



VeoRide E-Scooter Dataset Analysis

UMD Data Challenge 2021

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Team #65



VeoRide and Quality of Life

World Health Organization Objective

I1. Pain and Discomfort

I6. Mobility

III. Levels of Independence

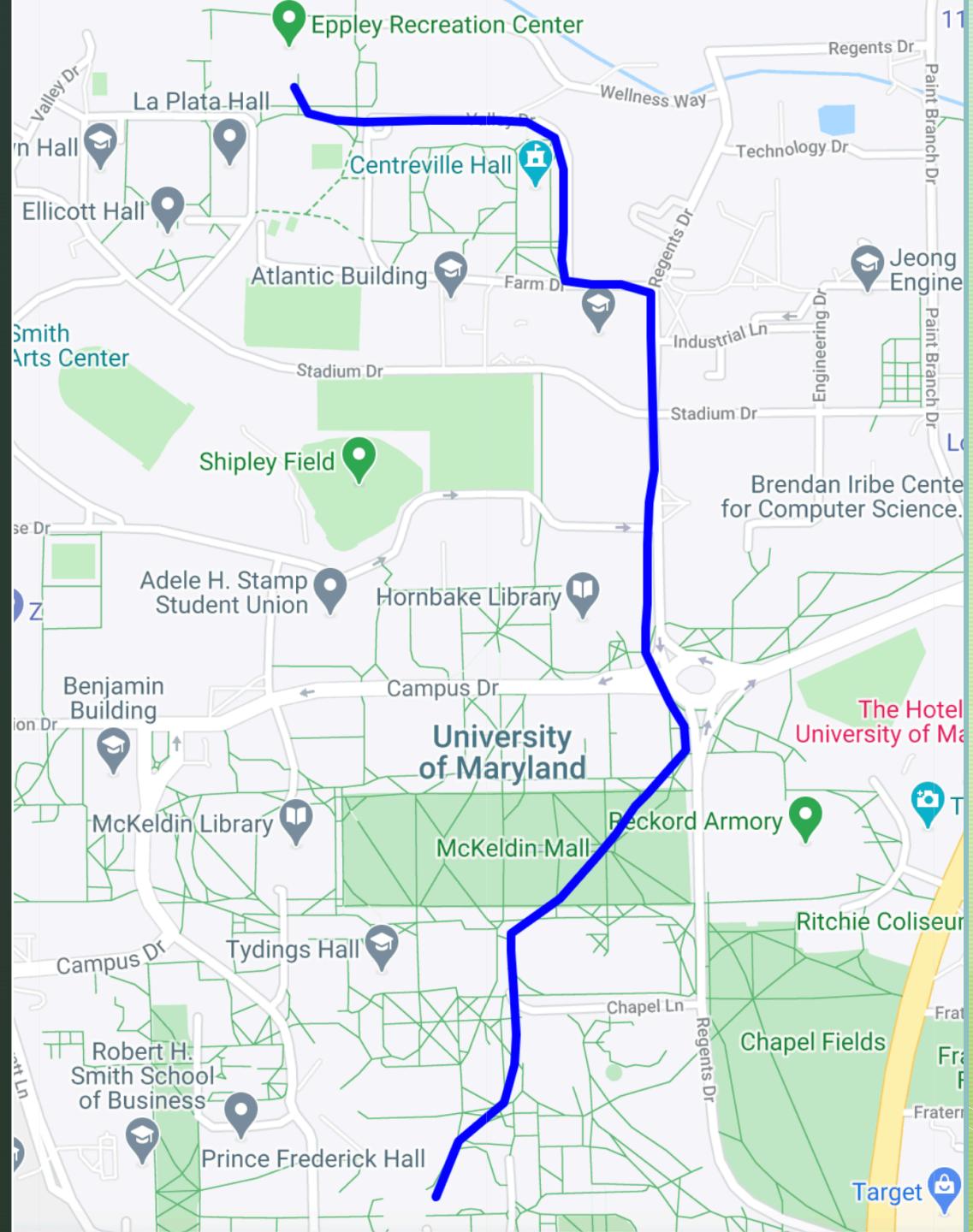
V25. Safety

V32. Transport

*Objectives from The World Health Organization Quality of Life (WHOQOL) Study (2000)

VeoRide Dataset

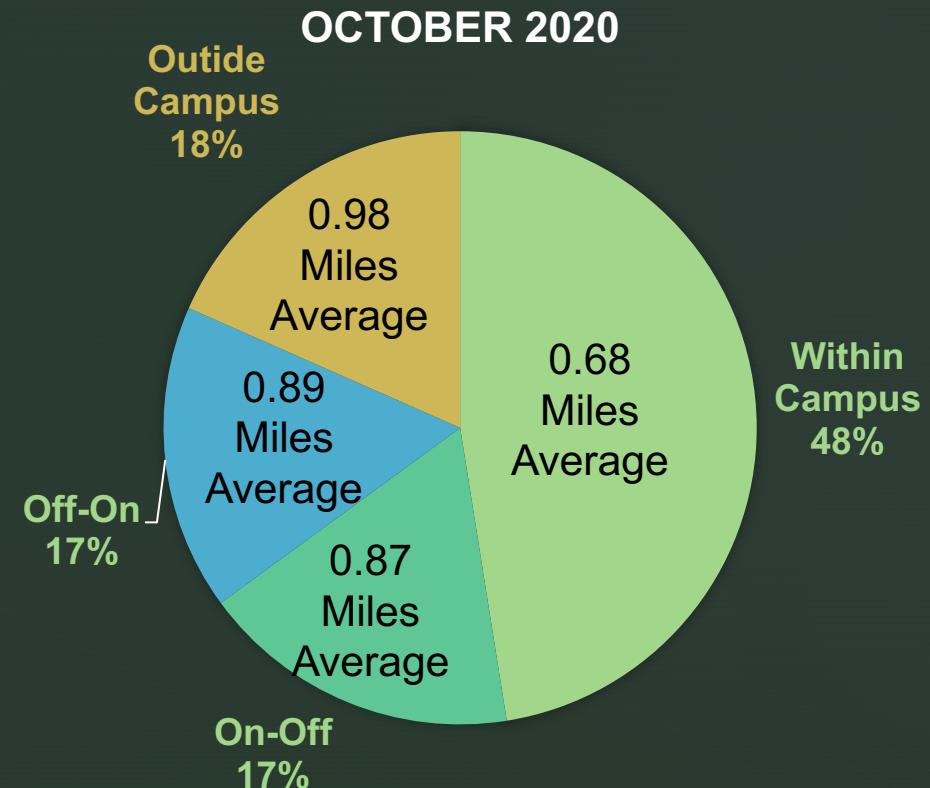
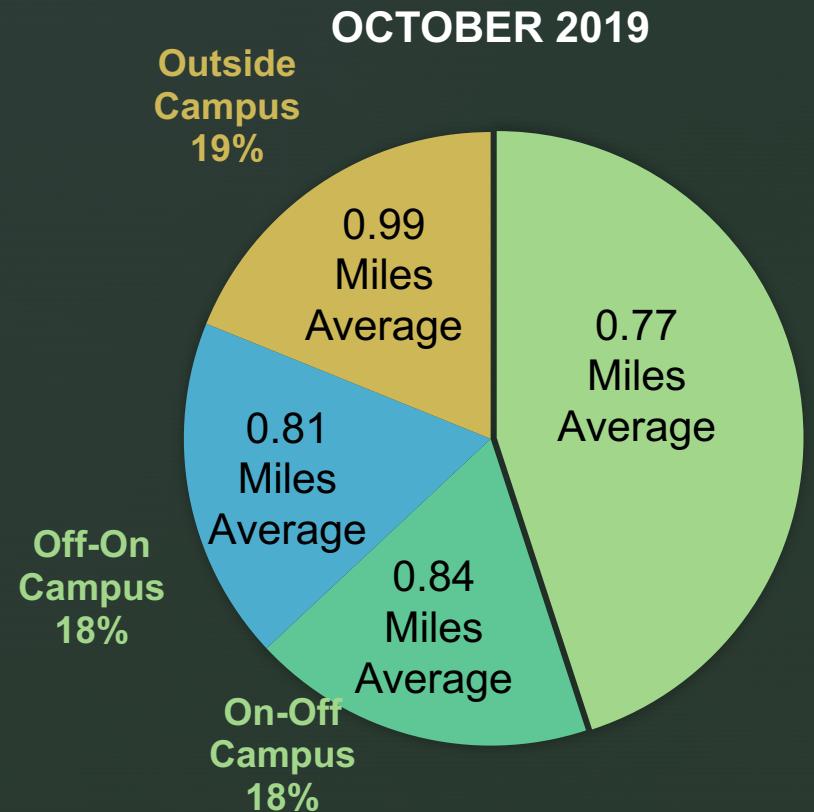
- All VeoRide Rides from October 2019 and October 2020
- Path encoded as a series of (lat, lon) coordinates
- Distance and Time recorded



How big is the dataset?

Value	October 2019	October 2020
Total Scooters	70	150
Total Rides	18,382	21,943
Unique Riders	3,841	3,274

On/Off Campus Rides



* On/Off Campus Split According to Official UMD Administrative Zone (MD Government Website)



Rides Within Campus

Eppley Gym (Top), STAMP Student Union (Bottom)

Top Start/End Locations

October 2019

- Eppley Recreation Center
- Regents Drive Parking Garage
- Domain (Apartment)
- Prince Frederick Hall
- Ritchie Coliseum

October 2020

- Montgomery Hall
- STAMP Student Union
- La Plata Hall
- Denton Area Dining Hall
- Elkton Hall

Additional Notes:

- Start and End Locations tend to be the Same
- No Parking Location at Montgomery Hall
- See [start_locations.html](#)

Codifying Paths

- Lat-Lon Coordinates are not useful on their own
- .shape file from official Maryland Government Website

Raw	(38.99, -76.93) ... (38.99, 76.93)
Ids	(202) ... (68)
Buildings	(Regents Drive Parking Garage) ... (Eppley Recreation Center)

Note: See examples on Paths to Popular Destinations

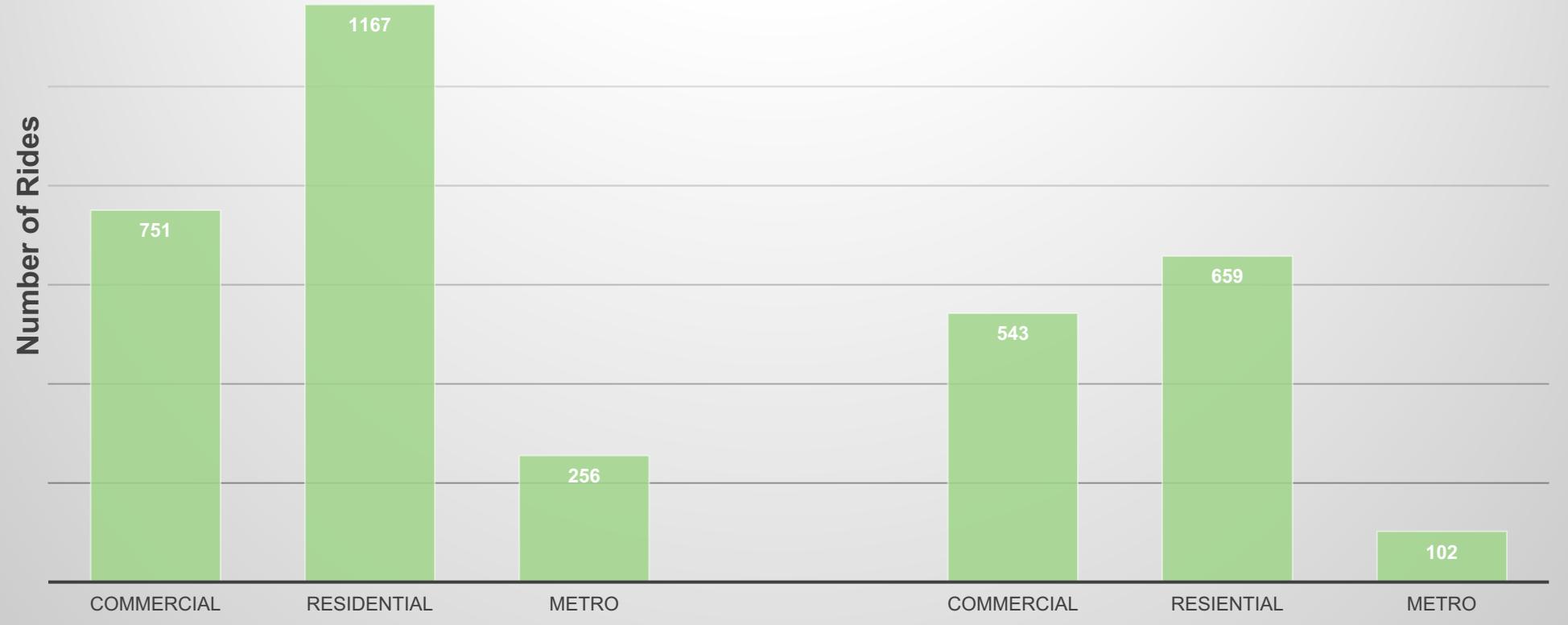




Rides On-Campus to Off-Campus (and visa-versa)

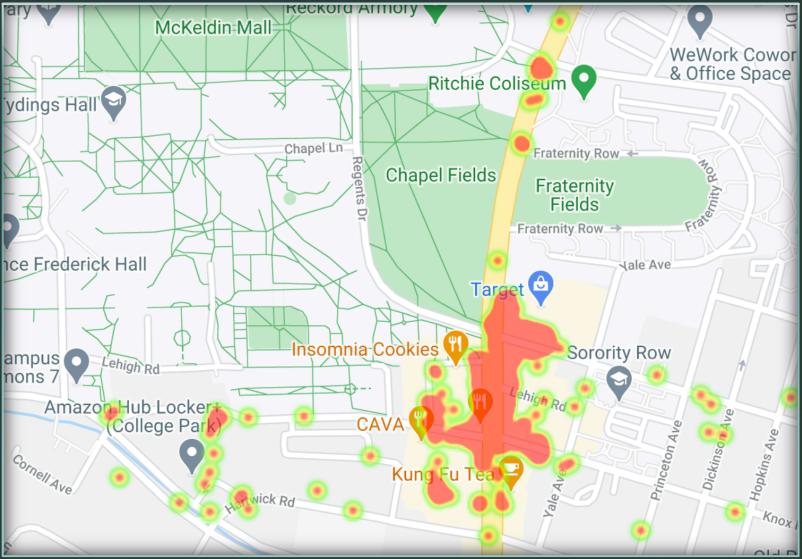
Popular Restaurants on Baltimore Ave. (Top), College Park Metro Station (Bottom)

Category of Ending Destinations

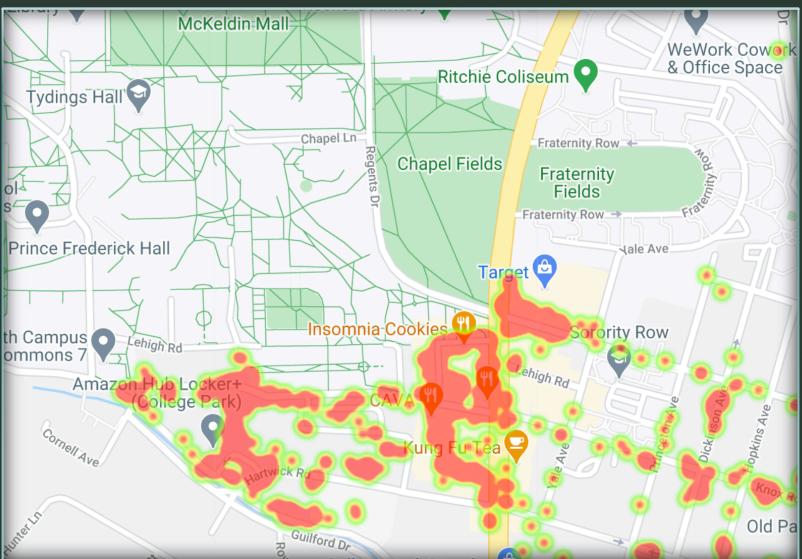


October 2019
(of 3253 total rides)

October 2020
(of 3792 total rides)



October 2019



October 2020

Common End Locations

- Locations popular in both years:
 - Baltimore Avenue (Specifically near Marathon Deli)
 - University View
 - The Domain
- The Amazon Locker was more popular in 2020

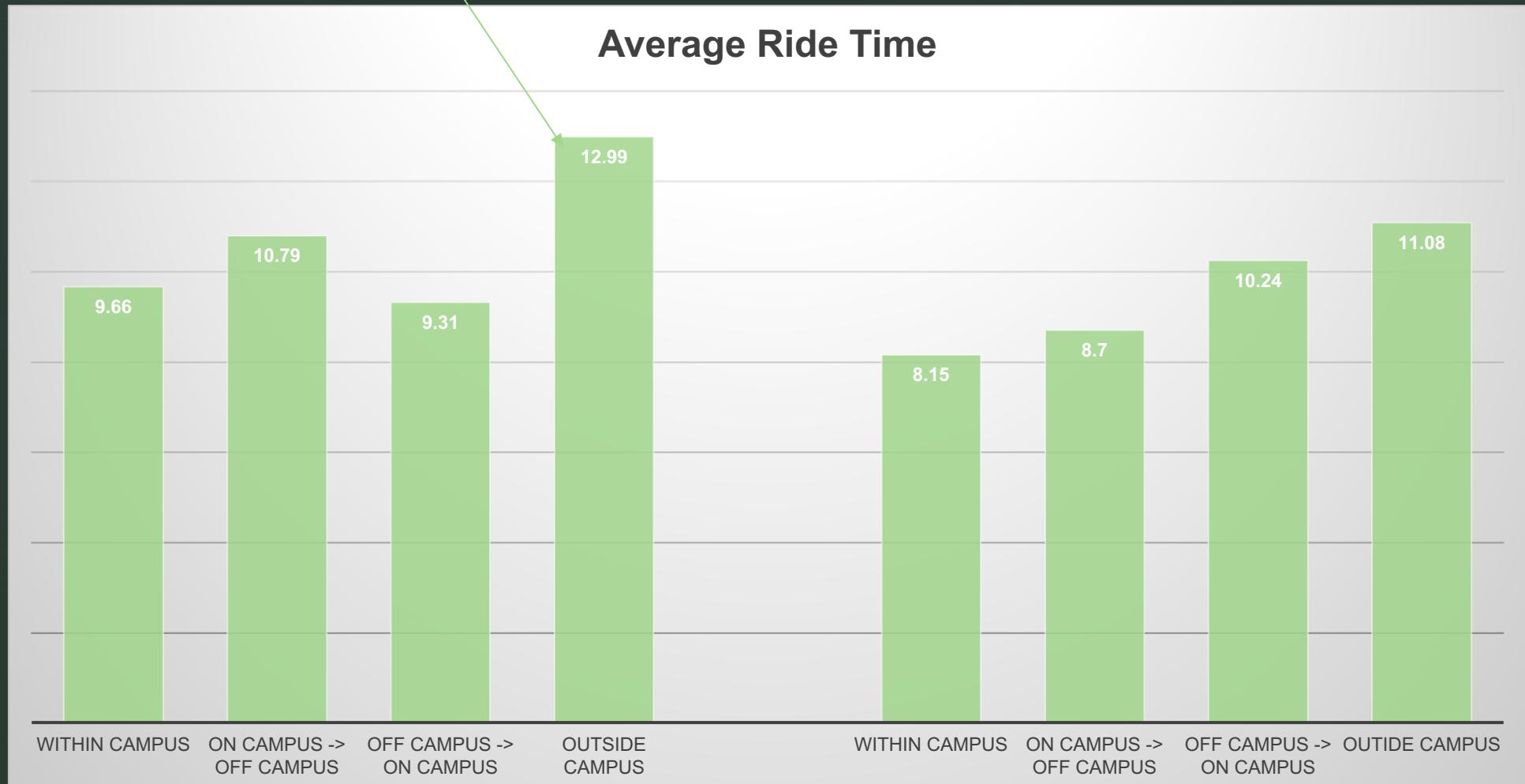


Entrances and Exits Used

See [common_exits.html](#)

Time Analysis

- Many “Outside Campus” rides pass through campus (see `all_off_path.html`)



October 2019

October 2020



Final Considerations

Trends Discovered So Far

- There have been more rides in 2020 than 2019
- More students are taking the E-scooters to the Amazon Locker in 2020 than in 2019
- Trips outside campus are on average 0.2-0.3 miles longer and last 2-4 minutes longer
- Students have traveled far more often to STAMP in 2020, perhaps because that is the main Covid-19 testing center and one of the only buildings open

Suggestions to the DOTS

- More Recommended Parking Locations Neat STAMP and The Mall to reflect changes in student traffic
- Invest in better streetlights and security in frequently traveled off-campus areas
- Introduce bike/scooter lanes to frequently traveled areas (ex. Amazon Locker)



Questions?