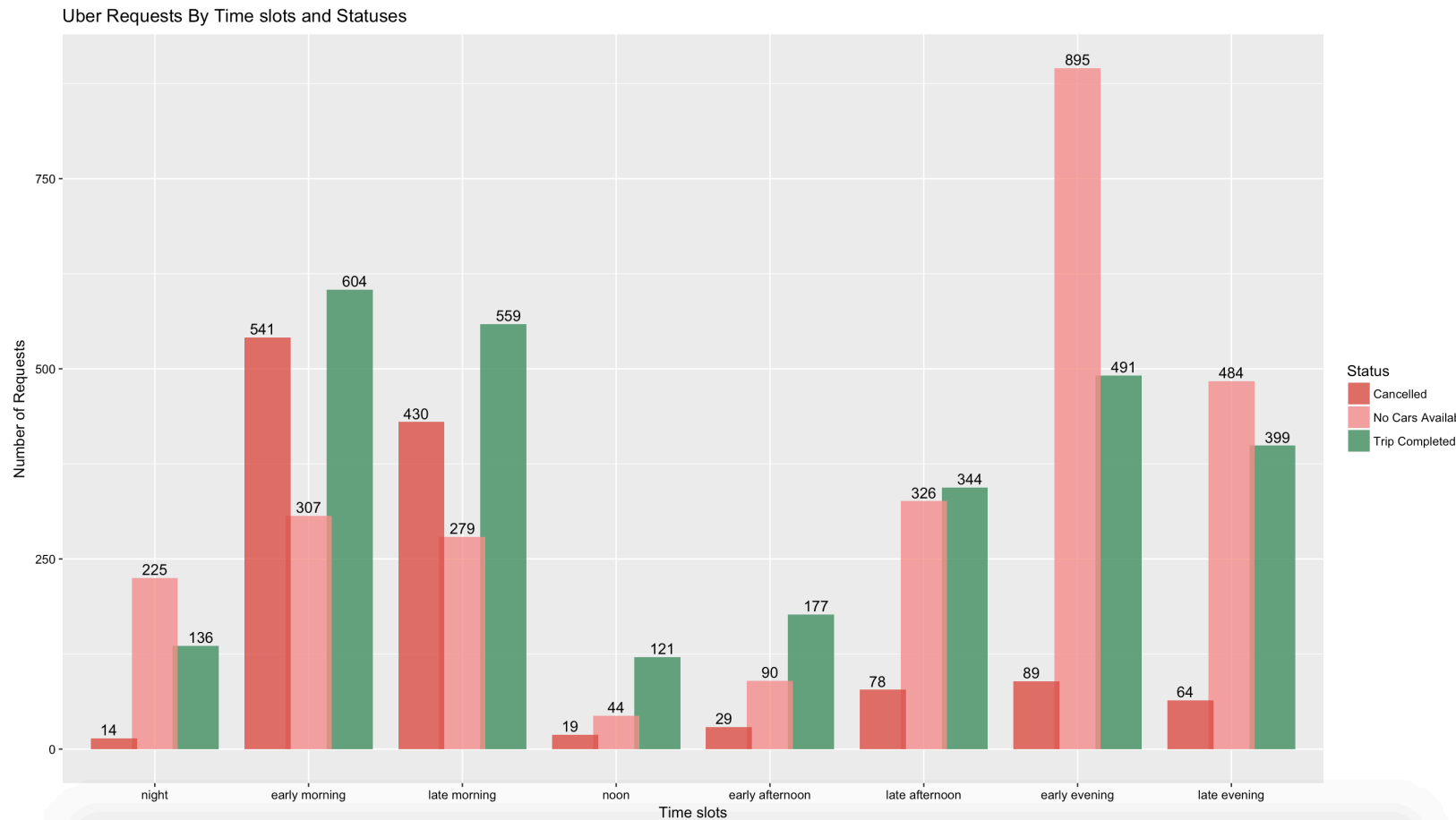
Request analysis by time slot and pick up point



Most request to airport is from early and late mornings

Most request from airport is from early and late evenings

Uber Requests By Time slots and Statuses



Most cancellations are happening in early and late mornings

Most cars are not available in early and late evenings

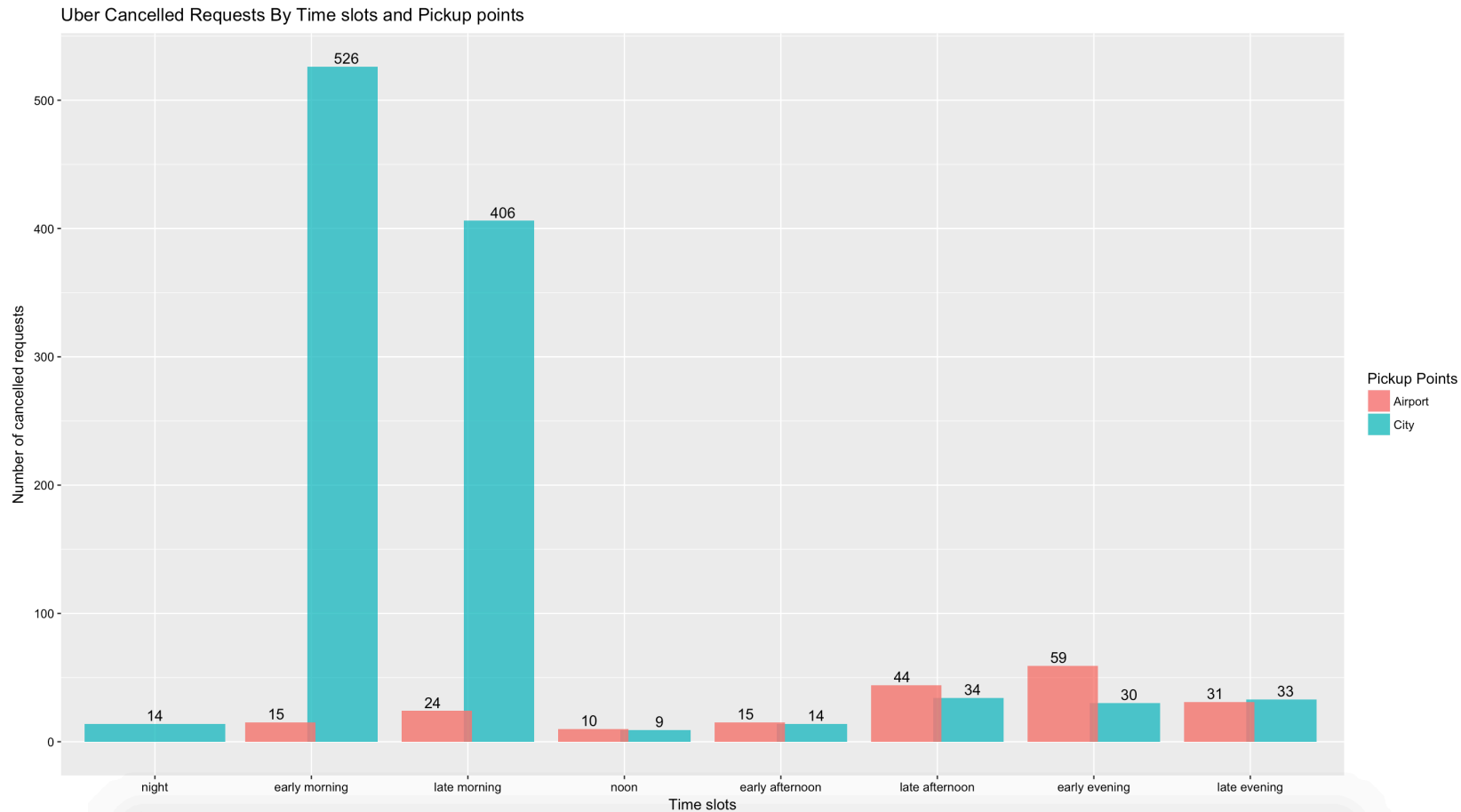
Uber Requests By Time slots, Statuses, Pickup points and Days



Most cars are not available in early and late evenings for airport pickup point

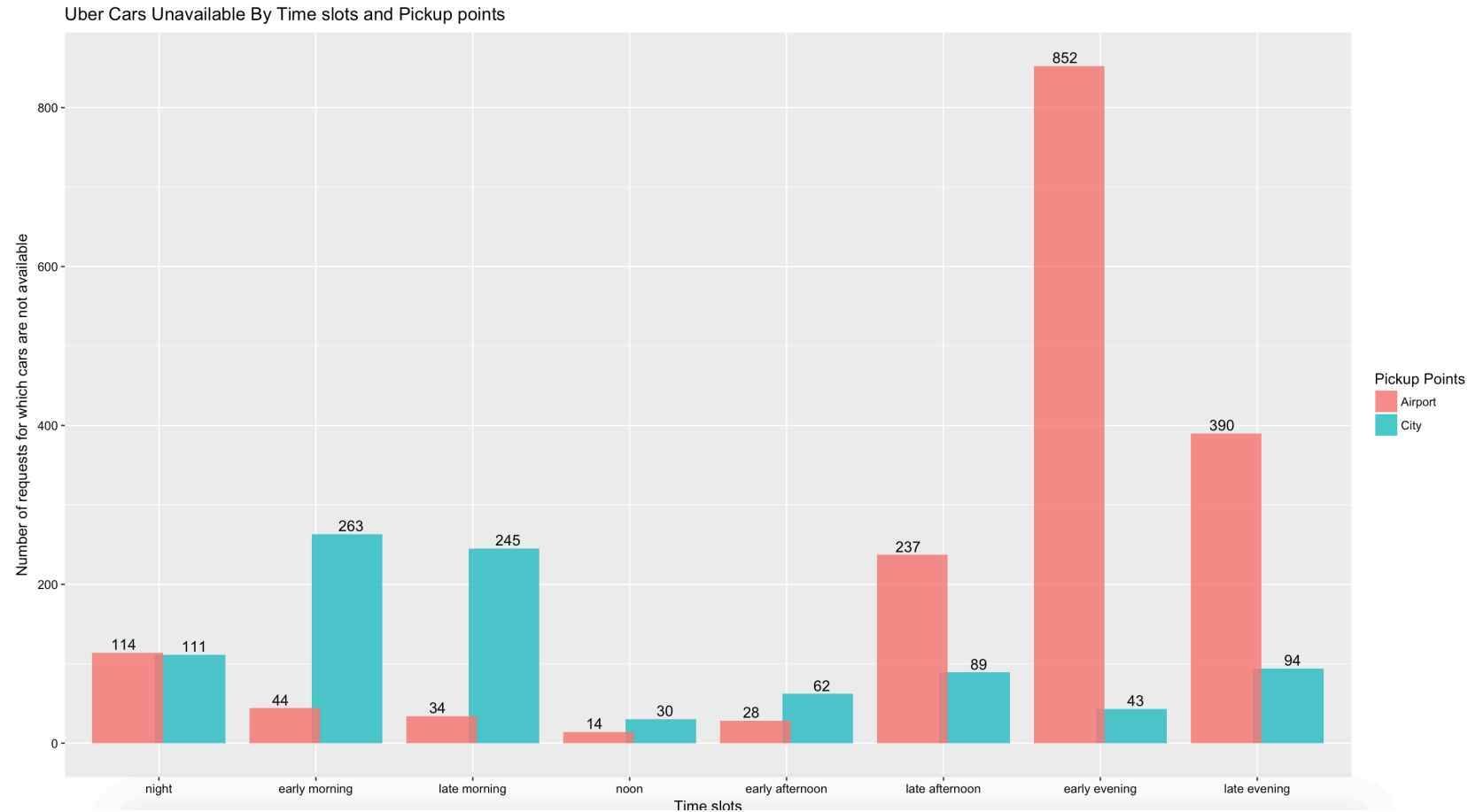
Most cancellations are happening in early and late mornings for city pickup points

Uber Cancelled Requests By Time slots and Pickup points



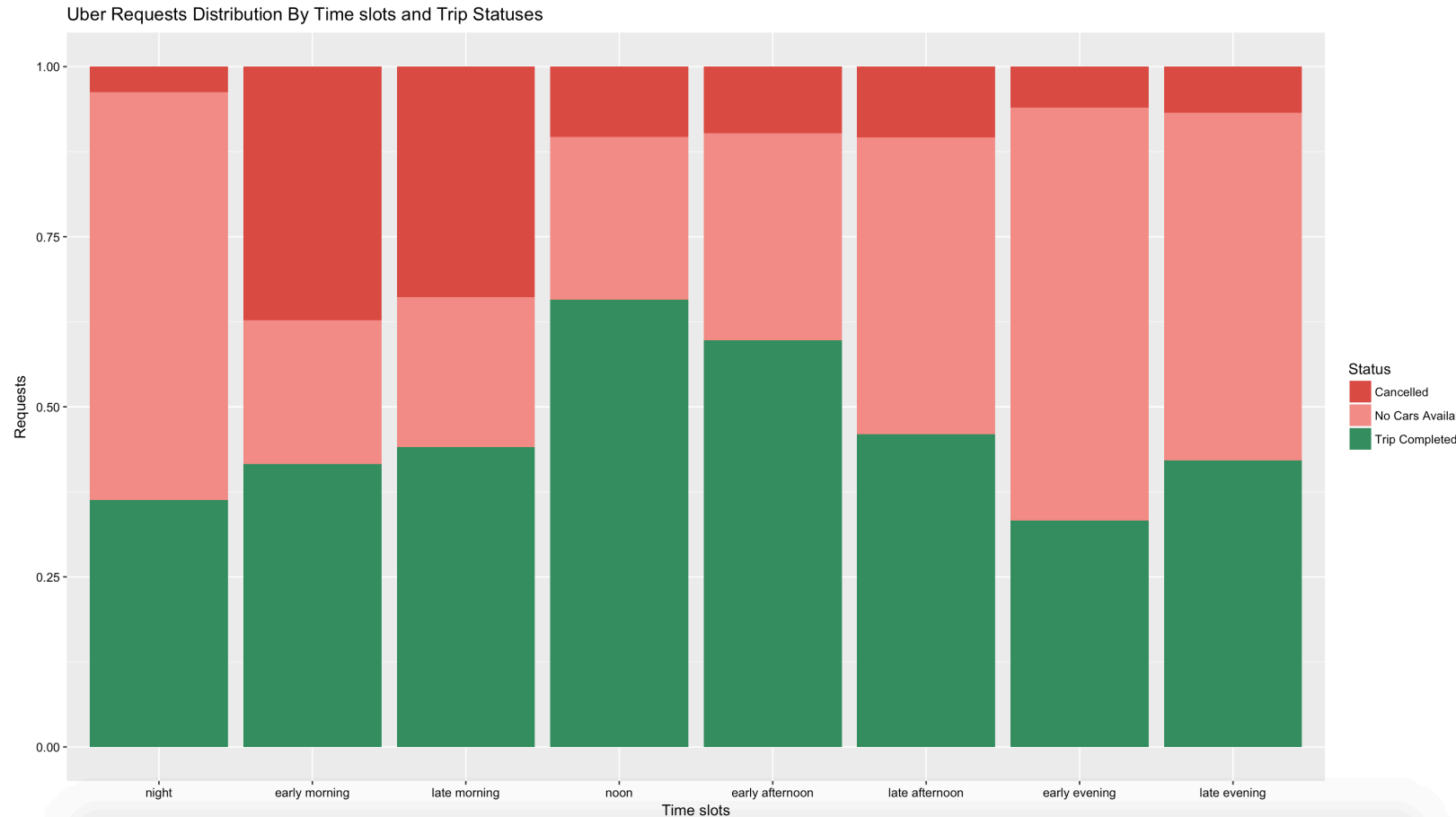
Most cancellations are happening in early and late mornings for city pick up point

Uber Cars Unavailable By Time slots and Pickup points



Most cars are not available in in early and late evenings from airport pick up point

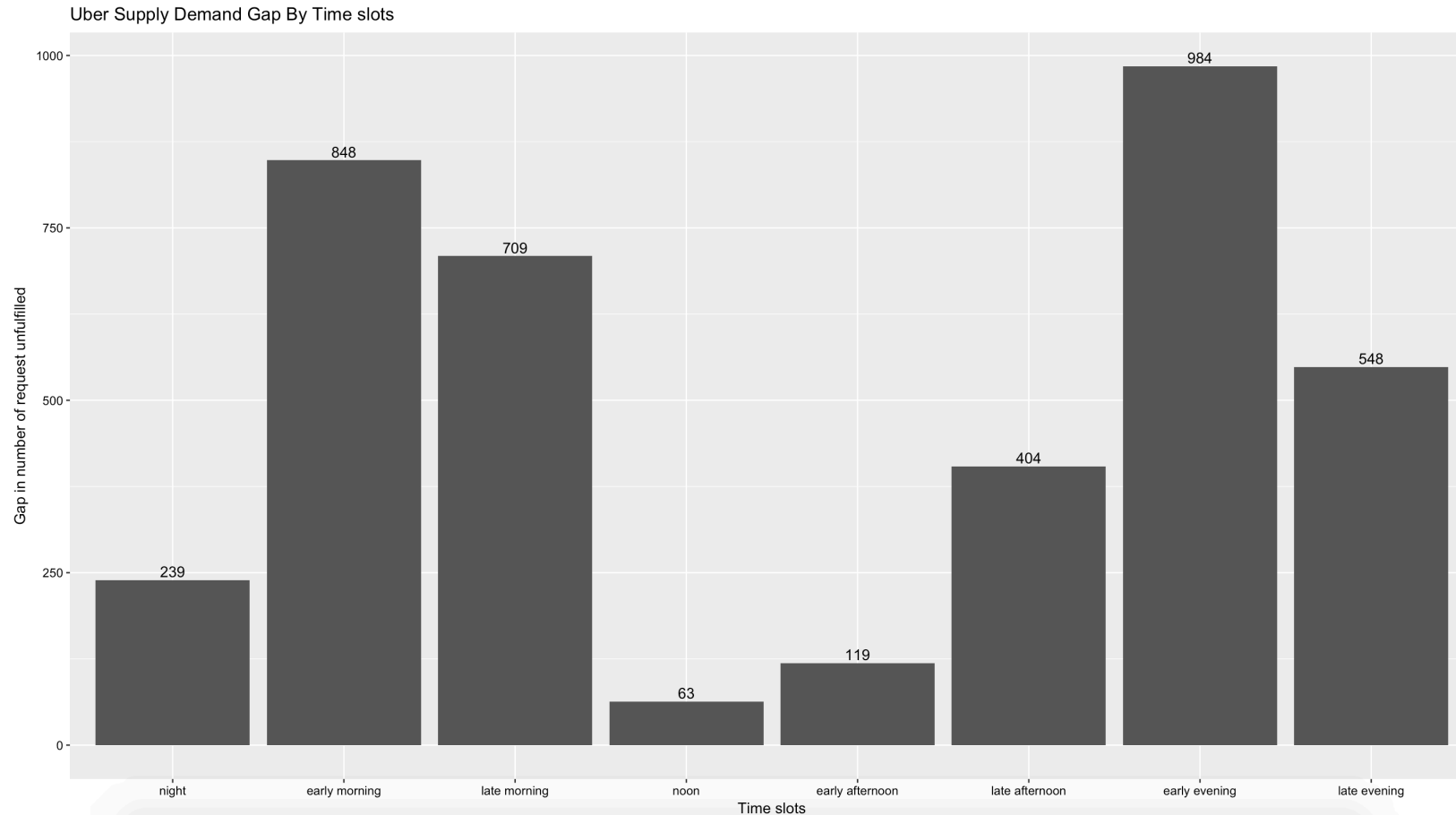
Uber Requests Distribution By Time slots and Trip Statuses



Highest gap percentage exists in night and early evenings

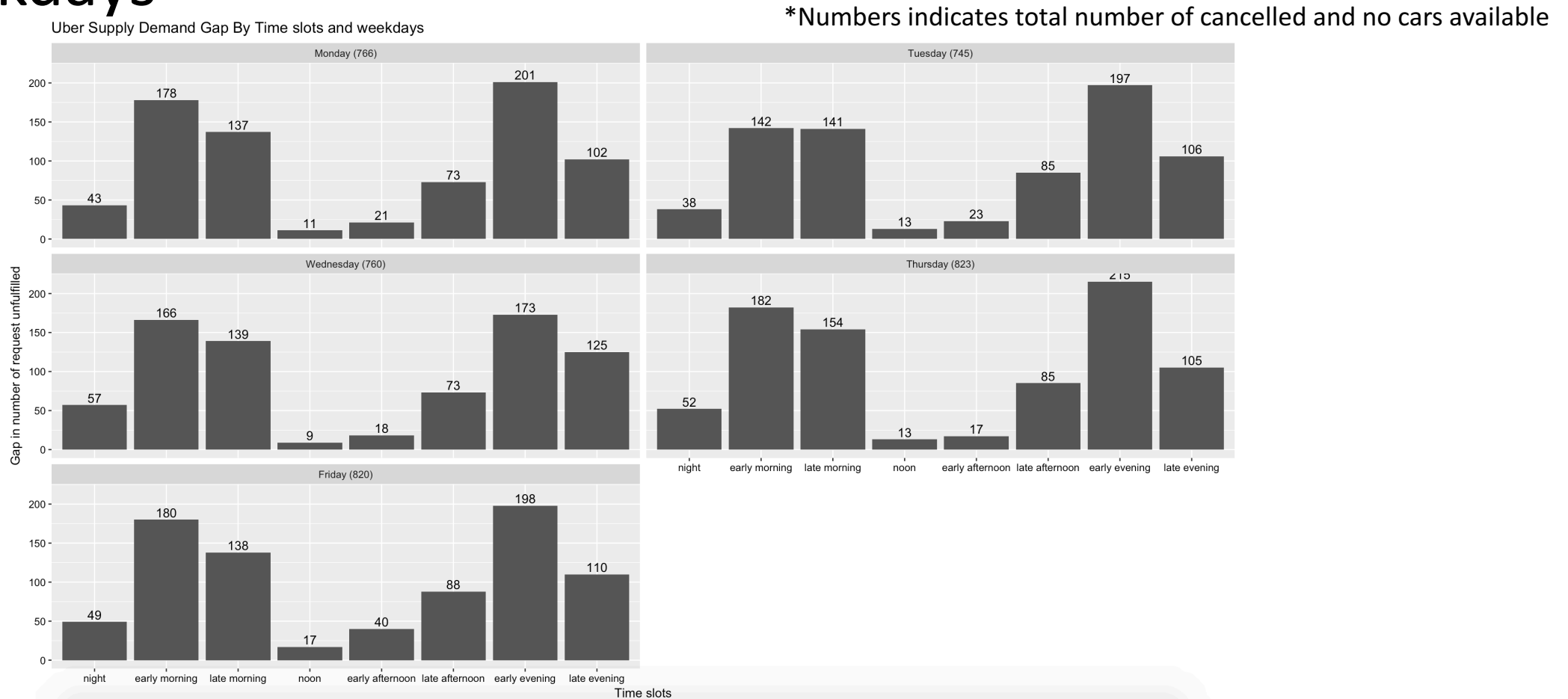
Uber Supply Demand Gap By Time slots

*Numbers indicates total number of cancelled and no cars available



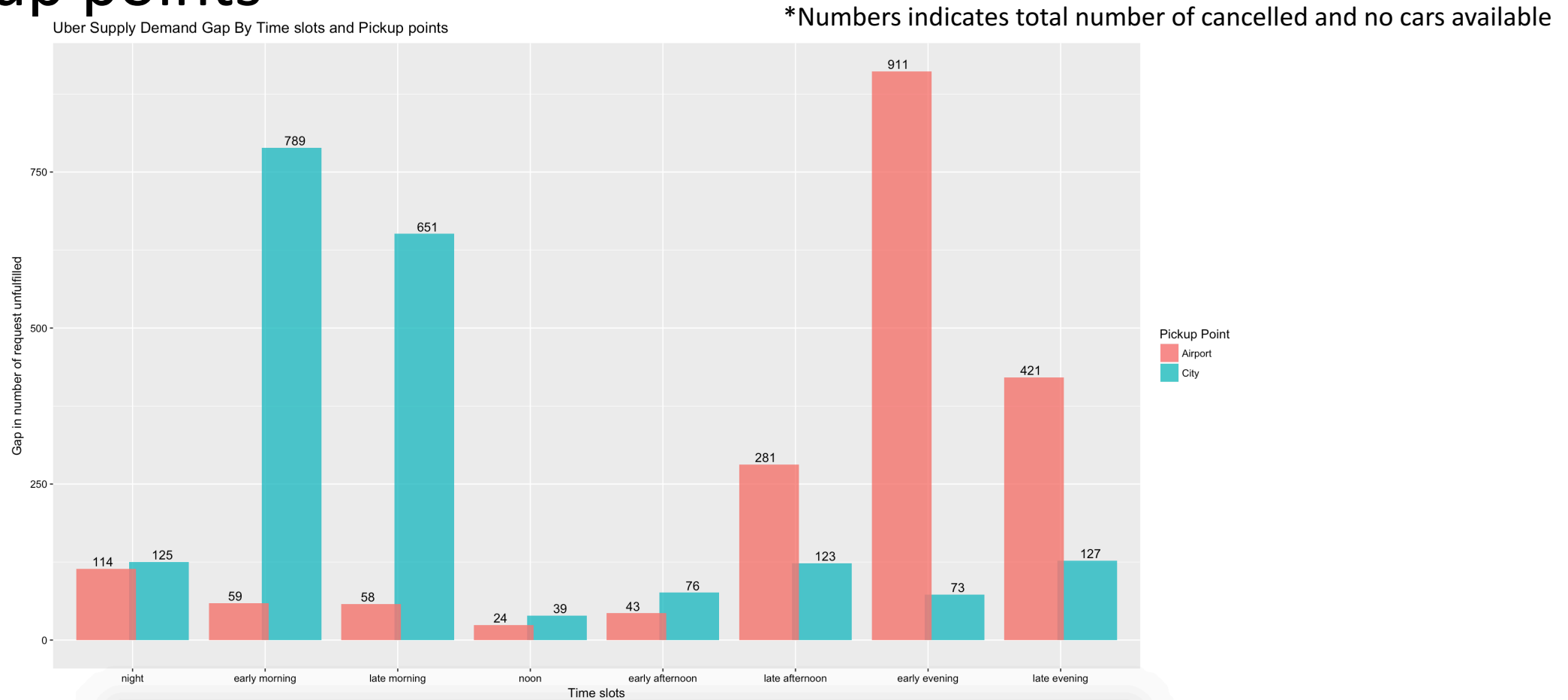
Highest gaps in terms of failed request are more in evenings and then followed by mornings

Uber Supply Demand Gap By Time slots and weekdays



Highest gaps in terms of failed request are more for Thursdays and Fridays

Uber Supply Demand Gap By Time slots and Pickup points

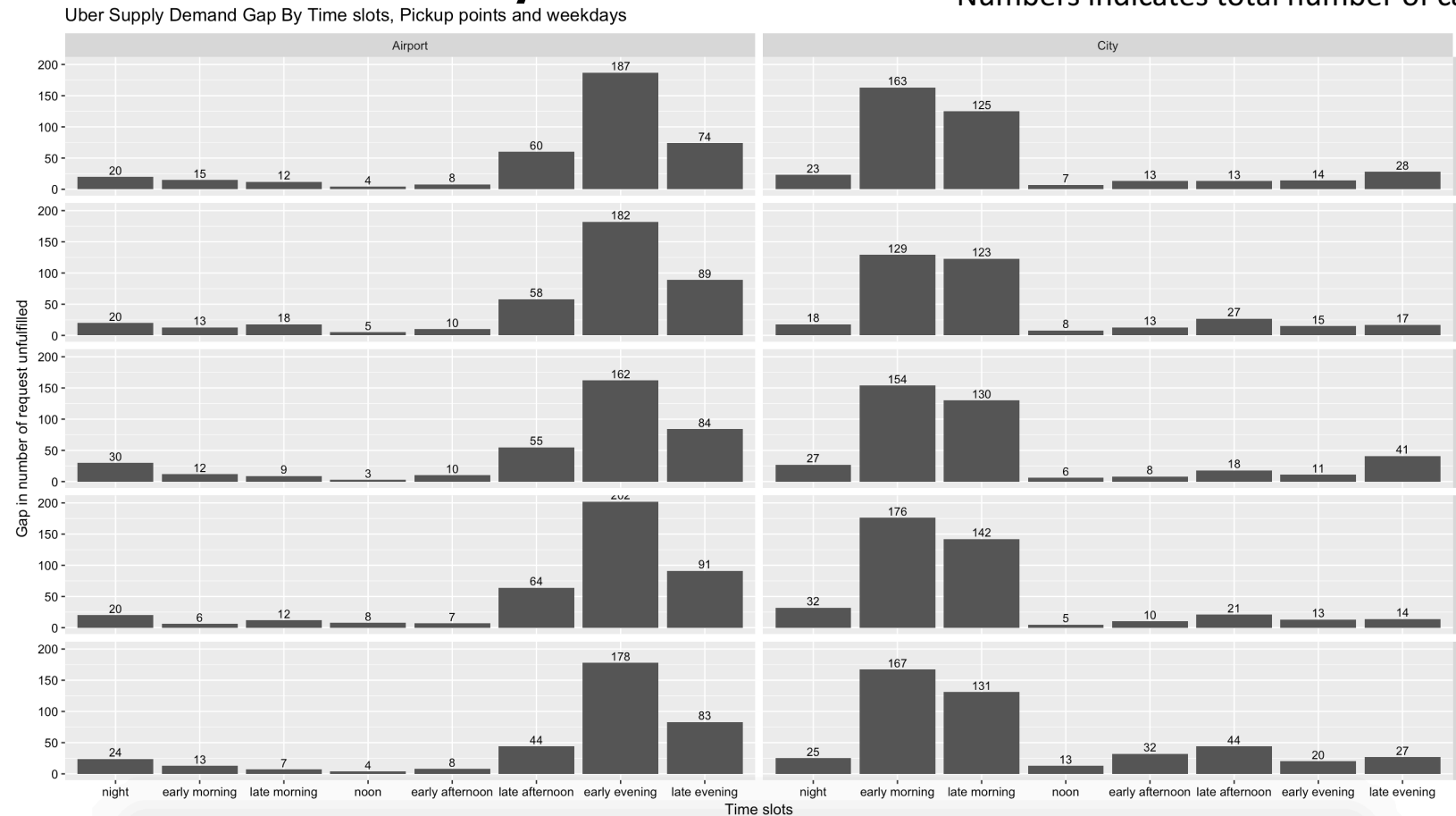


Highest gaps in terms of failed request are more in evenings because of trips not being available from airport

Second highest gaps in terms of failed request are in mornings because of trips not being available from city

Uber Supply Demand Gap By Time slots, Pickup points and weekdays

*Numbers indicates total number of cancelled and no cars available



Highest gaps in terms of failed request are more for Thursdays.
 This may be because Wednesday mid night flow to airport is less
 (city gap is highest Wednesday late evening (41) and night (32))

Uber Cab Requests Facts

- **Unfulfilled request (3914) are way more than fulfilled requests (2831) leading to huge supply demand gap**
- **Demand is more during mornings (5 am to 10 am) and evenings (5 pm to 11 pm)**
- City pickup points has more demands compared to Airport pickup point
- Mondays and Fridays are more busy days than mid week days
- Most request to airport is from early and late mornings
- Most request from airport is from early and late evenings

- **Most cars are not available in early and late evenings for airport pickup point**
- **Most cancellations are happening in early and late mornings for city pickup points**
- Highest gap percentage exists in night and early evenings
- Highest gap in terms of failed request are more in evenings and then followed by mornings
- Highest gap in terms of failed requests are more for Thursdays and Fridays
- Highest gap in terms of failed requests are more in evenings because of trips not being available from airport
- Second highest gap in terms of failed request are in mornings because of trips not being available from city



Uber Supply Demand Gap Reasons and Recommendations

- **Facts:** Most cancellations are happening in early and late mornings for city pickup points. Most cars are not available in early and late evenings for airport pickup point.
 - **Possible Reasons:**
 - This may be because there are less in bound flights post morning due to which idle time for driver might be more or have to travel back city alone. Due to this reason, driver might cancel morning requests leading to less cabs availability at airport for evenings
 - Drivers may prefer to go to airport and stay near airport and pickup incoming passengers the next day morning. So this might support fact that gap is less in mornings from airport and evenings from city pickup points
 - **Recommendations:**
 - Give incentives to driver who will wait till evening in event there are no request to come back to city around noon. This incentive can be based on waiting time at airport or increased profit for evening return trip fare from airport. Make sure this incentive doesn't result in overall reduced profit for Uber.
- **Facts:** Highest gap in terms of failed request are more for Thursdays and Fridays
 - **Possible Reasons:**
 - This may be because Wednesday mid night flow to airport is less (city gap is highest Wednesday late evening (41) and night (32))
 - **Recommendations:**
 - May be more incentives to driver on Thursday and Fridays than other days