

# Team IC 22019

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# What is problem/happening

- UMD Department of Transportation Services (DOTS) has a situation where increase in usage of the e-scooters might be a concern for campus sidewalks in the future.
- They have data and know these infractions are happening but couldn't assemble the data in useful format that provide useful information to enforce certain rules to improve the campus sidewalks student security.
- With the data provided by the DOTs, we decided to dive deep and provide practical solutions with our findings.

# What question we ask

- When analyzing the data provided to us, we asked:
- What's the strategic importance of identifying and targeting only the sidewalks with the most frequent infractions?
- Are there any data on pedestrian traffic and when this pedestrian traffic occurs?
- In what ways we can identify the scooter usage will be high?

# Data Set

**Dataset A:** Data set from the month of September and November of Veo e-scooters operating on campus and parking area. The data was anonymized in geojson format.

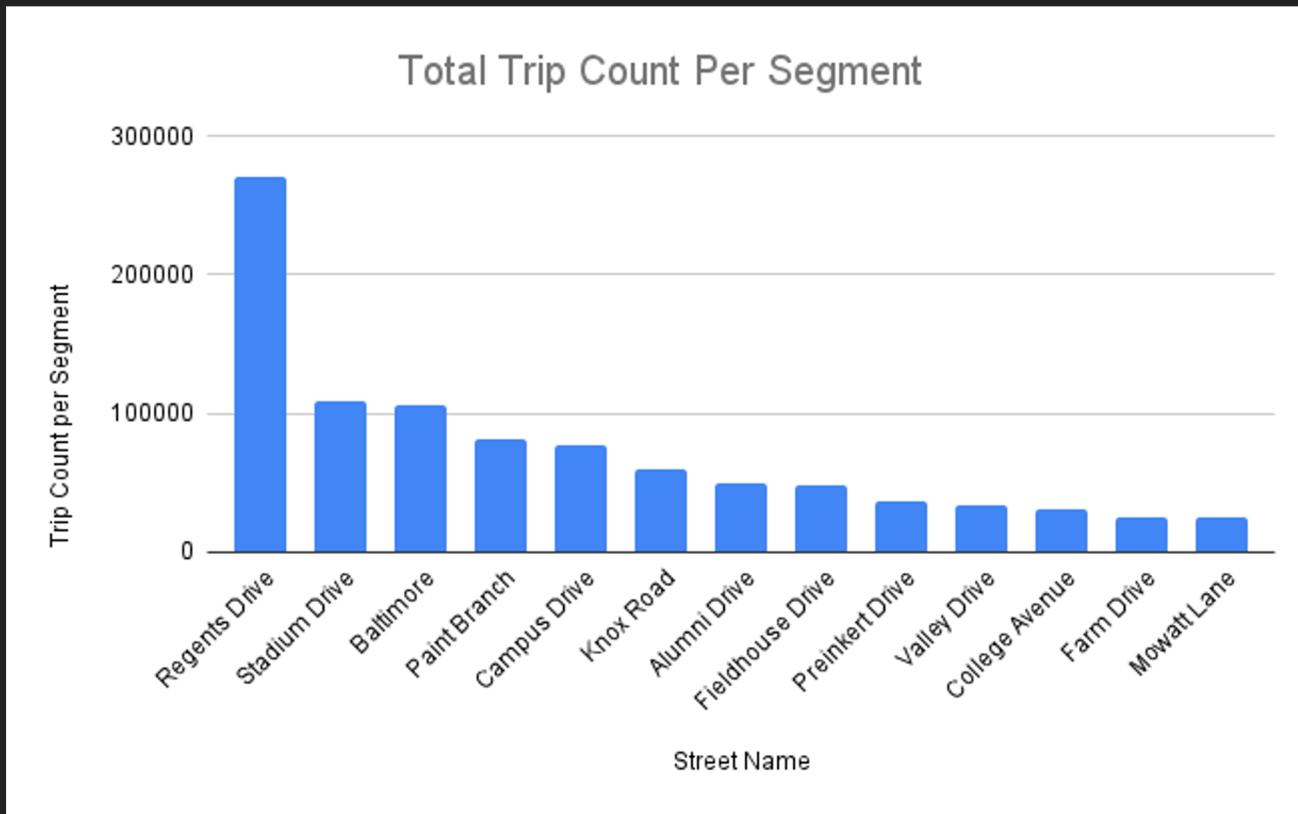
**Dataset B:** GIS map data denoting the location of all sidewalks on UMD College Park campus

# Data Set limitations

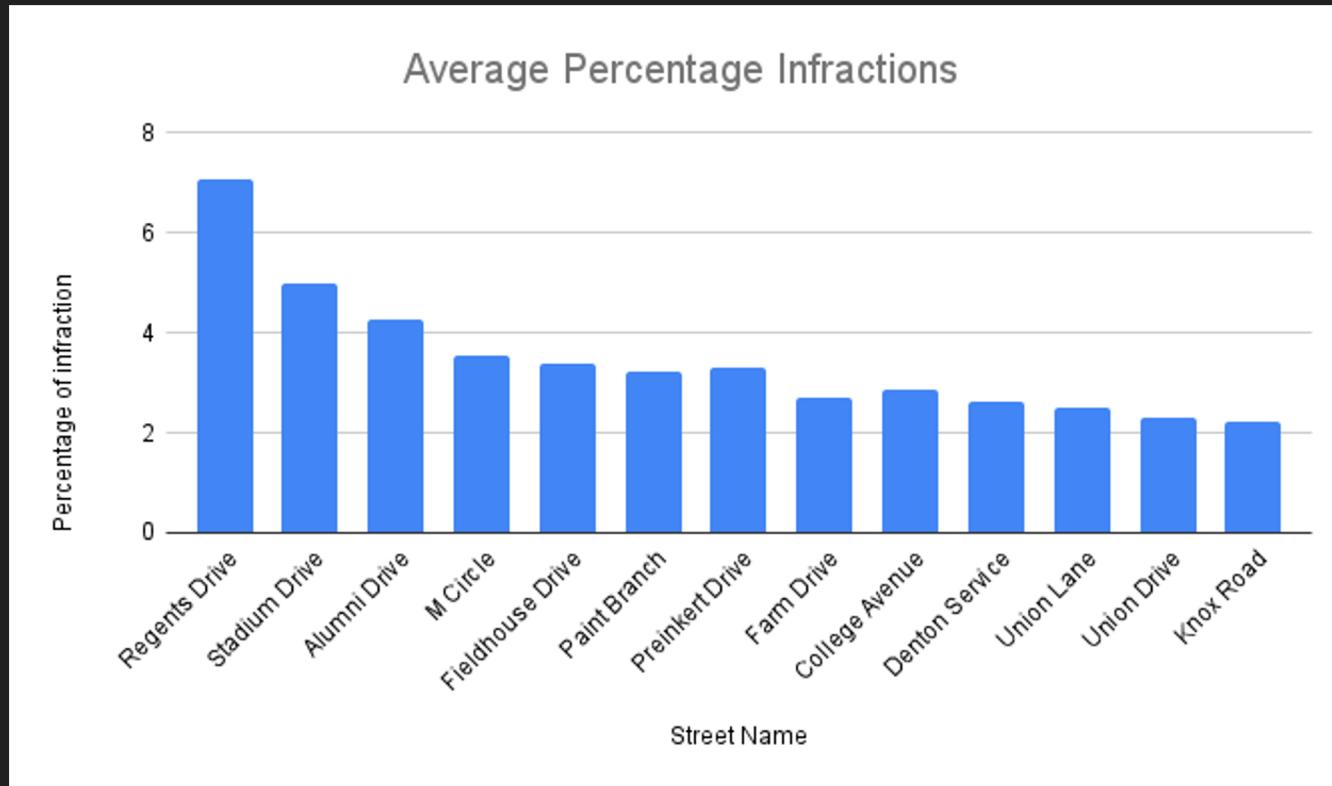
- Small Data Sample
- Showed only the month of September and November
- No metadata like day of the week and time of the daytime
- During the pandemic where online courses were widely available.
- Data set during high peak like homecoming and football season.

With so much limitation on data, this could skew tangible and insightful results.

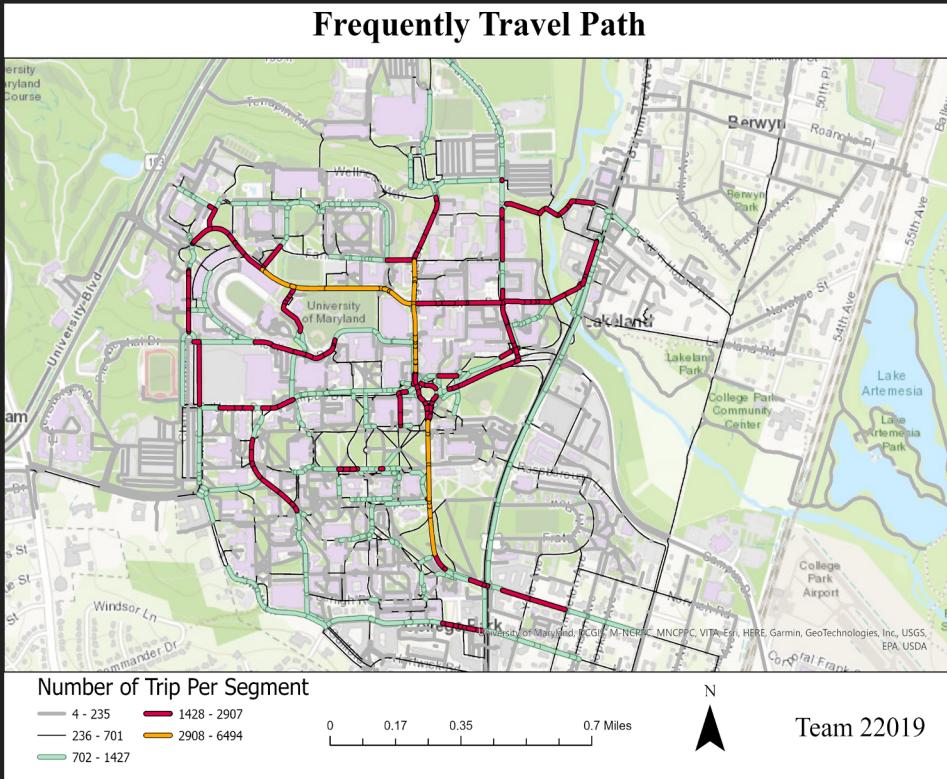
# Aggregated Data - Trip Count Per Segment



# Aggregated Data Average Percent of Infractions



# Finding



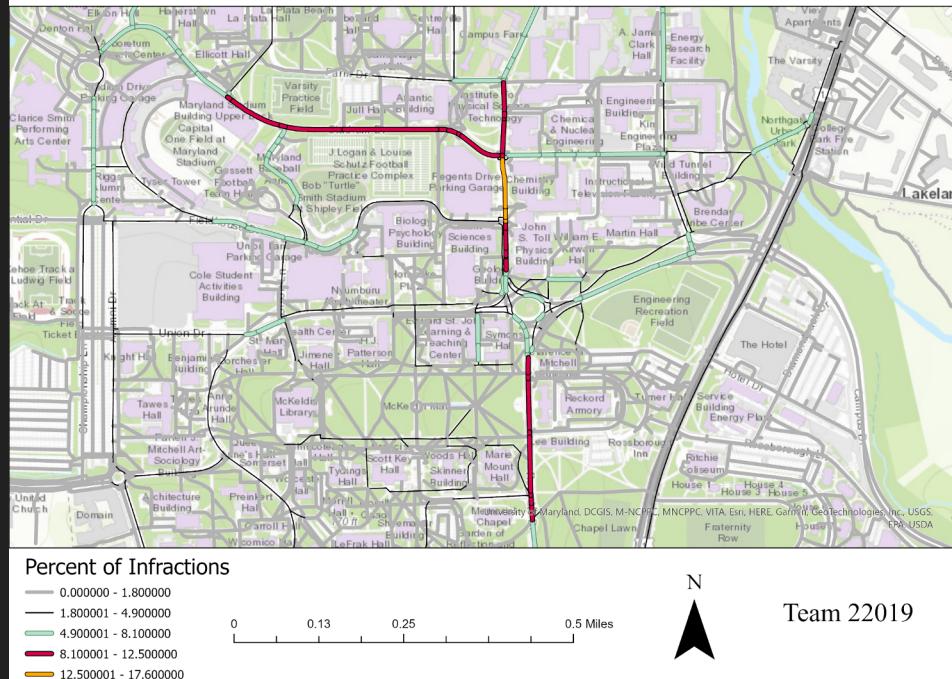
Most Travel Path: Regents Drive, Stadium Drive, Baltimore Avenue

Why:

1. Regents and Stadium Drive host cluster of stem (Biology, Chemistry, Engineering, etc.) buildings and lecture halls (Symons, A. James Clark, Martin, etc.)
2. Stadium Drive is home to the stadium and football practice complex
3. Baltimore Avenue is on US 1 i.e., major road

# Finding

## Veo-Scooter Infractions



Most Infractions: Regents Drive, Stadium Drive, Alumni Drive

Why:

1. Heavy pedestrian traffic
2. Higher chances for collisions with cars near garages

# Our Recommendation

- Dedicated lane for E-scooters
- Focus on target geofencing

# Future Recommendations

**Knowledge is power**

- Data collection on courses offered during a semester.
- Data collection of ticket sale for big events on campus
- Data collection on pedestrian.
- Data collection on commuters.