

Analysis of NYC Yellow Taxi data

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NYC Yellow Taxi Data

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This dataset includes trip records from all trips completed in yellow taxis in NYC in 2014.

Records include fields capturing:

- ☐ pick-up and drop-off **dates/times**
- ☐ pick-up and drop-off **locations**
- ☐ trip distances
- ☐ itemized **fares**
- ☐ rate types
- ☐ payment types
- ☐ **passenger** counts

#The trip data was not created by the TLC, and TLC makes no representations as to the accuracy of these data.

Only 3 days dataset (1M) was used in this study. It is a challenge to handle such huge dataset in a PC

Explore the pattern in location and time

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- ☐ Where people go
- ☐ Time dependence
- ☐ Tip

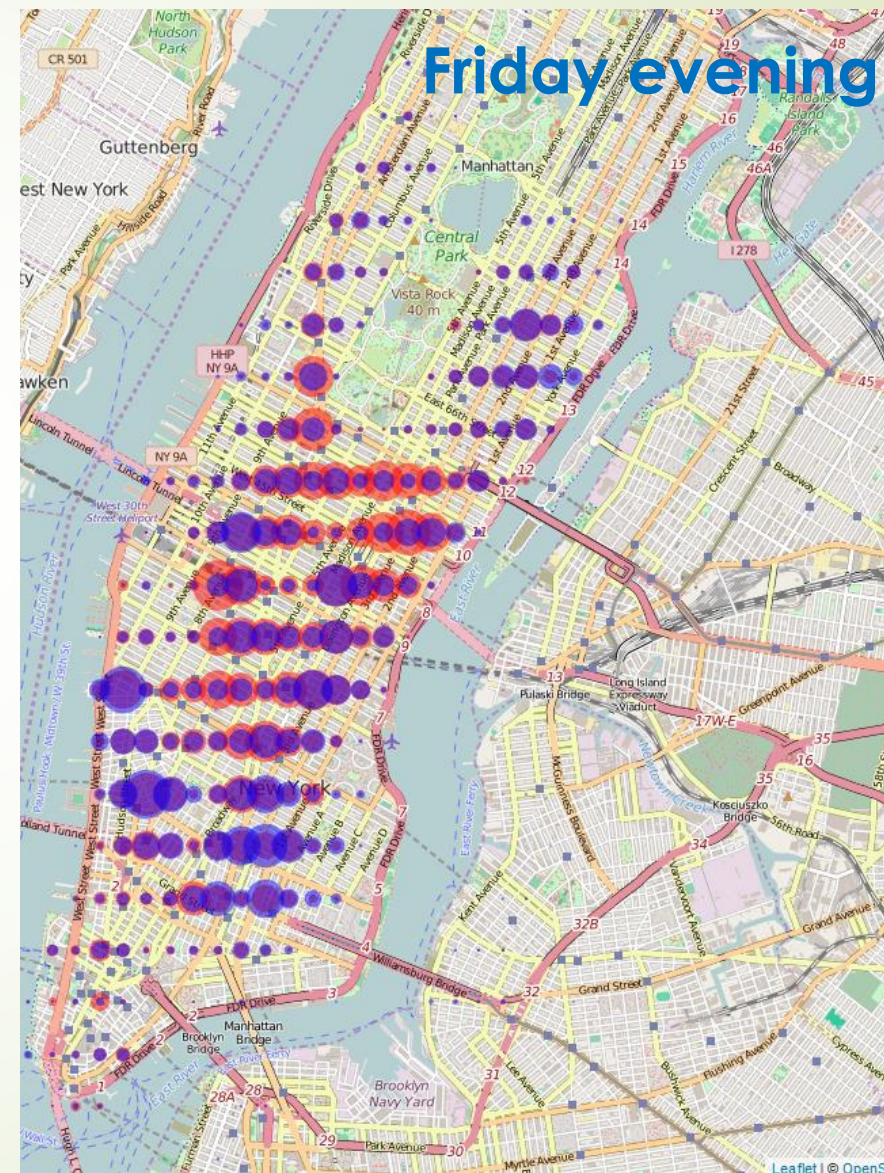
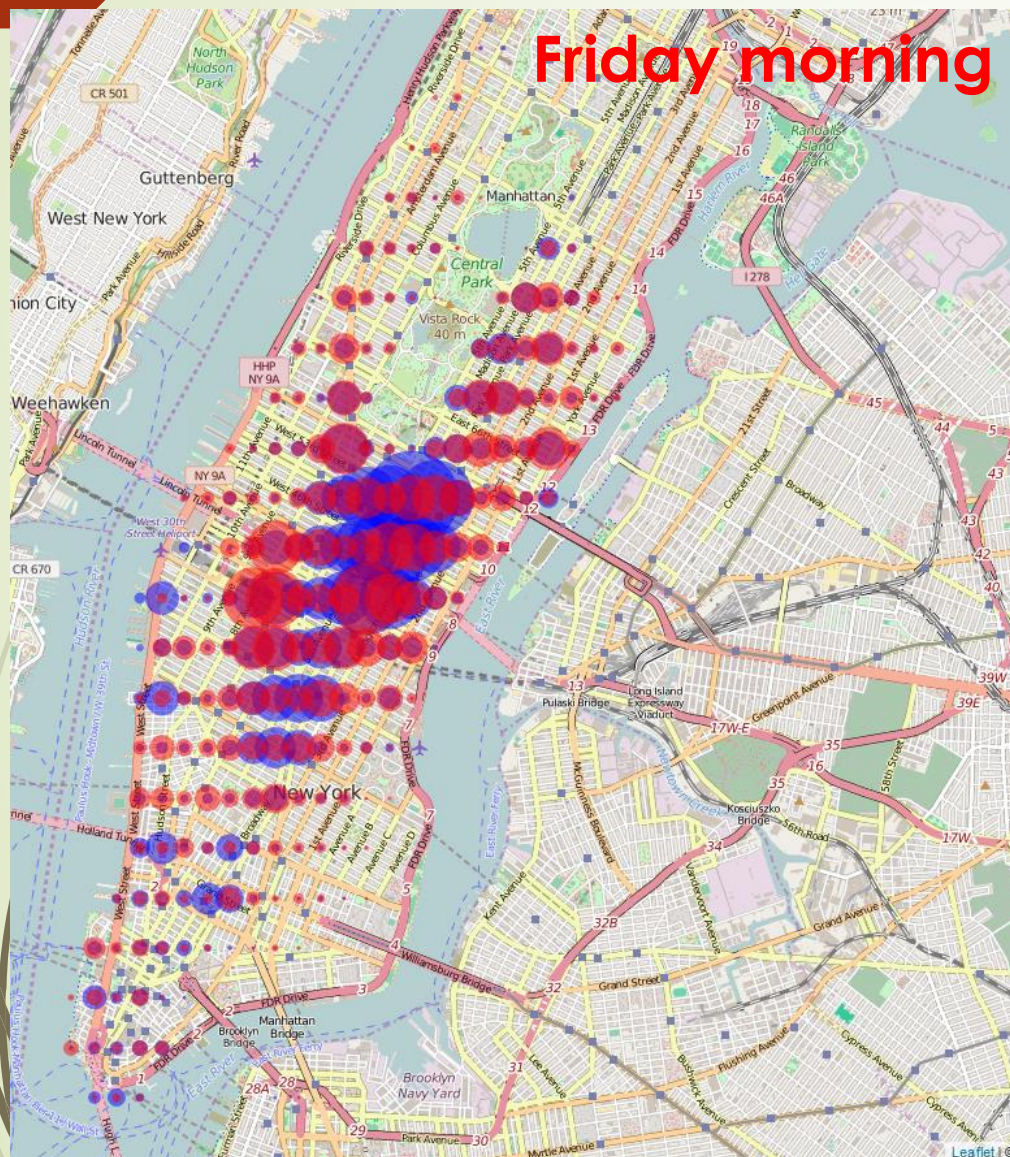
Where people go

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Pickup



drop-off

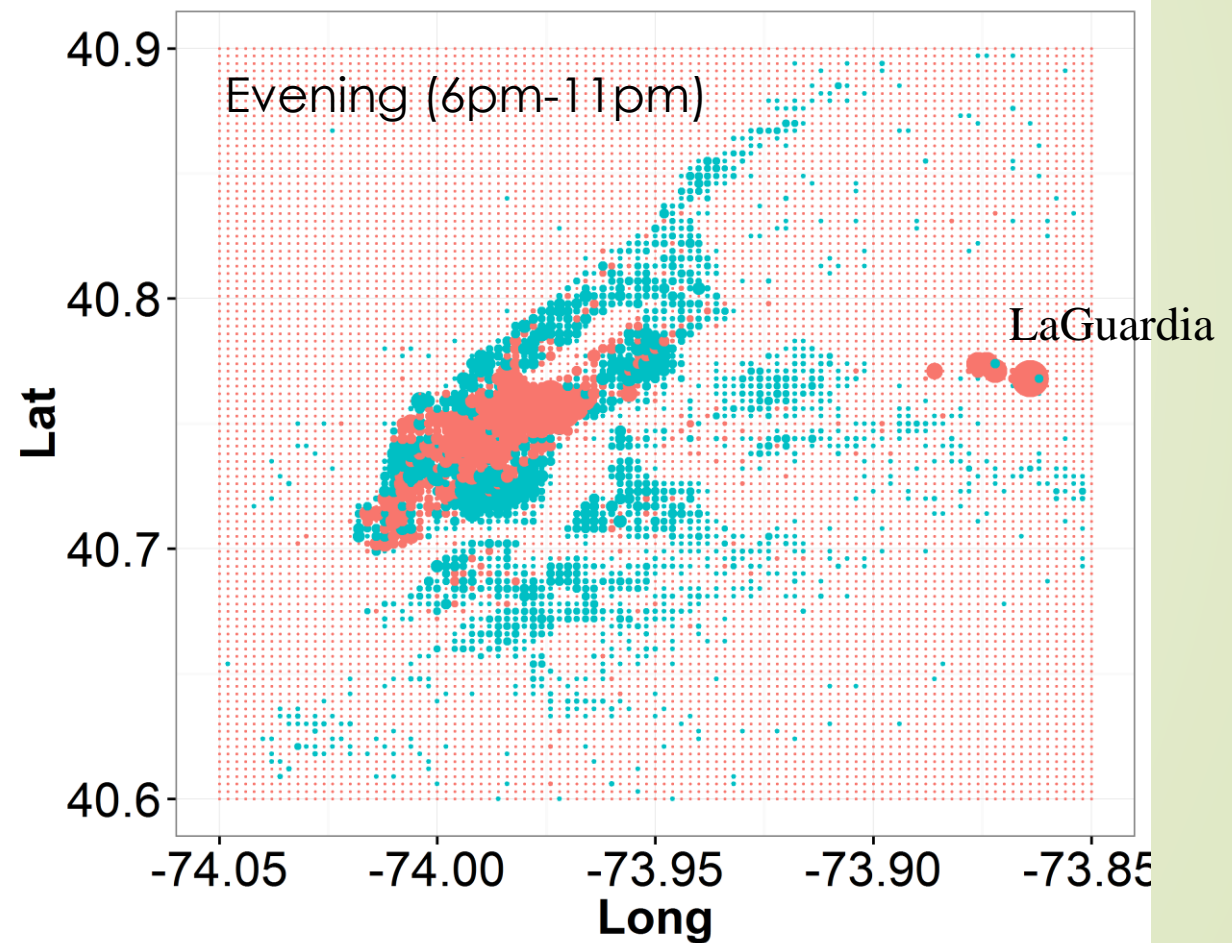
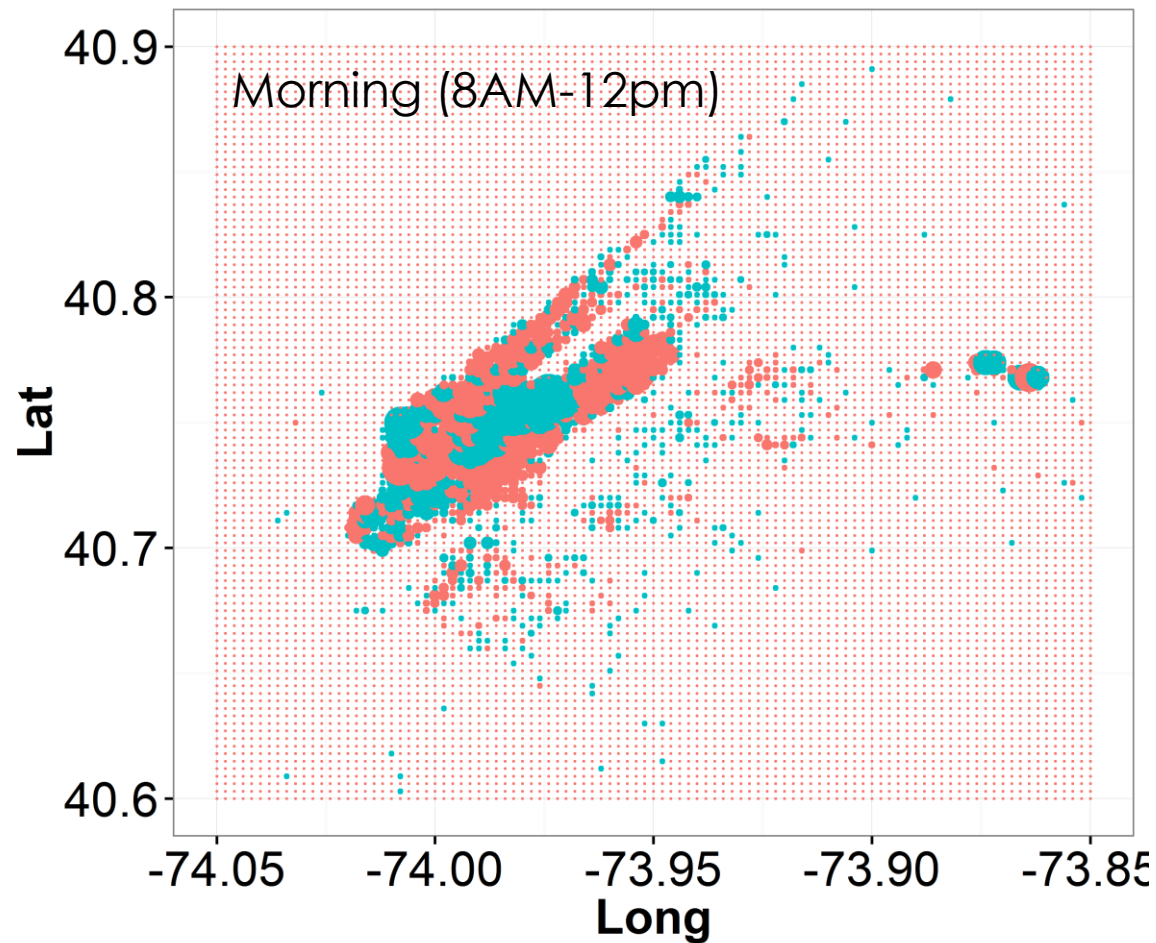


Net flow

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At each location, calculate the difference between pickup and drop-off
red more pickup, blue more drop off

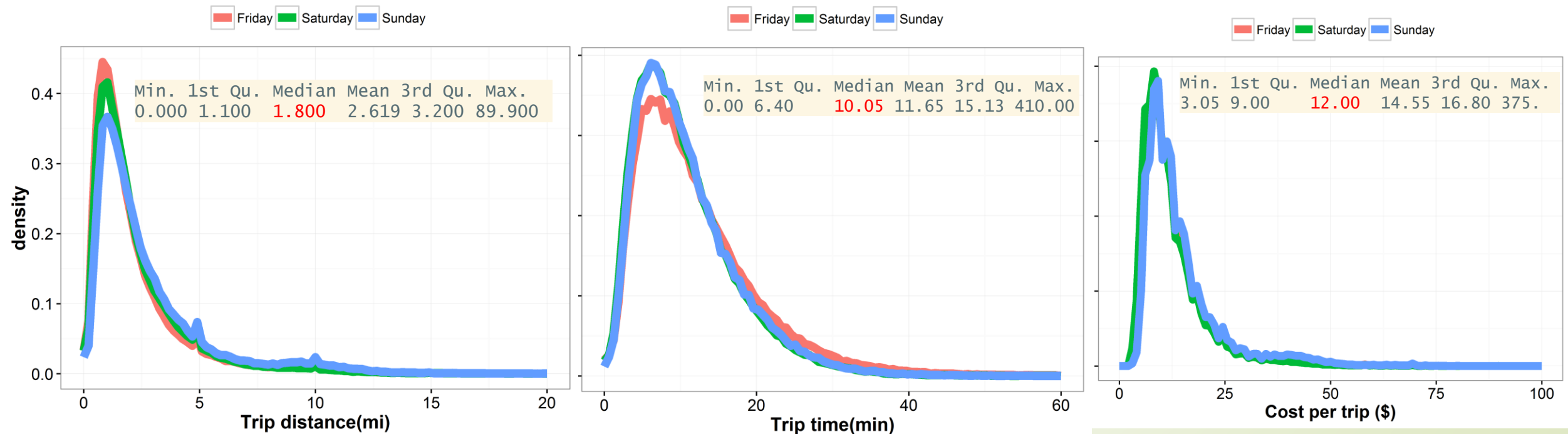
□ More people go home by taxi



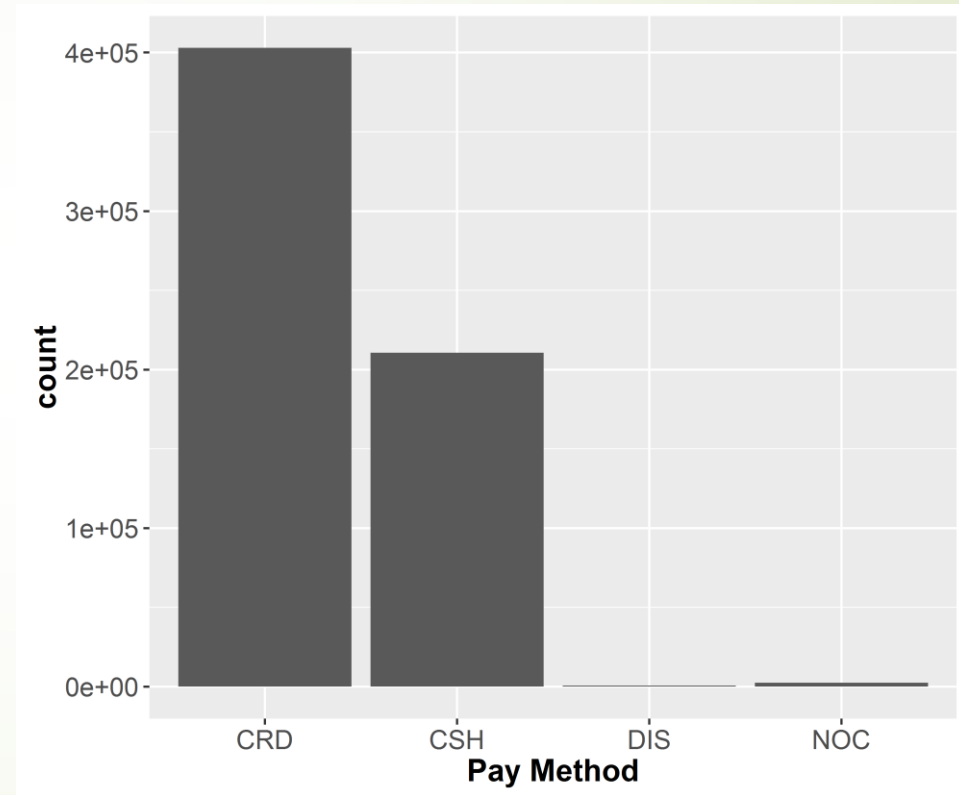
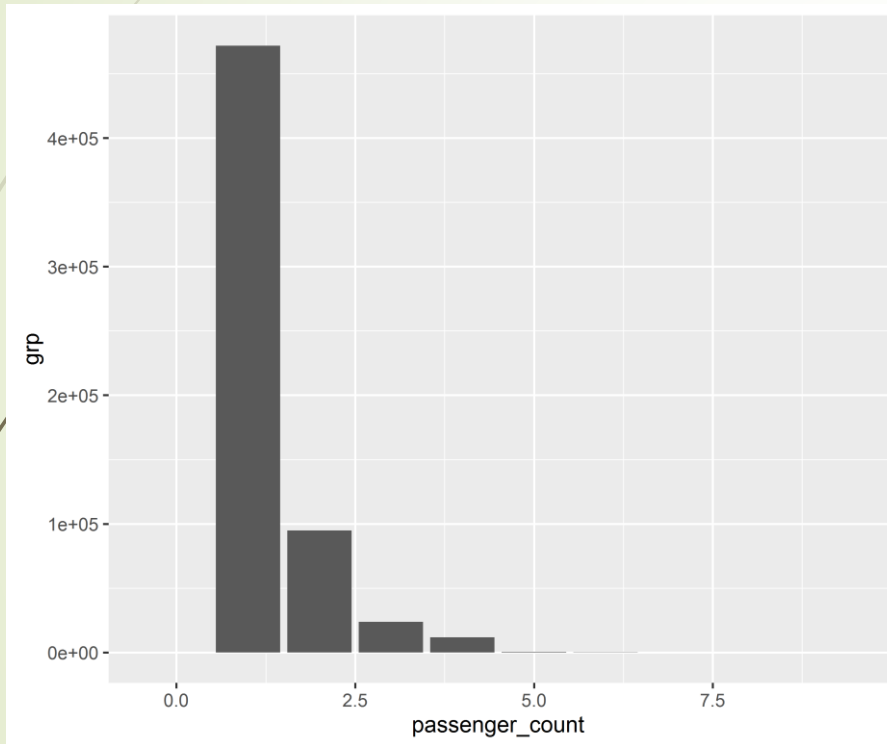
Trips: time, distance and cost

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- There median of trip distance, time and cost are: 1.8mile, 10 minutes and \$12



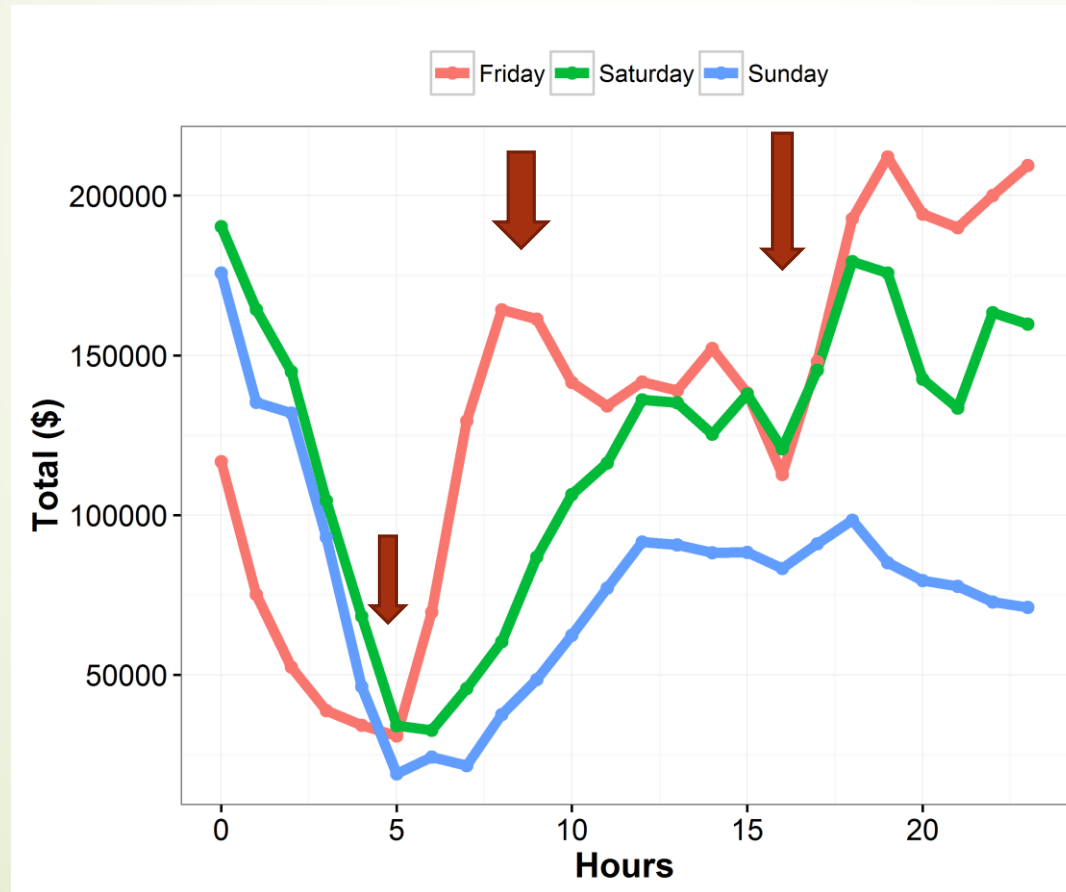
Payment method and passage number per trip



Time dependence

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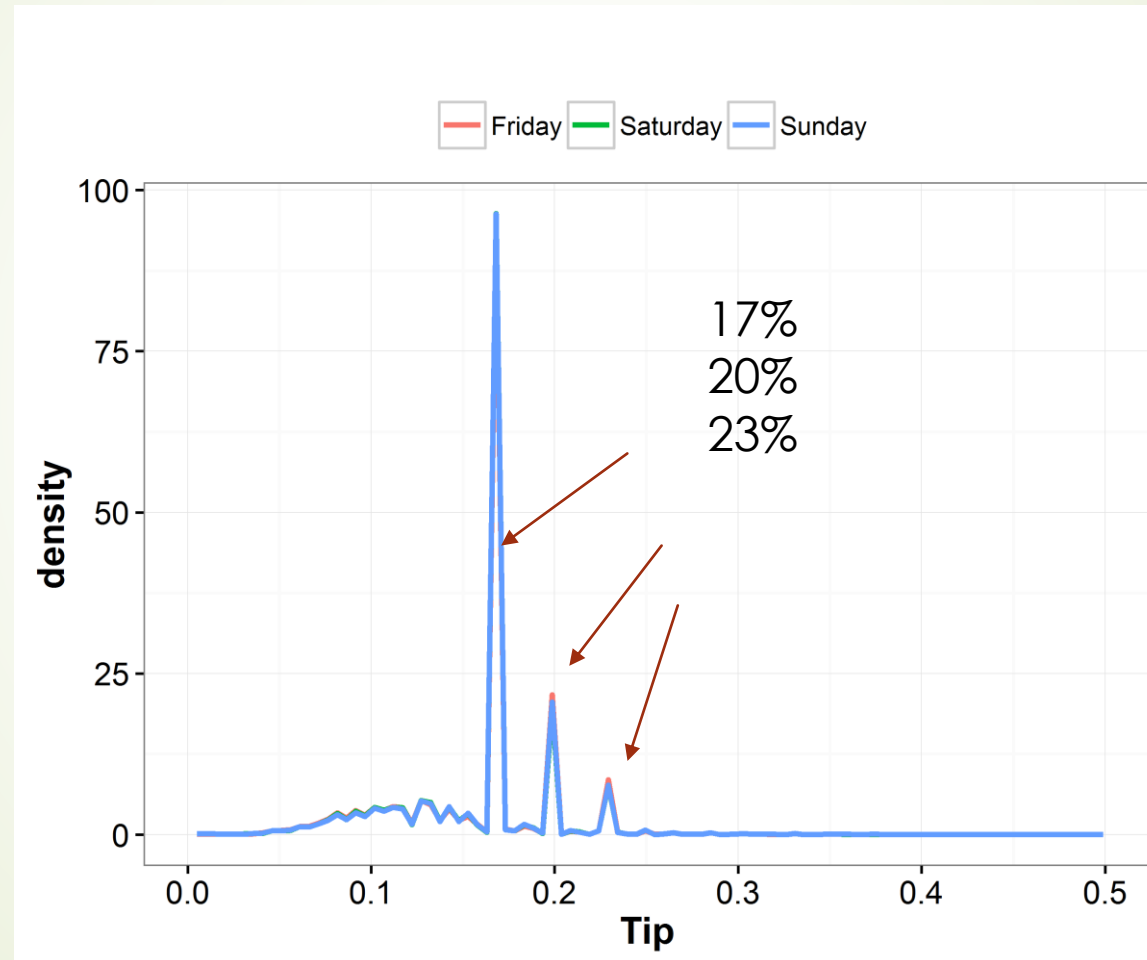
- ❑ There is minimum activity at 5AM for both workday and weekend
- ❑ There is peak right at 8AM for work day, but no such rush hour on weekend
- ❑ There is weak activity (local minimum) at 4pm (difficult time to find a taxi)



Tip rate

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- Many people (36%) don't give tip, which are excluded in the calculation

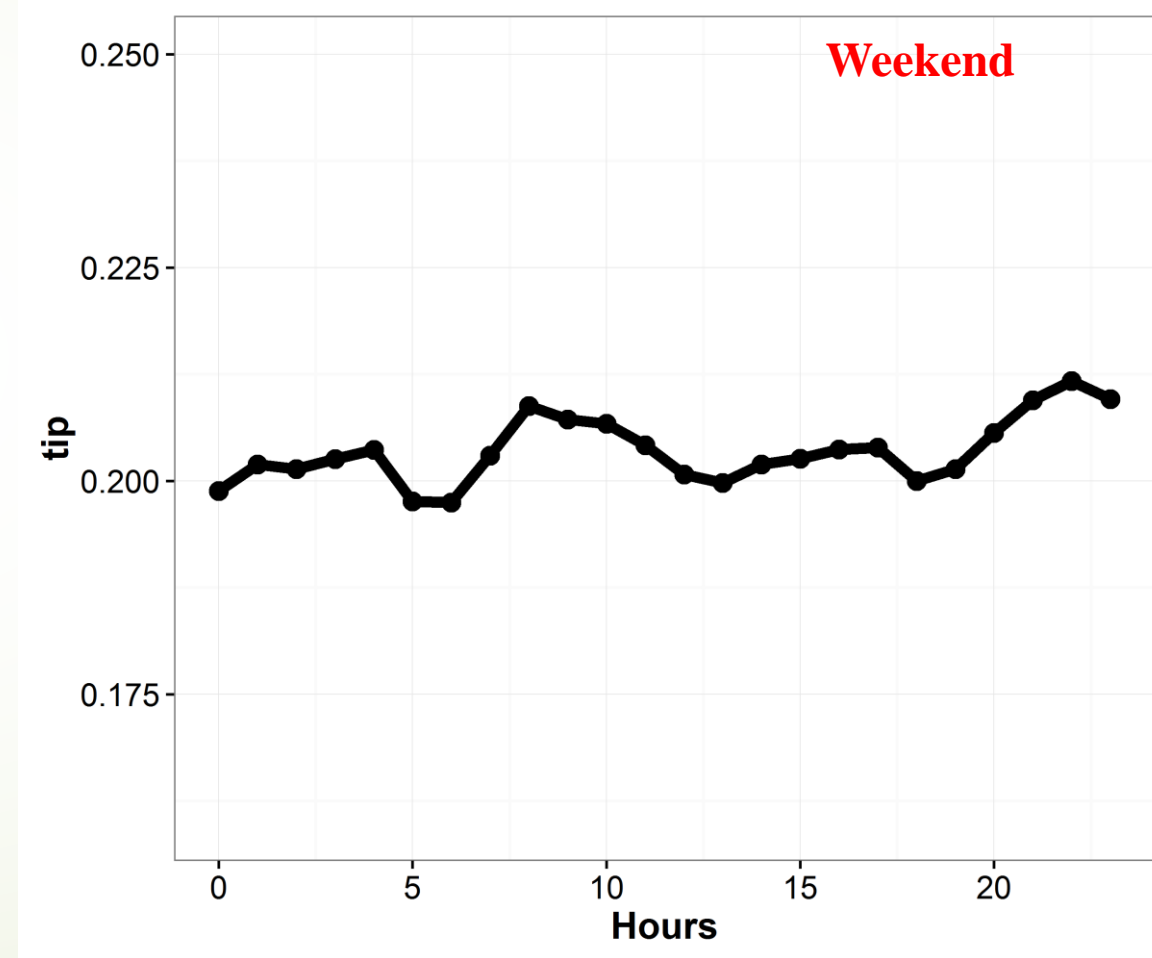
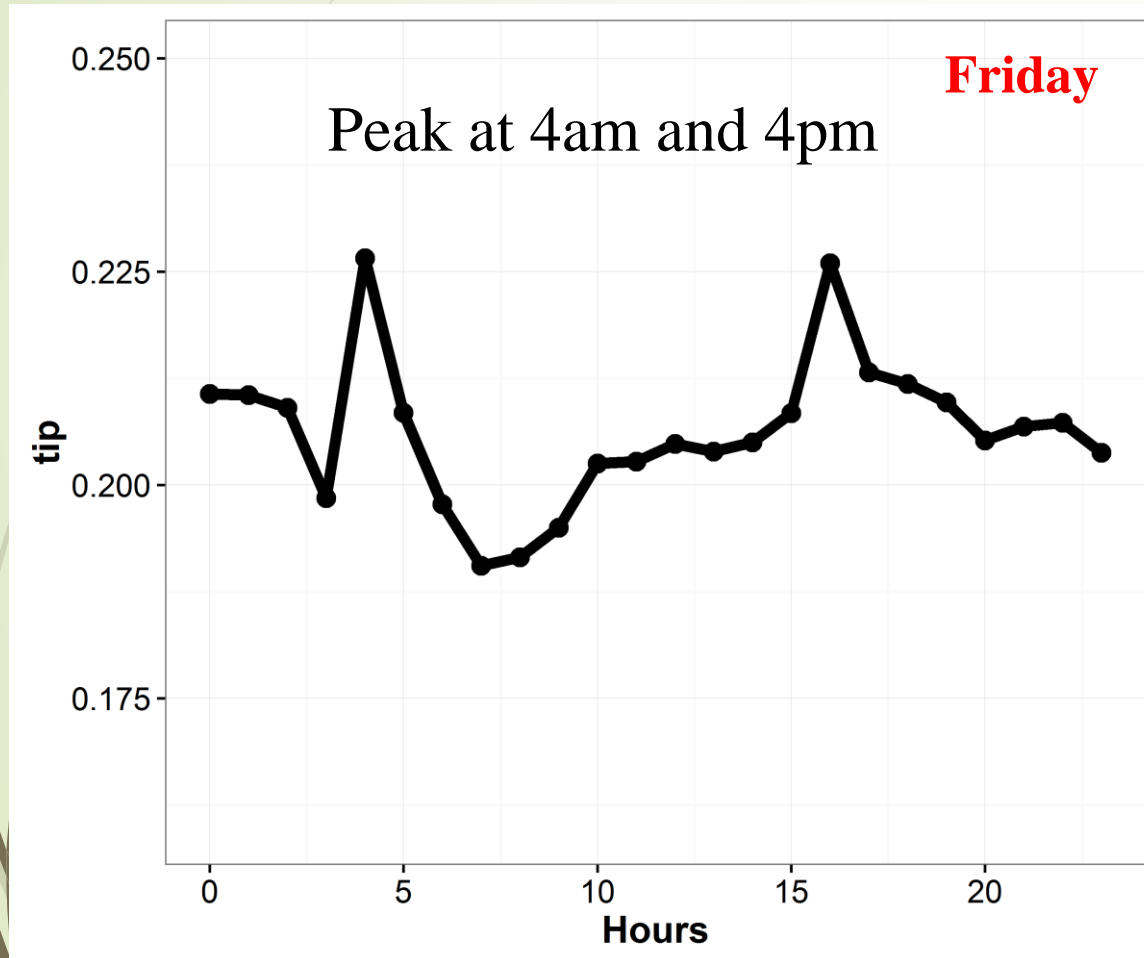


Tip percentage=tip/Total

Min. 1st Qu. **Median** Mean 3rd Qu. Max. 0.000125 0.133300 **0.166700** 0.157700 0.166700 0.961000

Tips variation with hours

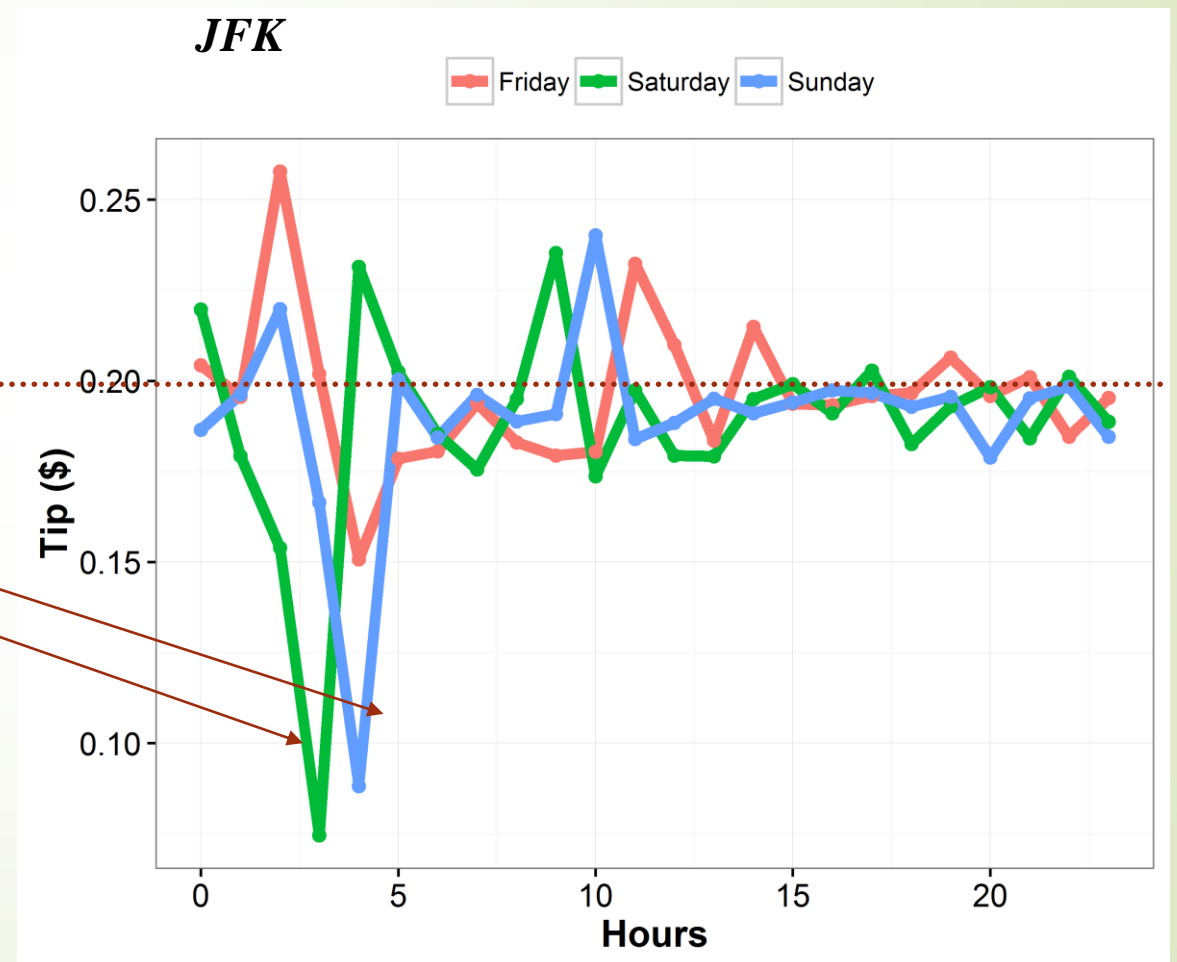
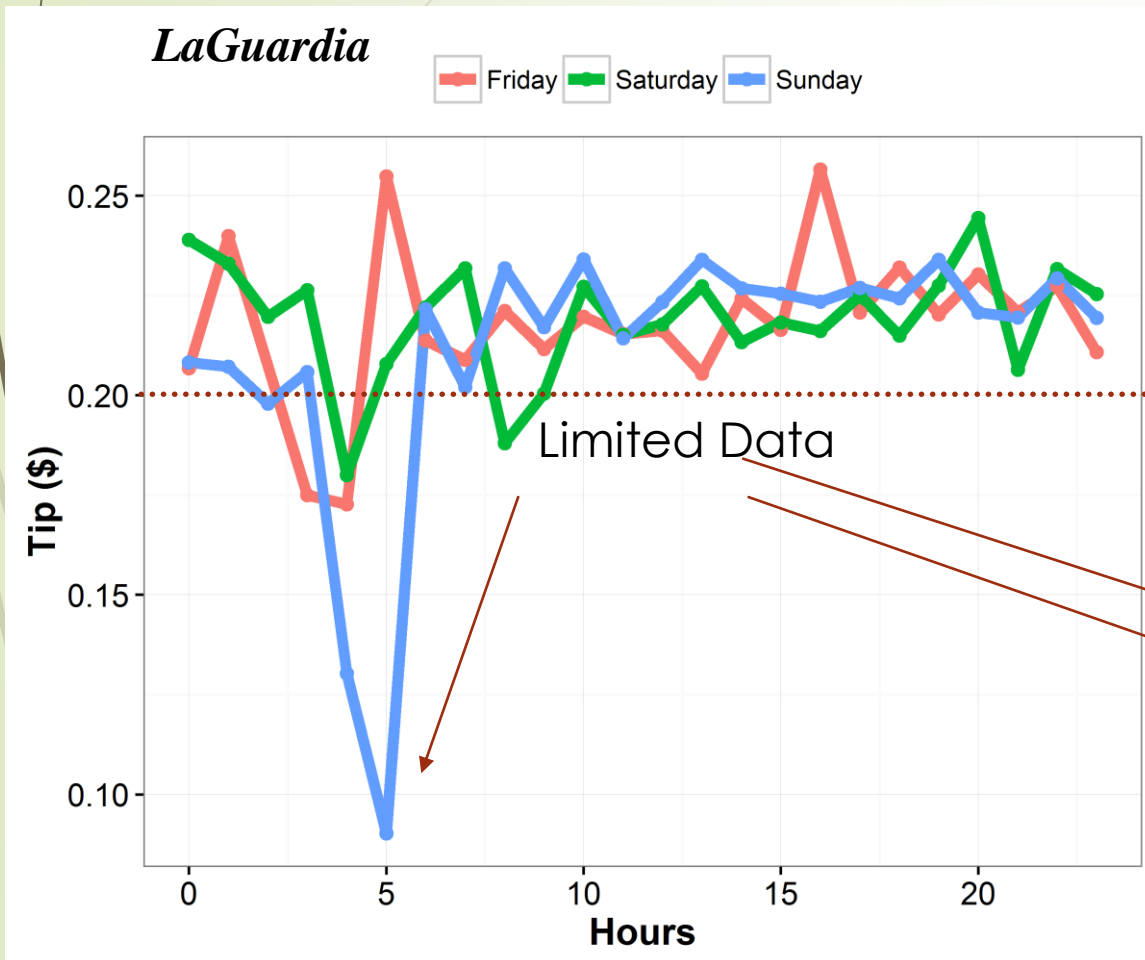
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Airport trip tip

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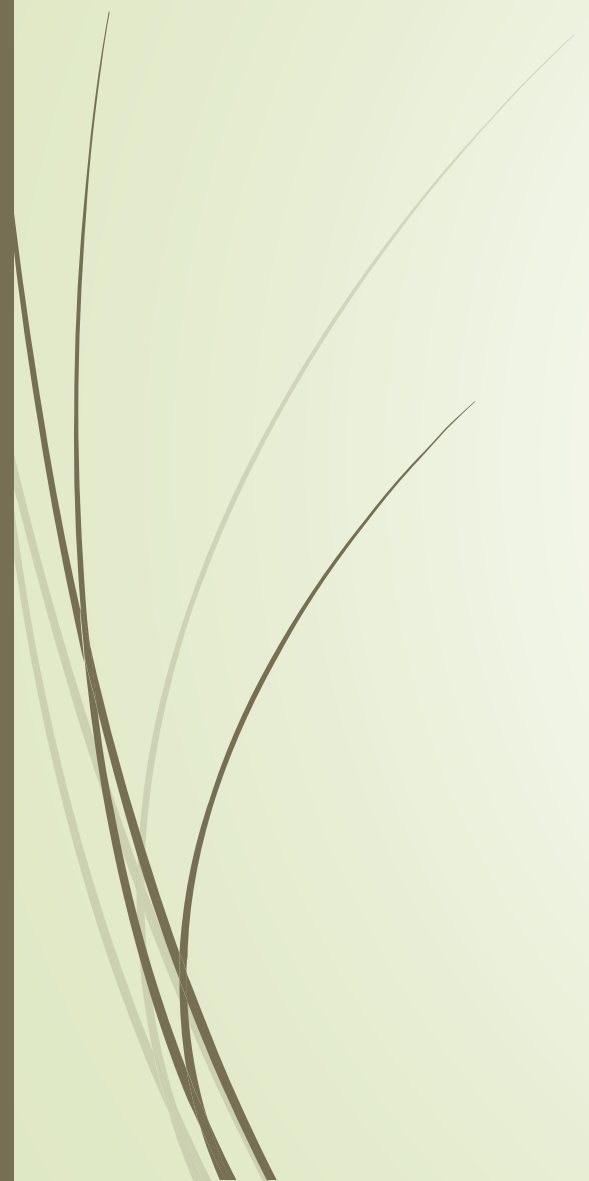
- ☐ Taxi get better tip rate at LaGuardia
- ☐ Better rate at some hours



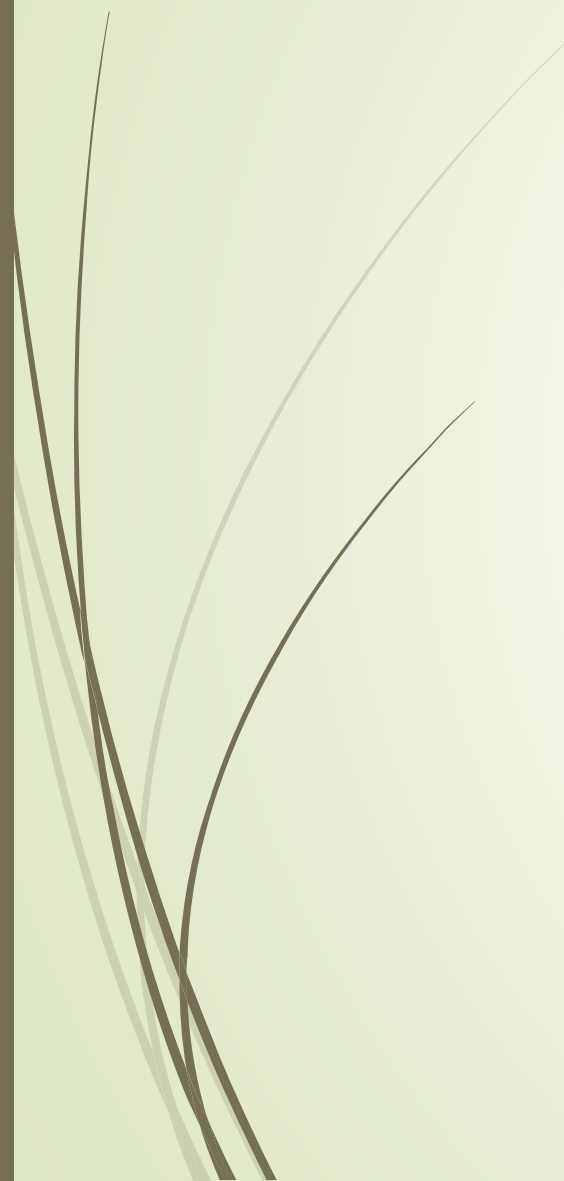
Summary

- More people take taxi to go home at evening time.
- There is minimum activity at 5am
- It is difficult to find a taxi at 4pm, especially weekday
- People pay more tip at 4am and 4pm
- Taxi driver get better tip rate (2% more) at LaGuardia than JFK

Thank you



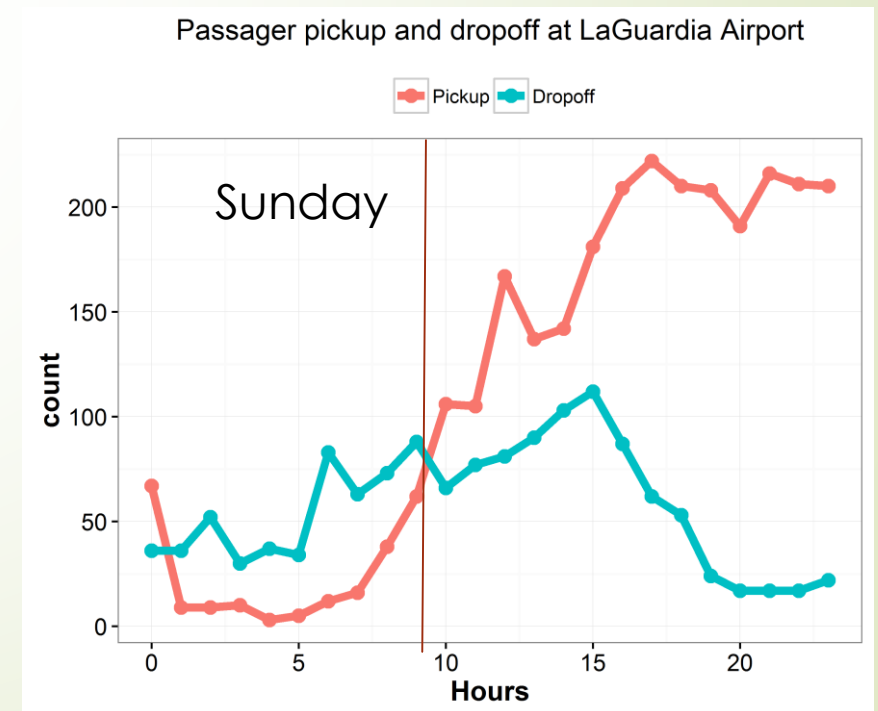
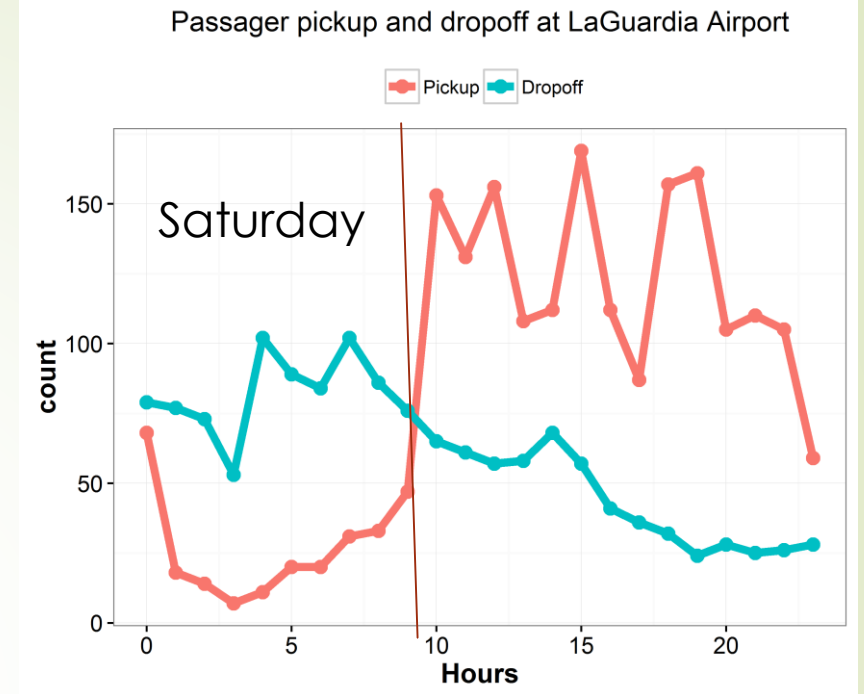
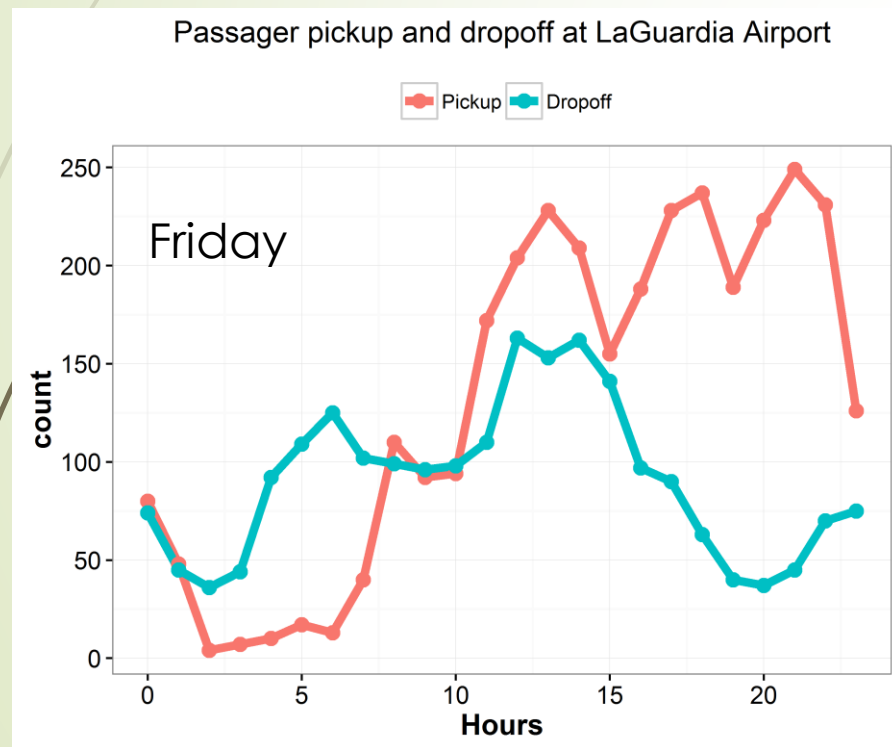
Backup slides



Taxi at LaGuardia Airport

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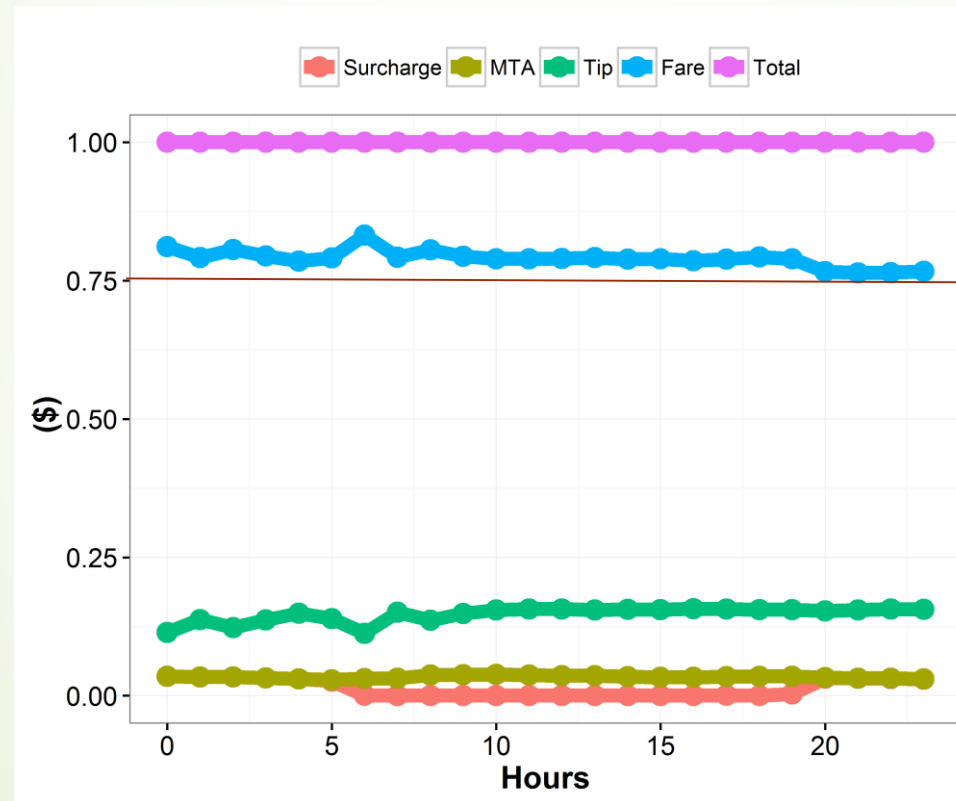
- ❑ More people leave at morning and arrive at evening
- ❑ More people take taxi from airport



Cost variation with hours

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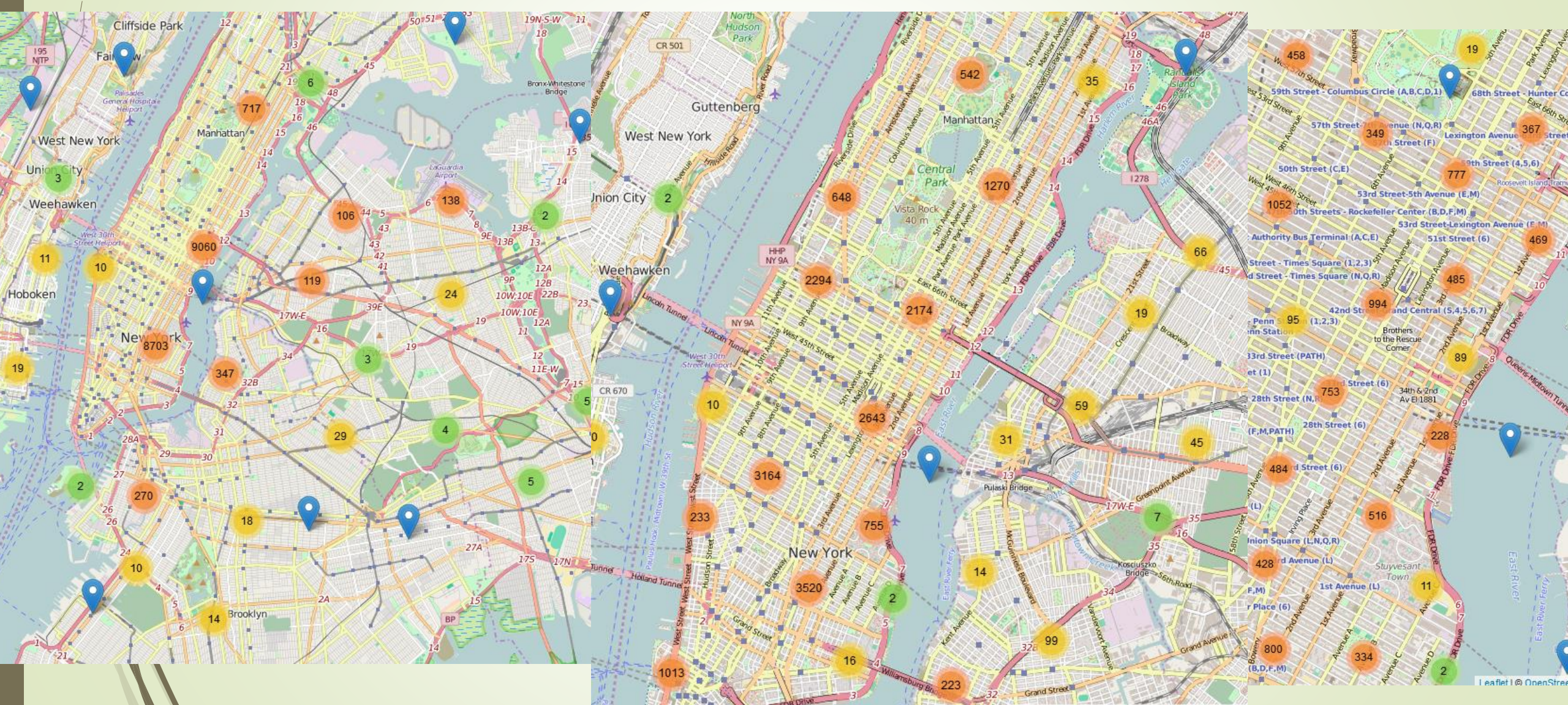
❑ Passenger pay more at evening time



Where is the flow

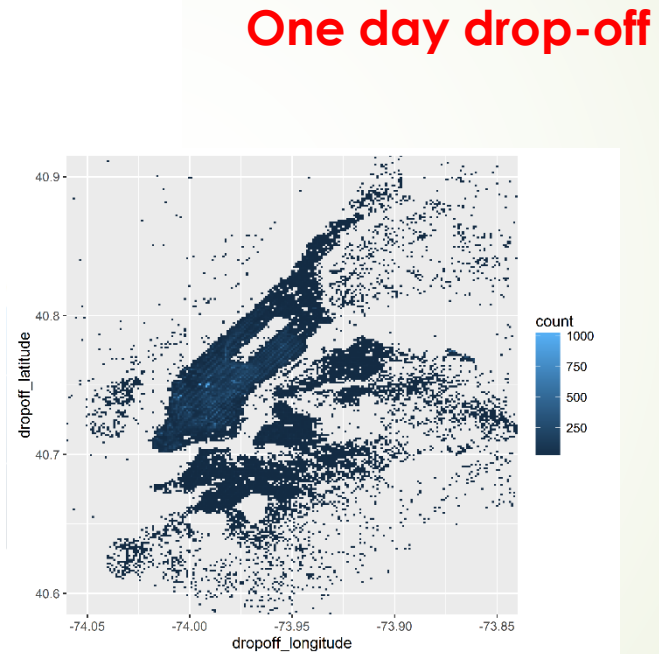
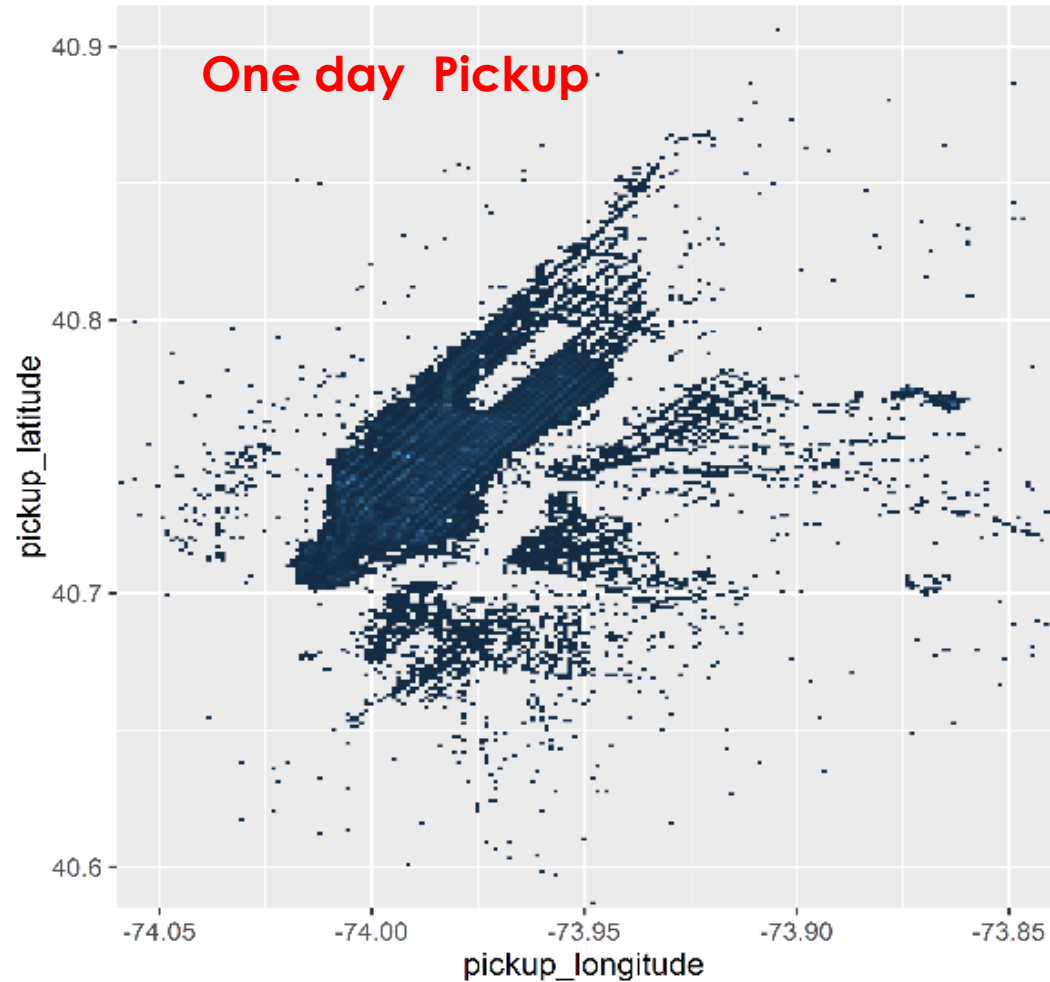
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Friday Morning Pickup



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More people take taxi when they go home

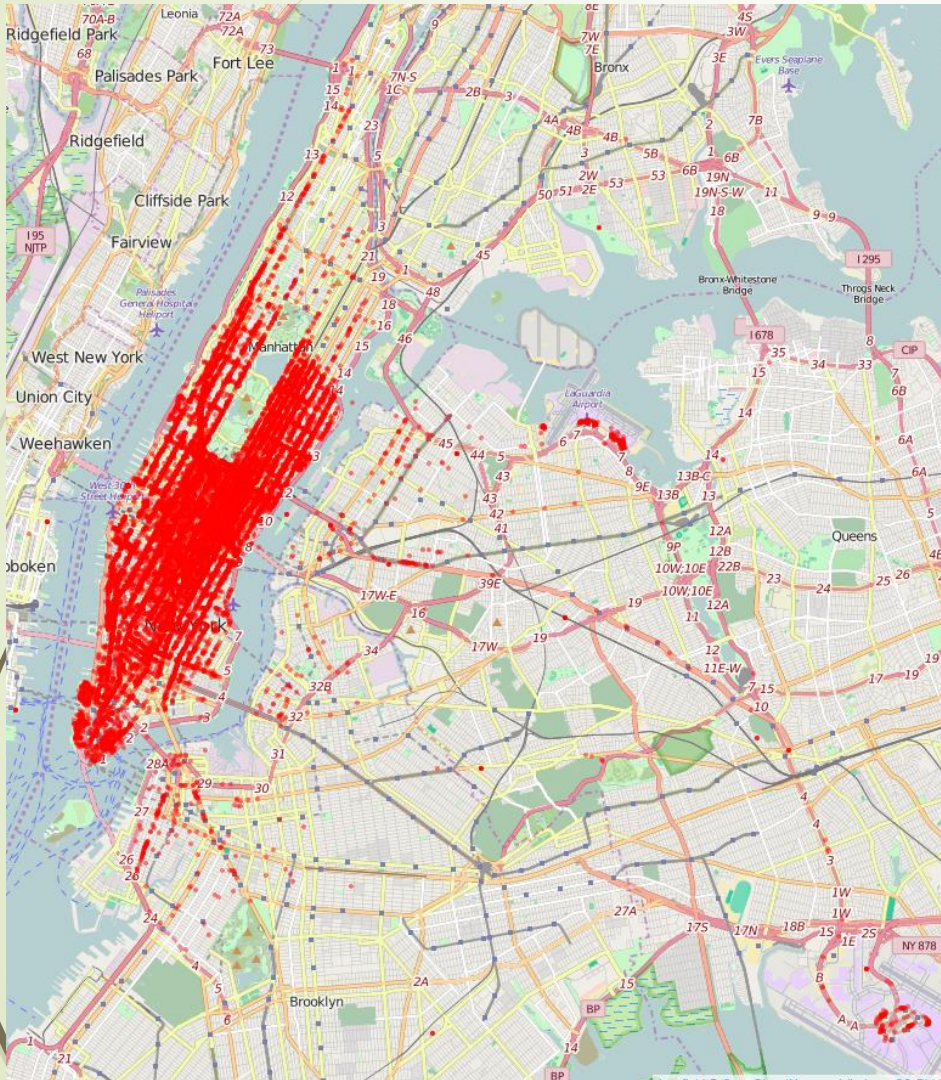


Moring time

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8am-12pm

Friday morning Pickup



Friday morning drop-off

