VEO Riders Sidewalk Usage

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Introduction

- E-Scooters have made student's lives easier by reducing students' loads of walking across campus.
- Traveling across campus is convenient through micro-mobility means.
- Lesser wait times for university shuttles.
- Cheaper mode of transportation for immediate travel.
- Sustainable goals of reducing fossil fuel consumption.

Problem Statement

Riding E-Scooters on the sidewalks is prohibited but students continue to do that. This increases the security concerns of the pedestrians.

Objectives

- To reduce the number of infractions by imposing rules on riding on sidewalks.
- To come up with safety measures for both the pedestrians as well as the riders.
- To find significant patterns in the two datasets.

Data Sources

Veo Riders data by DOTS

ArcGIS Online

Google Street View

Weather by www.weatherspark.com

Assumptions

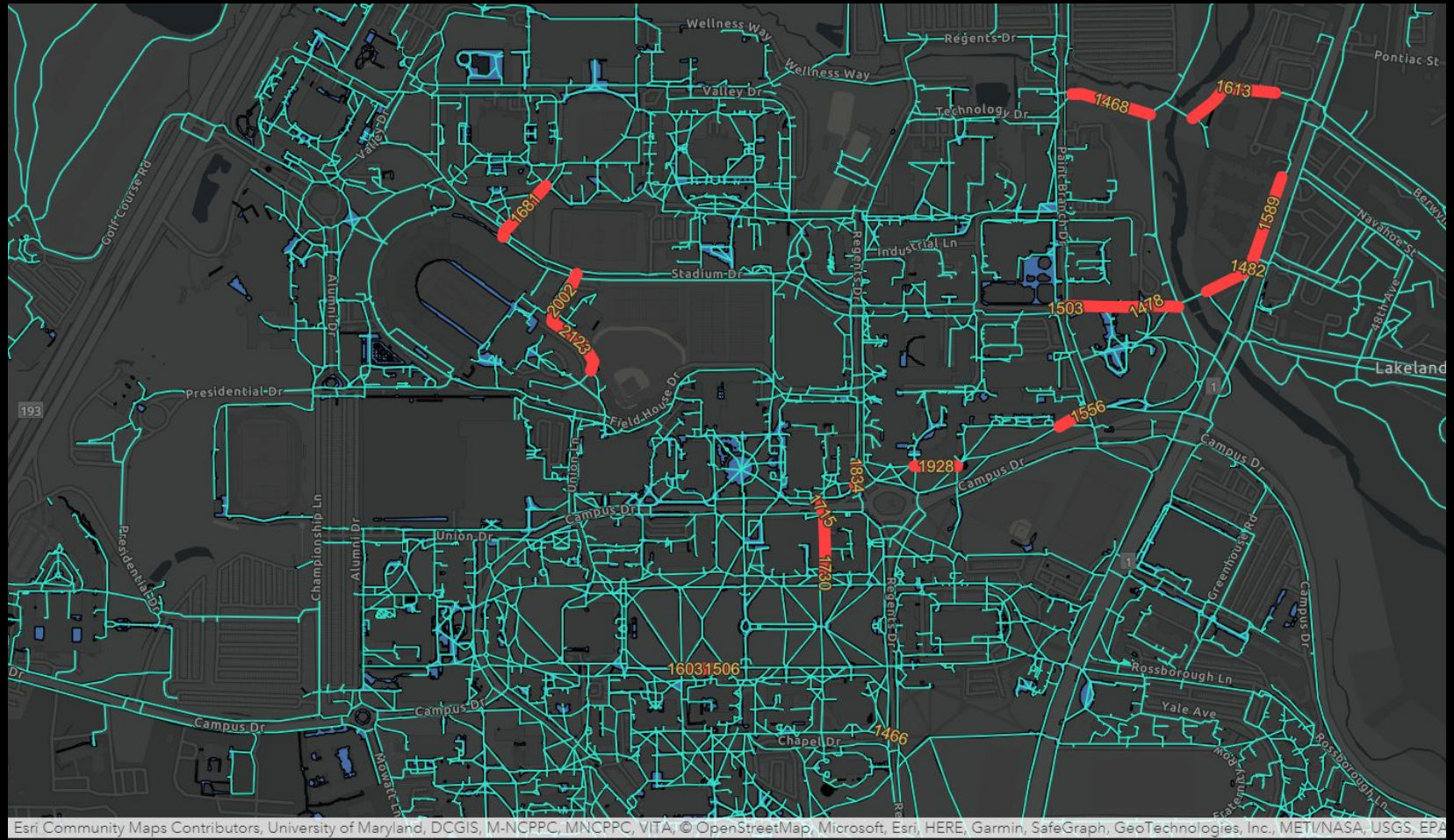
- The Veo E-scooter riders' data provided by DOTS is accurate.
- The map layers generated on ArcGIS are precise to measurements.
- All the e-scooter related regulations are under UMD DOTS' jurisdiction in all the areas mapped as per the DOTS and Veo Riders' Data.

Observations & Insights

September Vs November Comparison

- September (69°F) is warmer than November (48°F) making it easier to ride e-scooters
- November (9.3mph) being one of windiest months of the year makes it difficult to ride e-scooters w.r.t September (7.6mph) which is one of the least windy months of the year
- Due to lesser daylight hours in November (10.0h) than September (12.4h), it makes it difficult for the riders to be on the roads till late
- Fall semester welcomes an influx of new students in September who explore the campus a lot more
- Campus opened after a long wait in September 2021, which also increased the number of people roaming around the campus through various mediums

Top 10 Most infracted Sidewalks - September



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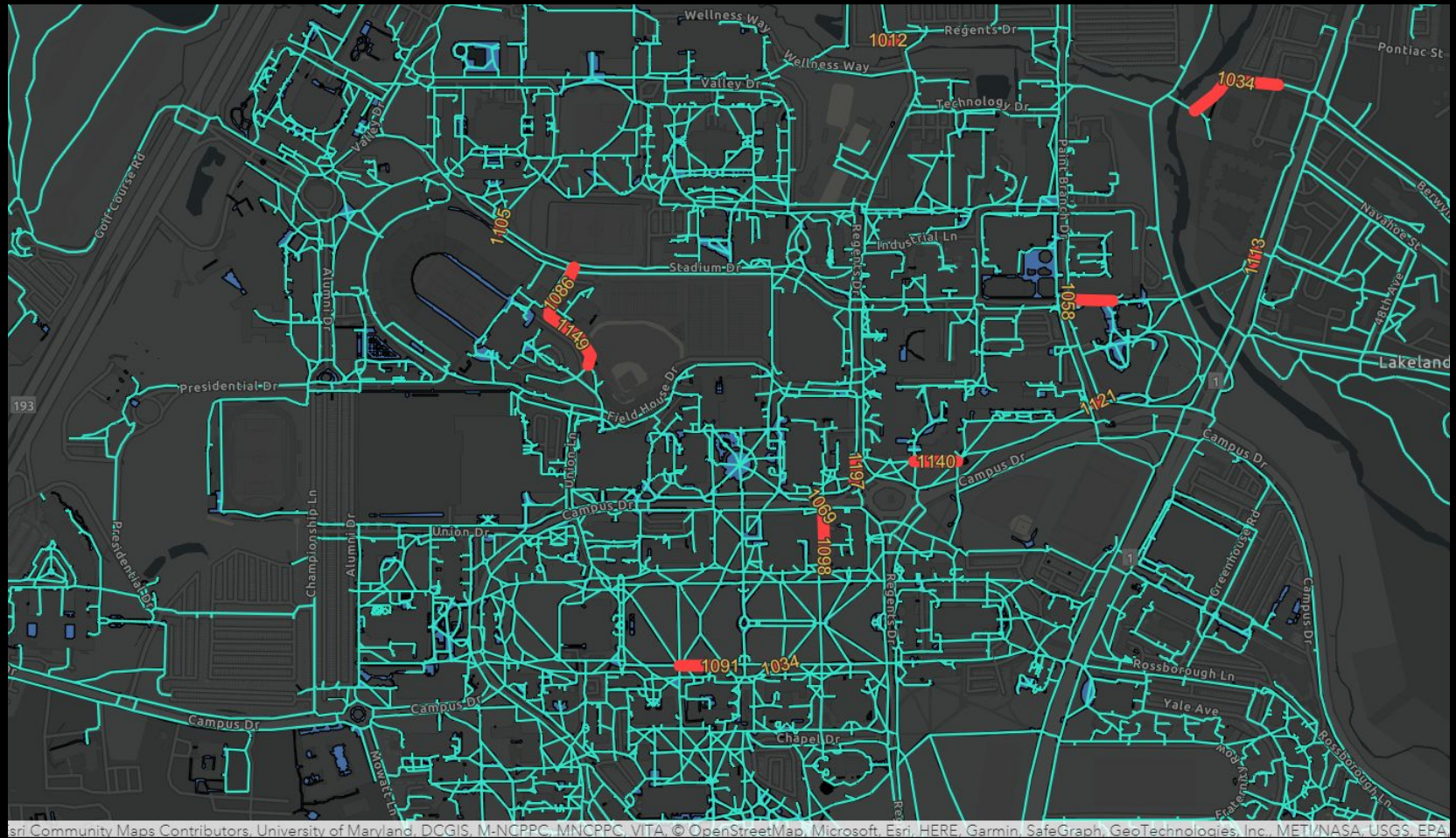
Top 10 Most infracted Sidewalks - November



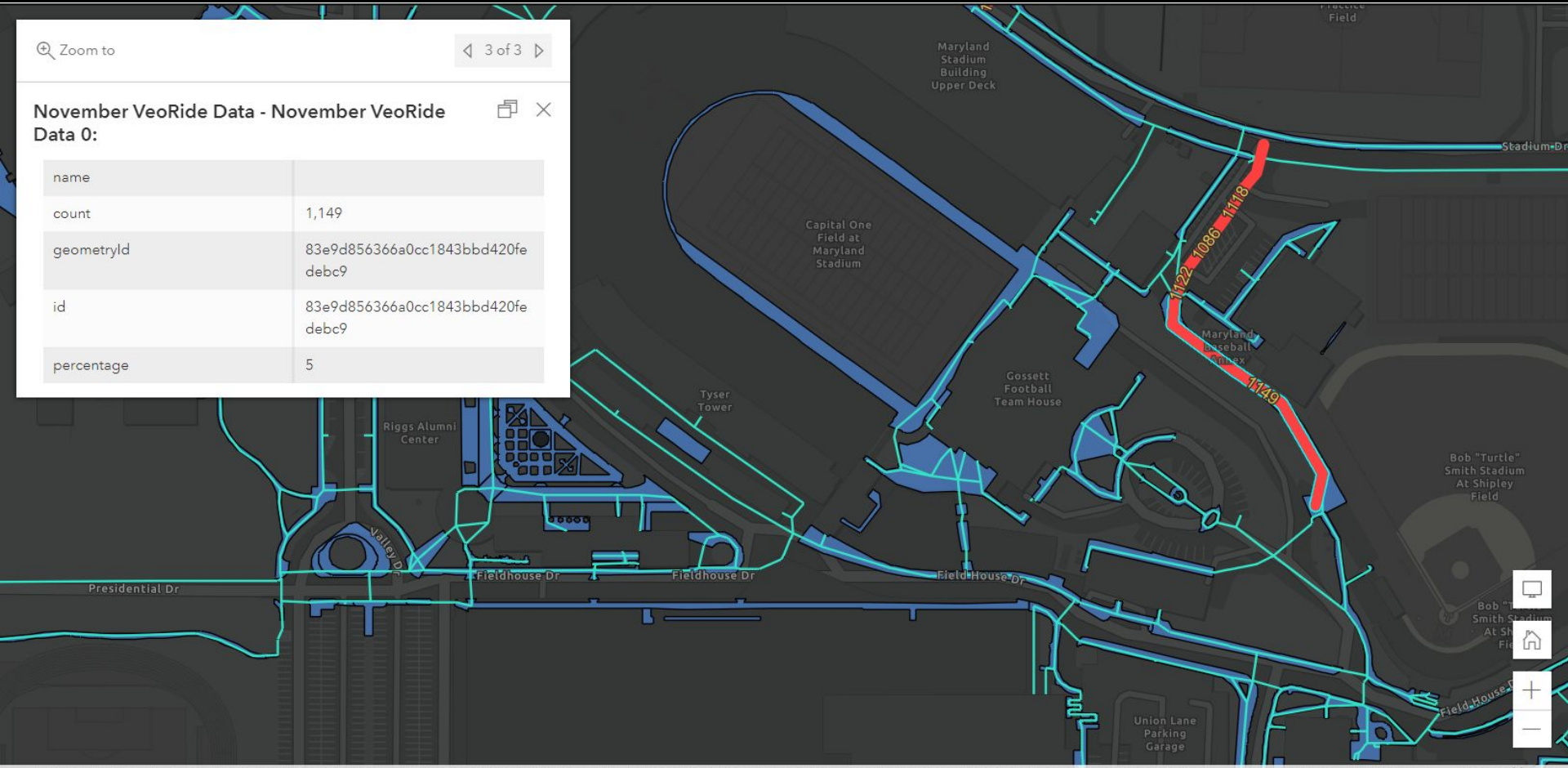
Top 3 Most On-campus infringed sidewalks- September

Id	Name	Count
b68ab65a03666e8406bfc3d1e036e4cf	Stadium Dr	2,123
888fbf08dc20c0263dc5893562e9f9b7	John S. Toll Physics Building	1,928
d60b4149aaf889a051c266116992c2f8	Edward St. John Learning and Teaching Center	1,883

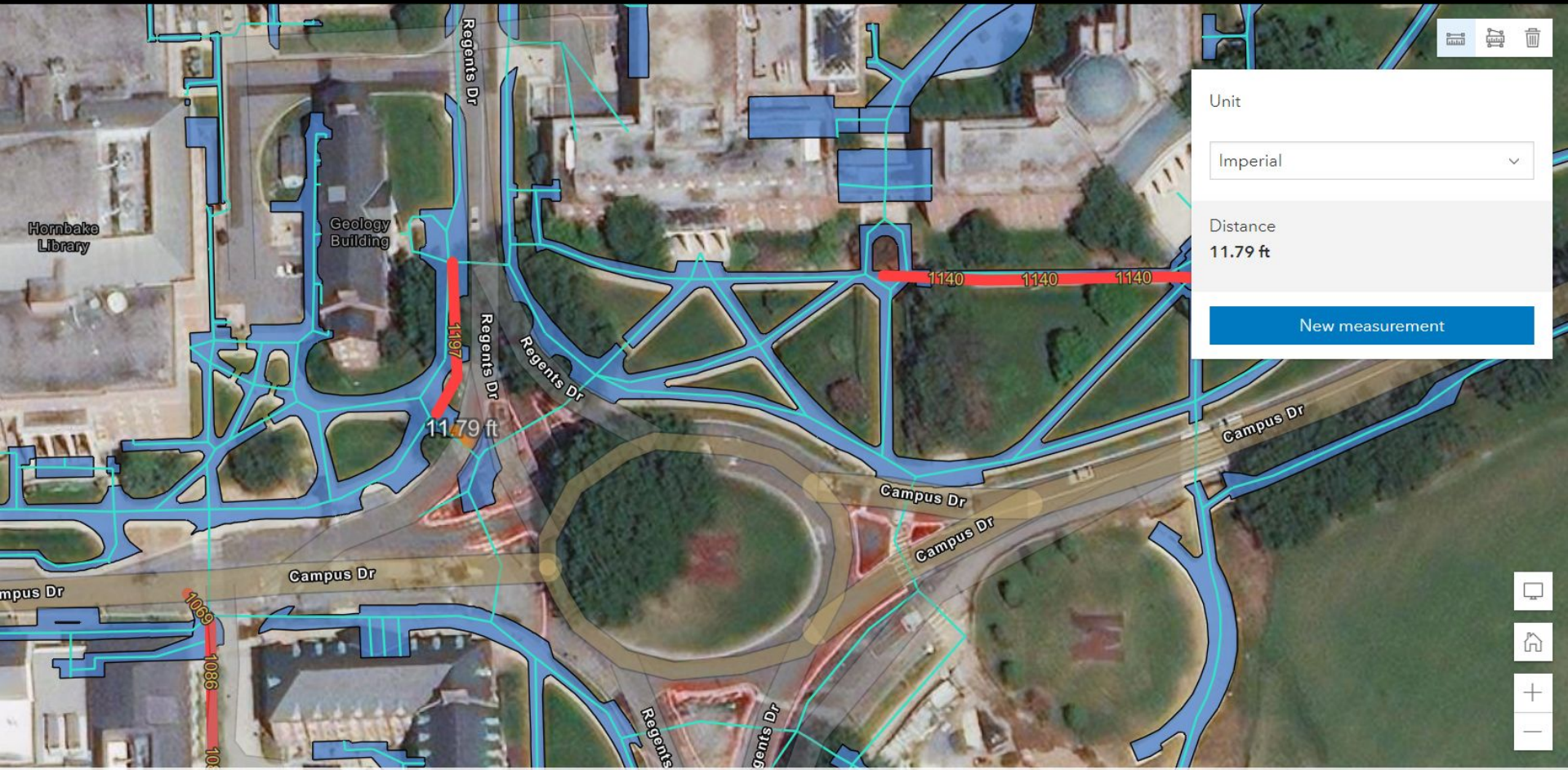
Top 3 Most On-campus infringed sidewalks- November

Id	Name	Count
8813e9264b9cc5559a1a7a6c3f5f383d	Geology Building(Regents Dr)	1,197
3458ad0ec864ce5b20ba519c54929612	Francis Scott Key Hall	1,172
83e9d856366a0cc1843bbd420fedebc9	Stadium Dr	1,149

Presence of Important Landmarks (Eg. Capital One)



Narrow Roads due to Construction Work



Absence of Bike Racks around Bus Stops (Eg. Adele H. Stamp)

Solutions

- No-ride zones' sidewalks should be prohibited to travel through geofencing
- Driving:
  - Bike lanes should be made wherever the road-width is above 12ft.
  - Highly frequented roads should have a lower speed limit so that the e-scooter drivers feel safe while driving on those roads.
  - Sidewalks in the circumferential area around the bike racks should be open for riding for the convenience of parking the e-scooters.
- Fines:
  - Charge fines in the factor of number of sidewalks crossed over in a ride
  - Cannot book another ride unless the latest dues are paid

Open for questions!!!