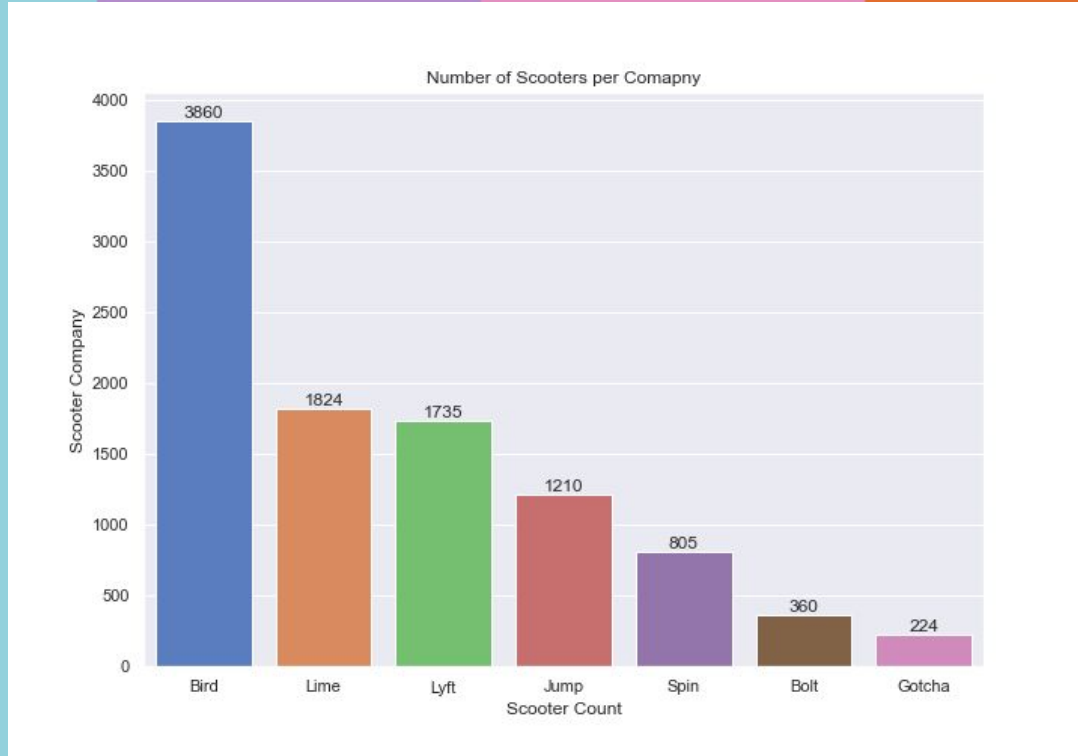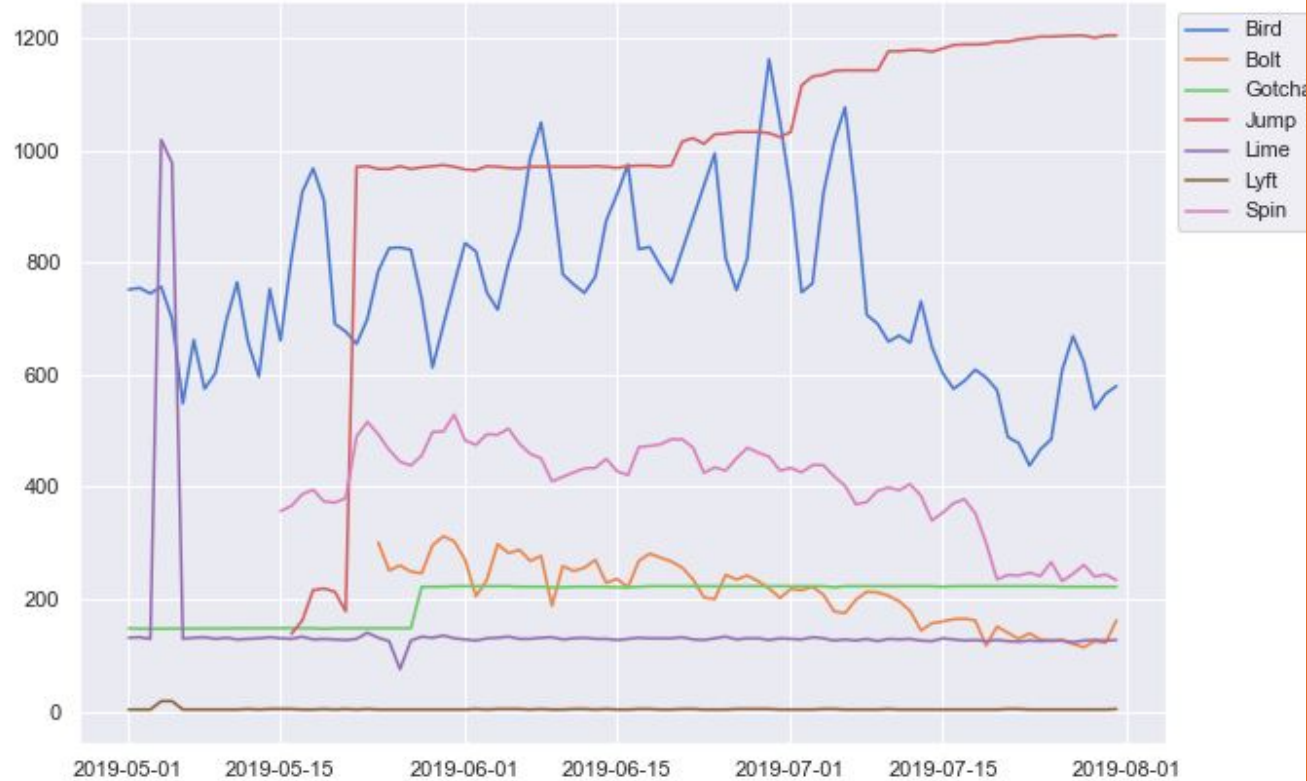# Nashville Metro Scooter Analysis

2019 Pilot Project

By Brøther May I Have Some Lööps

During May 1 - July 31, seven companies offered scooters. During this timeframe, Bird offered over twice as many scooters as the next largest competitor.

Scooters in Use per Company per Day May 1 - July 31

Jump and Bolt had the highest percentage of their scooters in use

Jump - 99%
Bolt - 50%
Bird - 30%

Second Substitute Bill:
Are companies in compliance?

Before submitting data to Metro,
all seven participating companies
agreed to:
● Remove trips below one minute.
● Cap trip lengths at 24 hours.
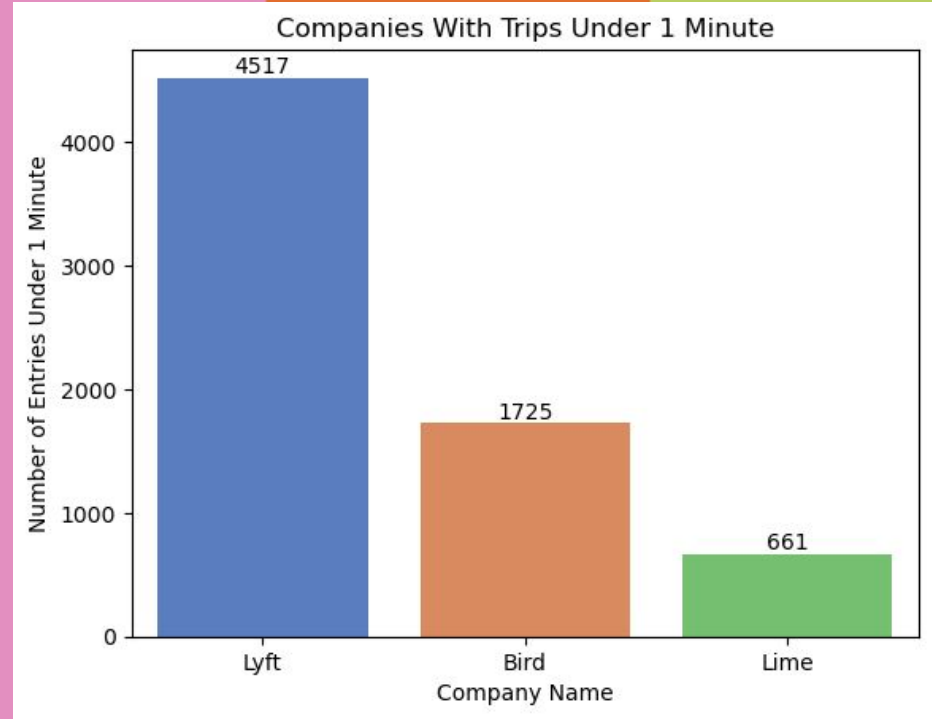
Three Companies Didn't Remove Trips Under One Minute

Lyft, Bird and Lime all had records under one minute.

*

Bolt, Gotcha, Jump and Spin were all in compliance with this data cleaning guideline.

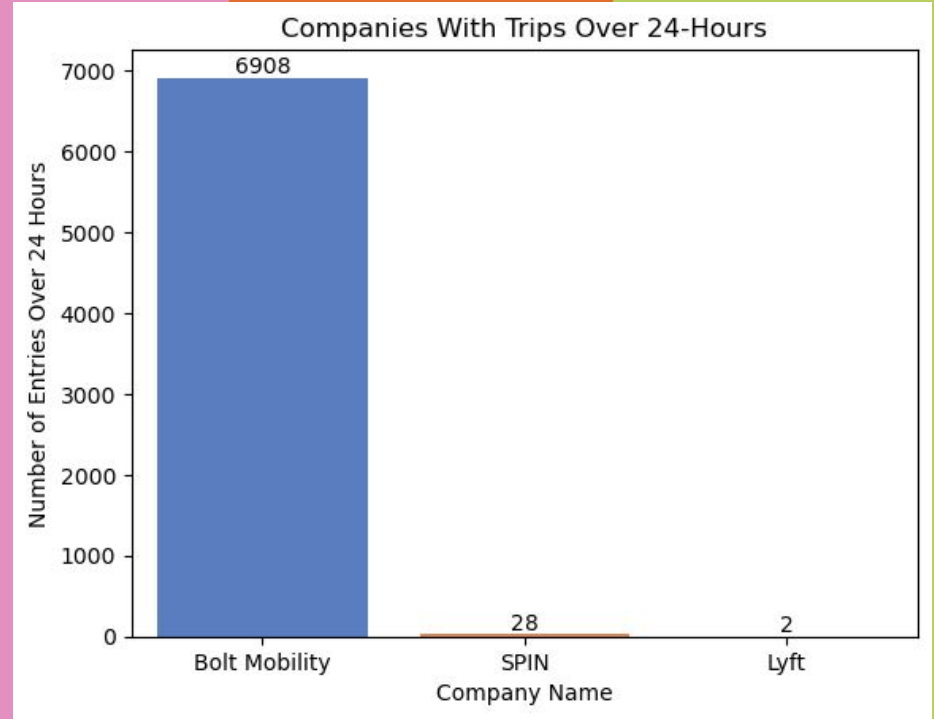

Companies With Trips Under 1 Minute

And Three Didn't Comply With the 24-Hour Rule

Bolt Mobility, Spin and Lyft didn't cap trips at 24 hours.

*

Bird, Gotcha, Jump and Lime likely all capped trips at 24 hours, as their records contained no trips over allowed duration.

Scooters Data Cleaning in Perspective

- 1.22% of trips recorded are under one minute.
- 1.23% of trips recoded are over 24 hours.
- All told, we can remove a total of 2.45% of trips from the Metro records.

Gotcha submitted no trips under one minute or over 24 hours. However, they offered the least number of scooters of all seven companies.

Average rides pers scooter

The goal of Metro Nashville is to have each scooter used a minimum of 3 times per day.

Based on the data available the average number of rides pers scooter per day is 1.35 (across all SUMD companies). This number varies between companies and naturally is different throughout an average week.

Lime has the highest average number of trips per scooter for the majority of the 3 months period.
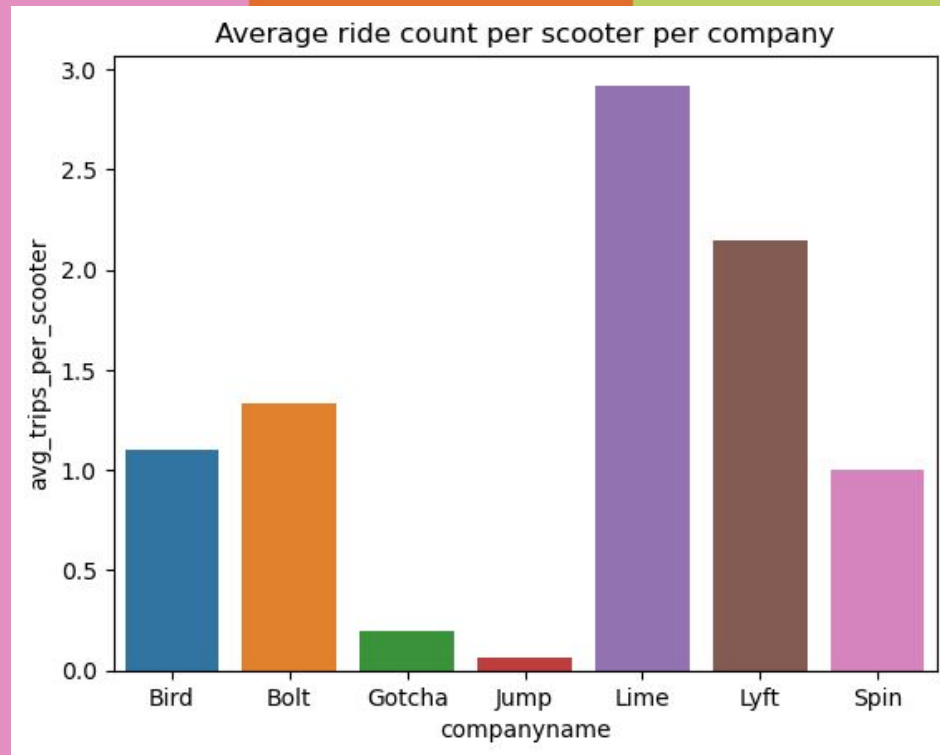
Spikes in the graph show the increased demand during weekends and holidays.

Average trips per scooter overtime
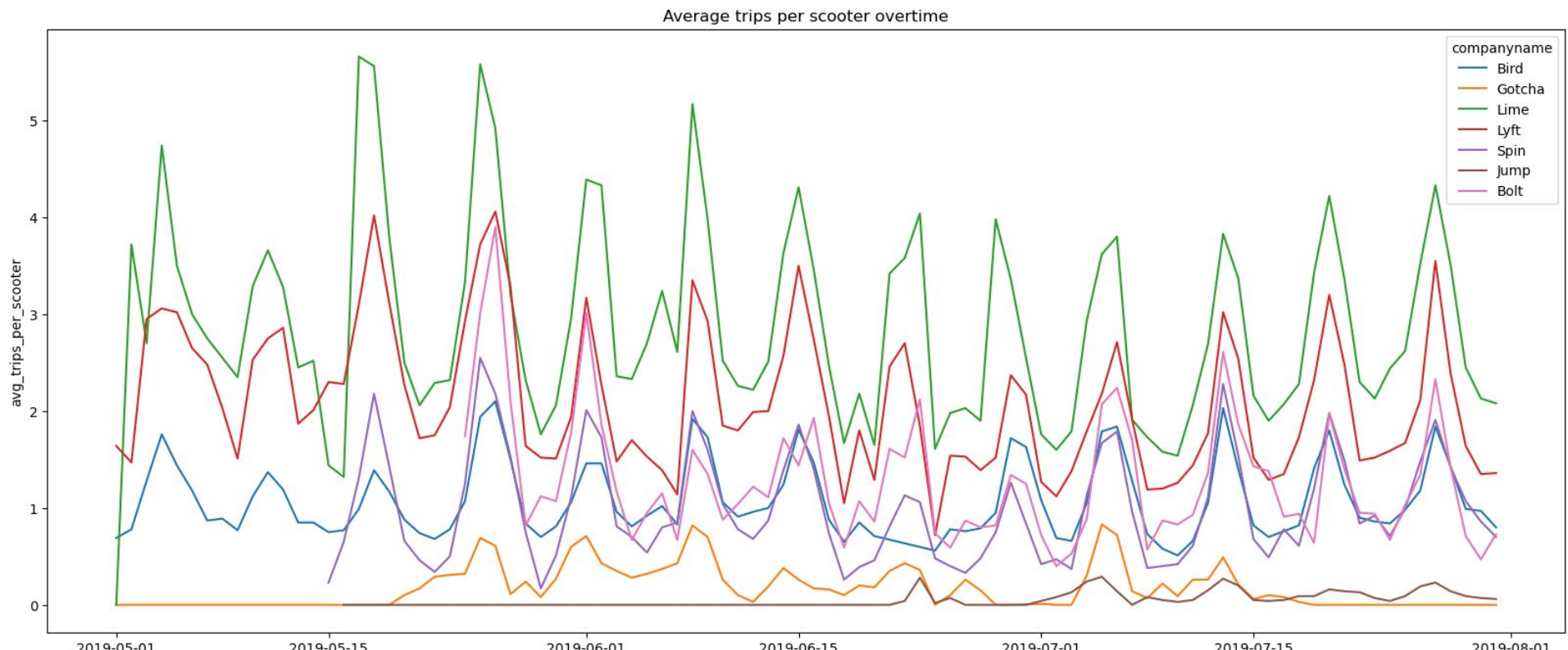
The only company that overall got close to the goal of 3 rides per scooter is Lime.

Not that far behind is Lyft.

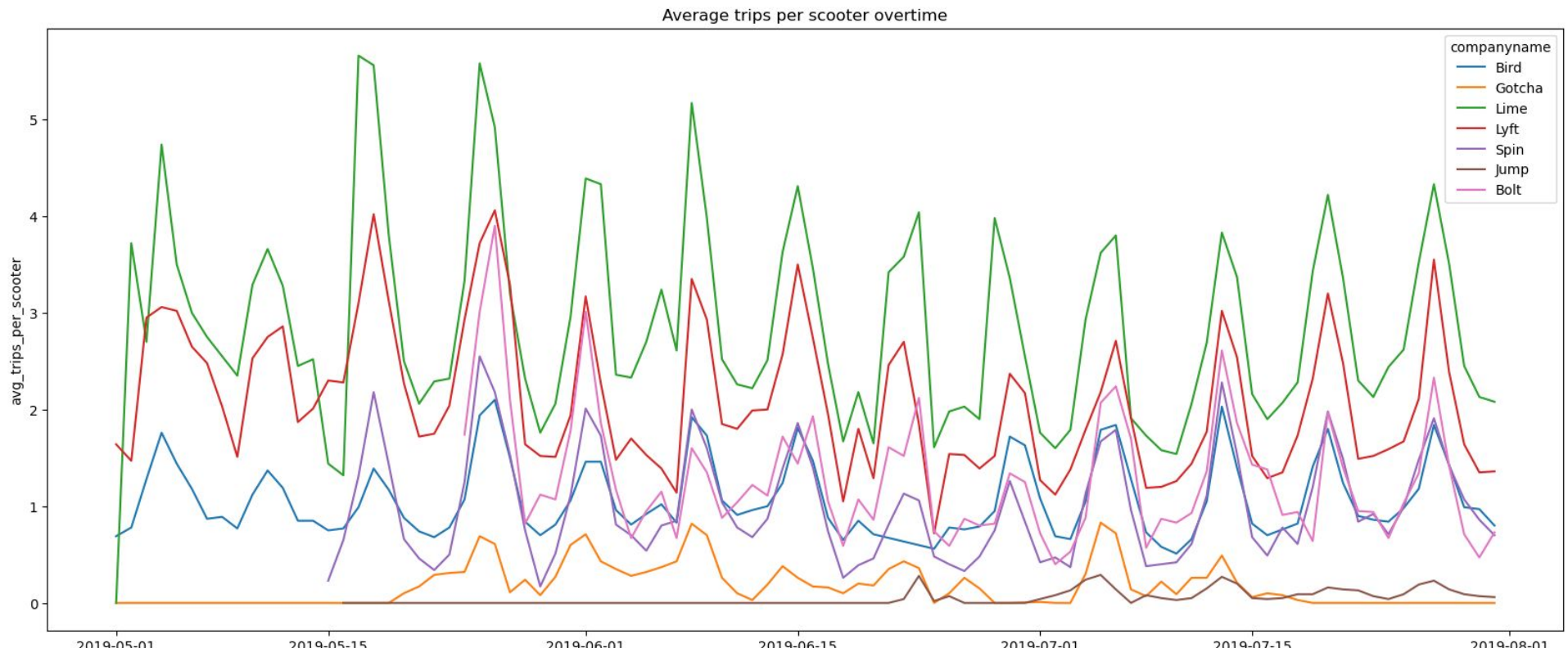The rest have an average of close to 1 ride per scooter per day.

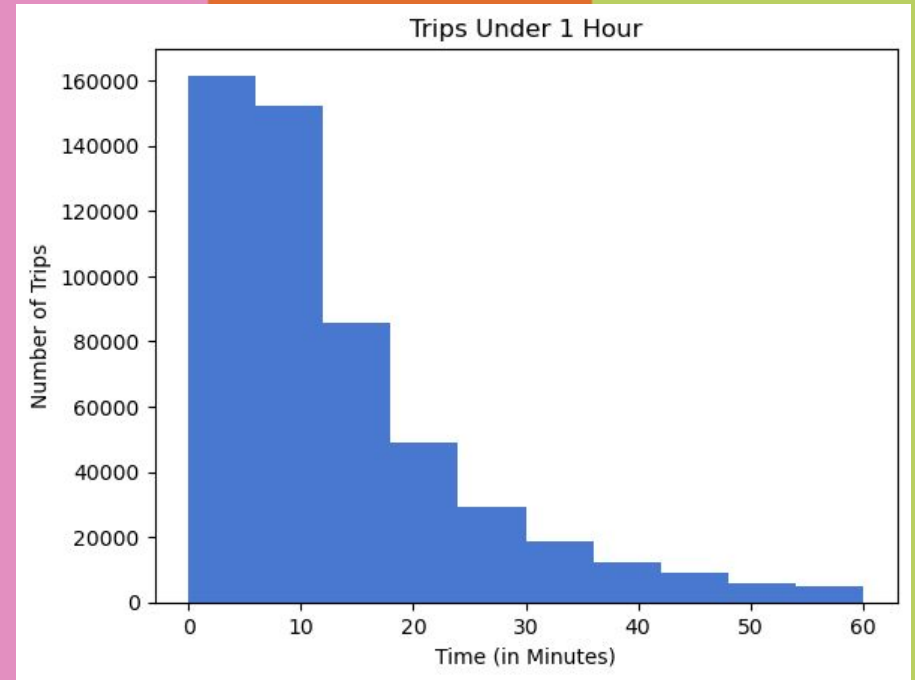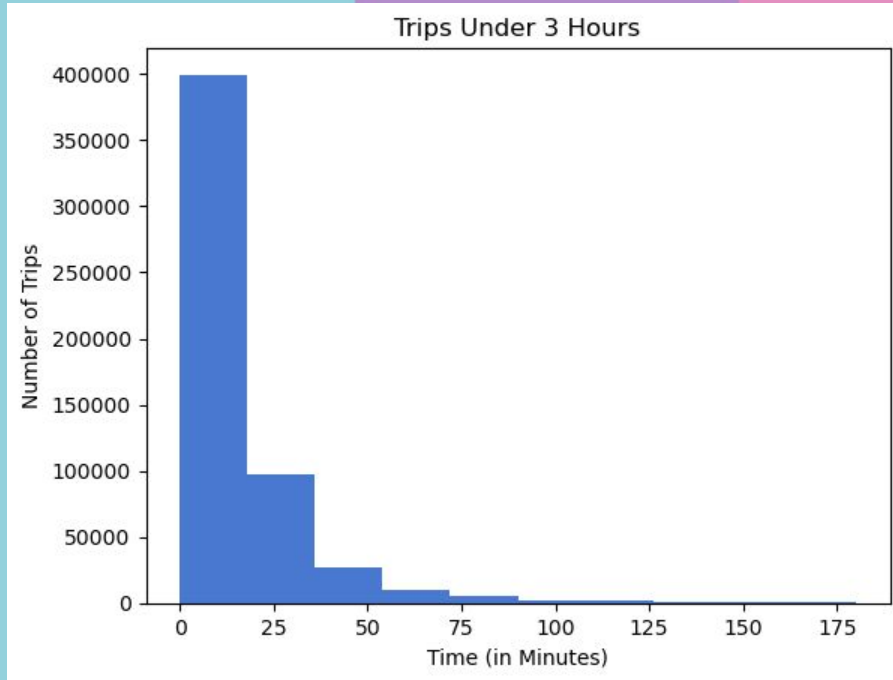Average ride count per scooter per company

4. SUMDs can provide alternative transportation and provide "last mile" access to public transit. How often are trips starting near public transit hubs?

Coming soon….

Scooters used most heavily on weekends and holidays

Average trips per scooter overtime
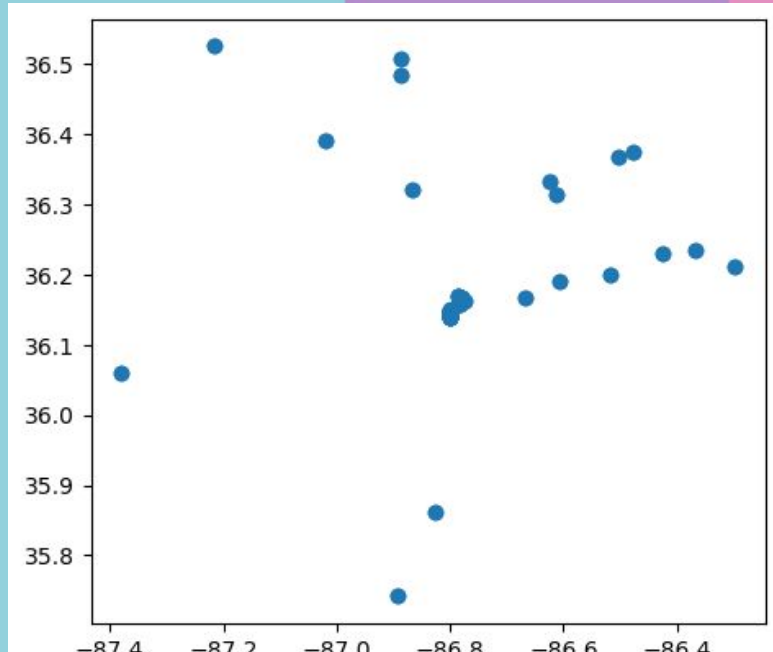
Trips Under 3 Hours vs. Trips Under 1 Hour

* Does it appear that scooters are used as "last mile" transportation from public transit hubs to work or school?

With our analysis so far, it appears that very few trips are starting within a mile of the bus stops. However, these plots may not be accurate, or within the same scale. More analysis and troubleshooting is required to provide a definitive answer.
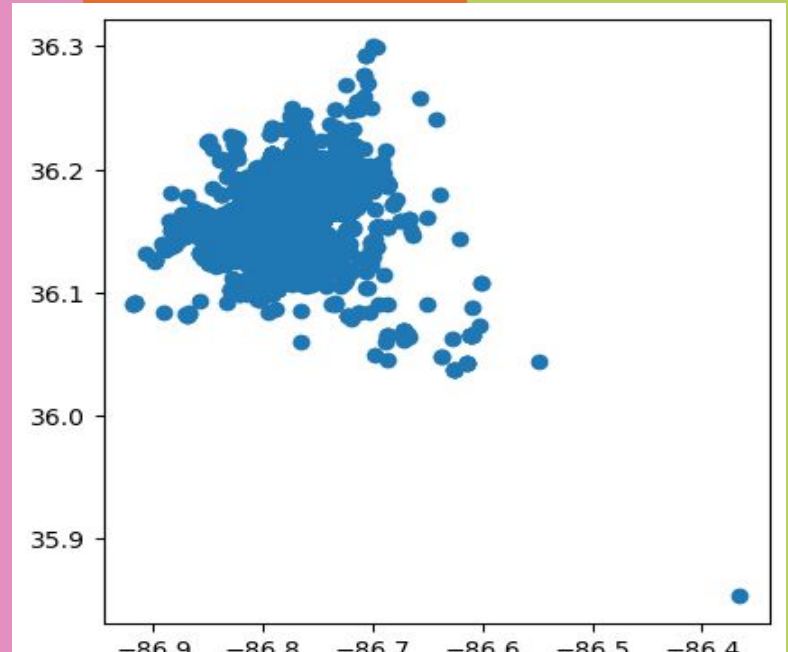
Some plots to show this logic so far are provided below:

Here are plots for both starting location, and bus stops, plotted within the same CRS individually using .plot

Bus stops

Start locations

Here are the two locations plotted within the same CRS

Note that the markers are not to scale.

On the next slide are the same two plots, but plotted within UTM16N CRS – This allows for distance calculations (and buffers) to be calculated and plotted. However, this means that the axes are represented in # of meters north of the equator, and east or west of the prime meridian.

Note that the markers are not to scale.
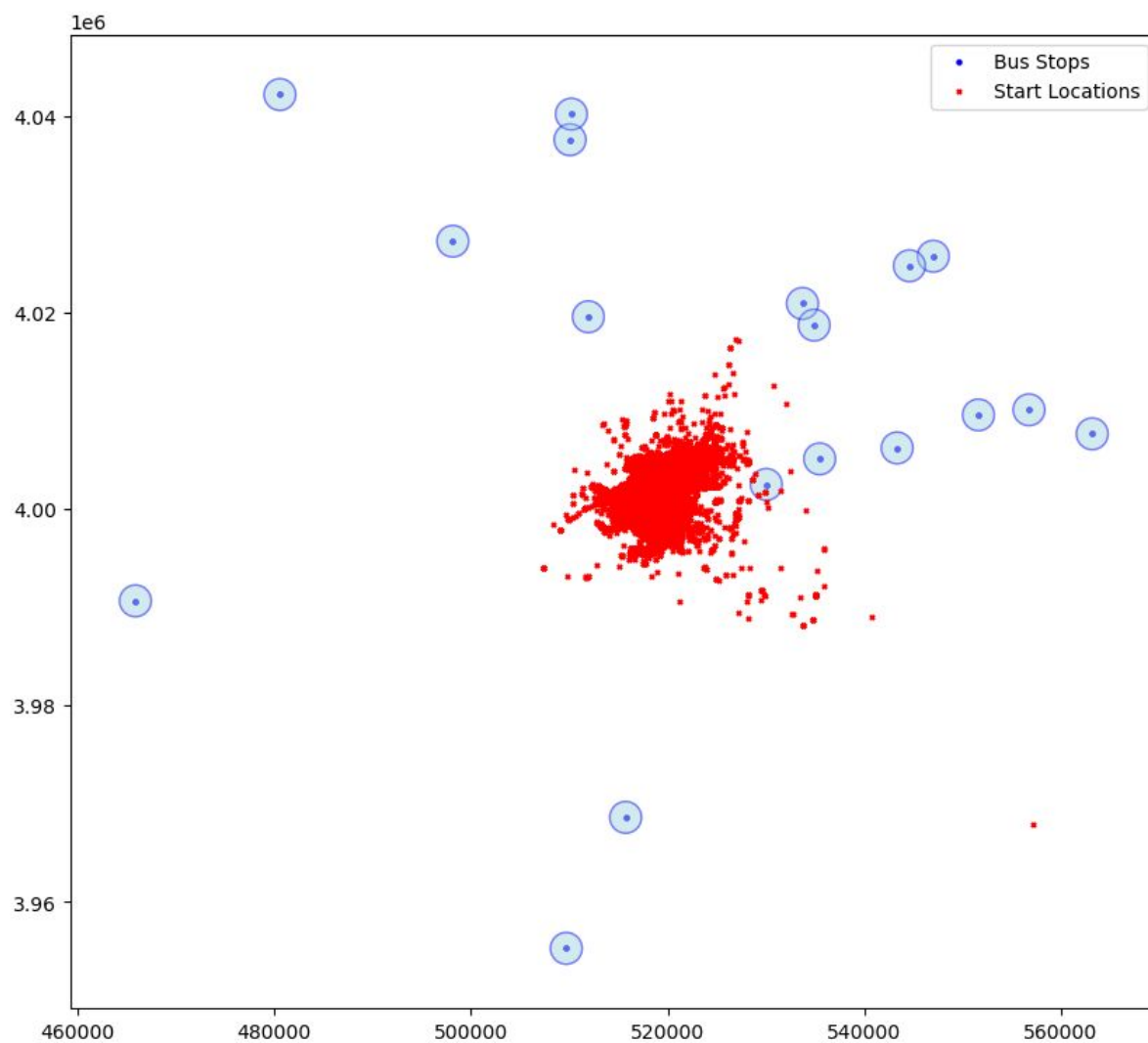
* What are your recommendations for total number of scooters for the city overall and density of scooters by zip code?

Coming soon…