

VEO Riders Sidewalk Usage

Team 22016:

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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.

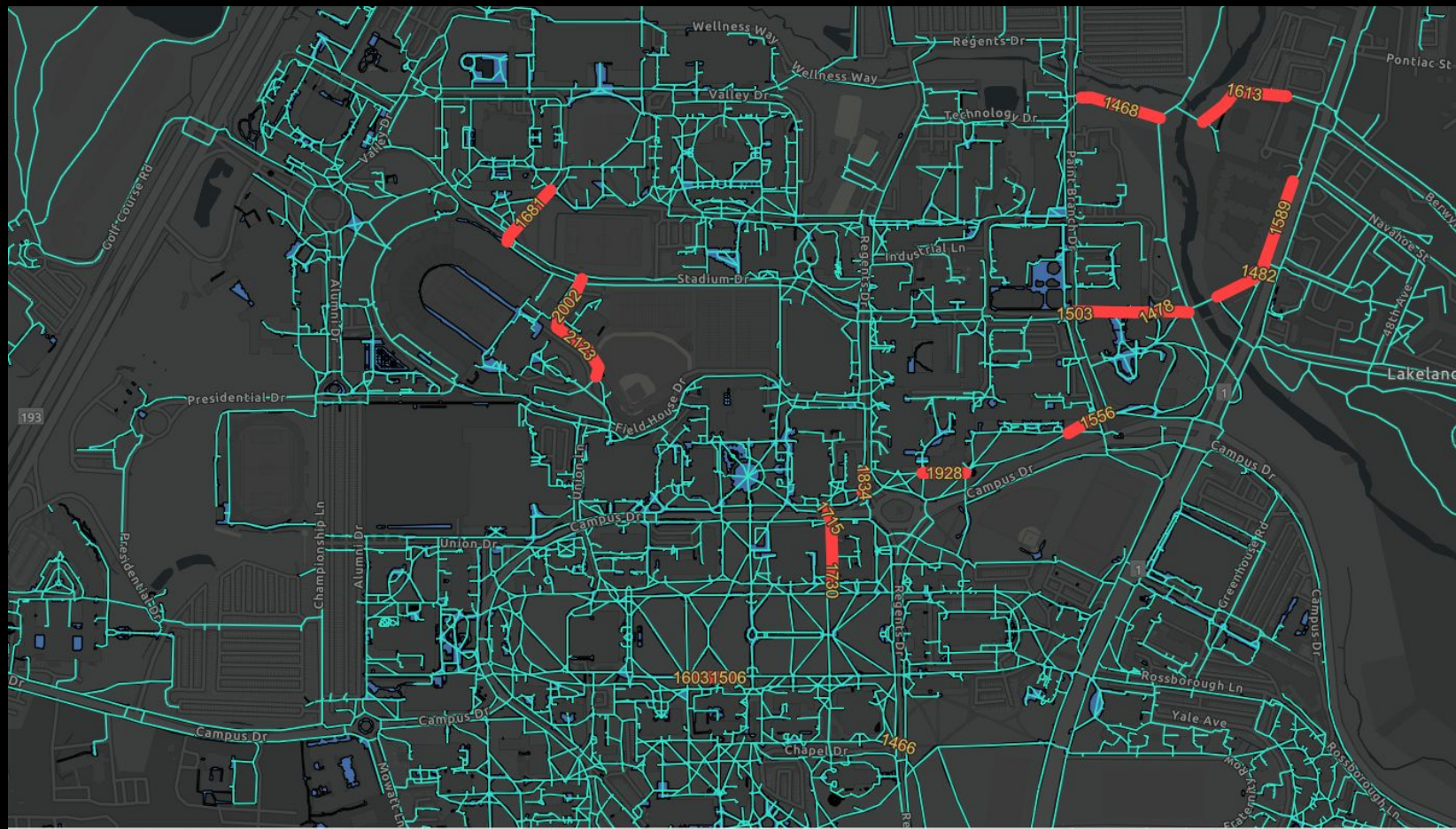
Observations & Insights

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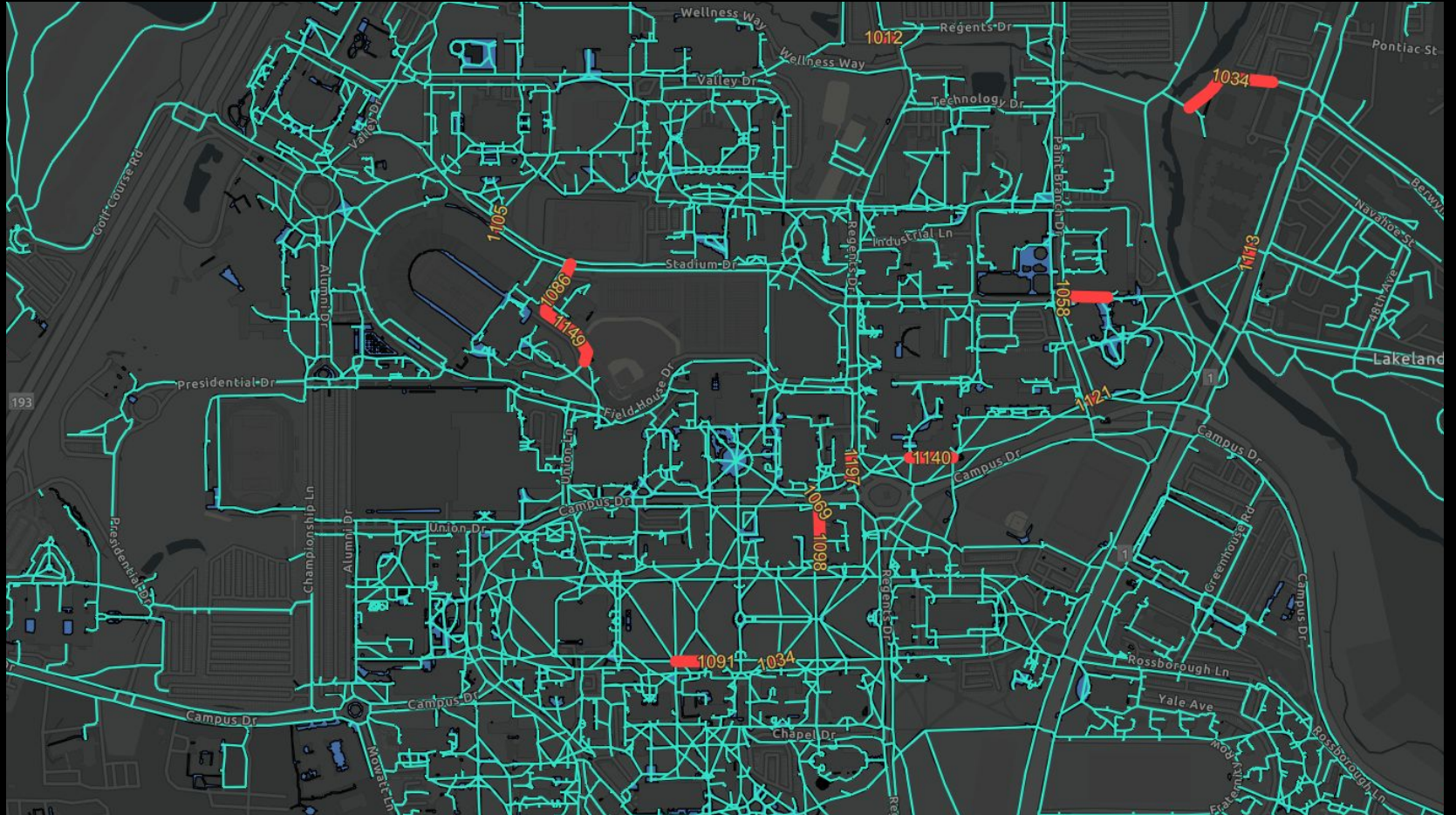
September Vs November Comparison

- 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 infringated Sidewalks - September



Top 10 Most infringated 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

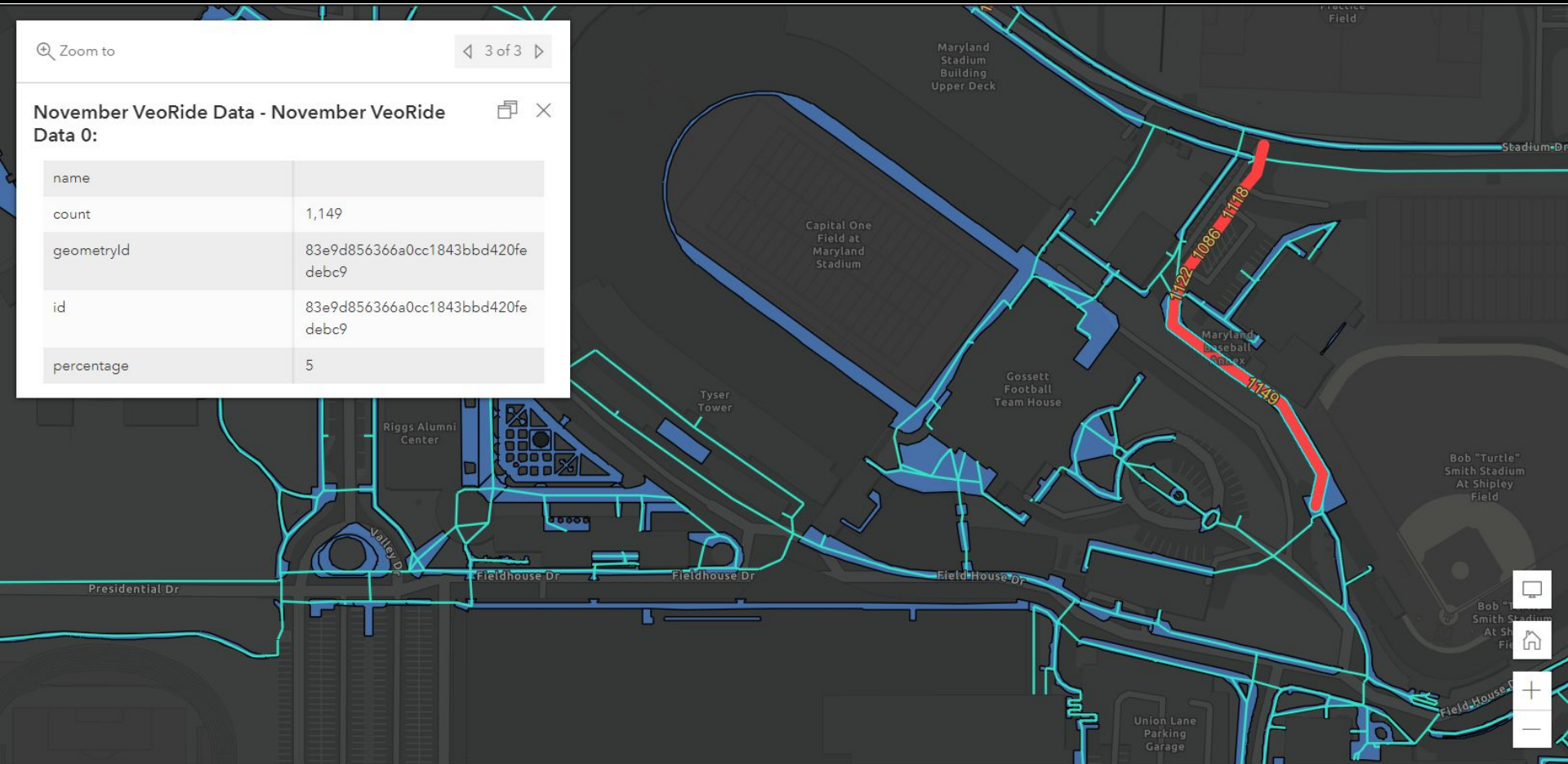
Presence of Important Landmarks (Eg. Capital One Stadium)

Zoom to

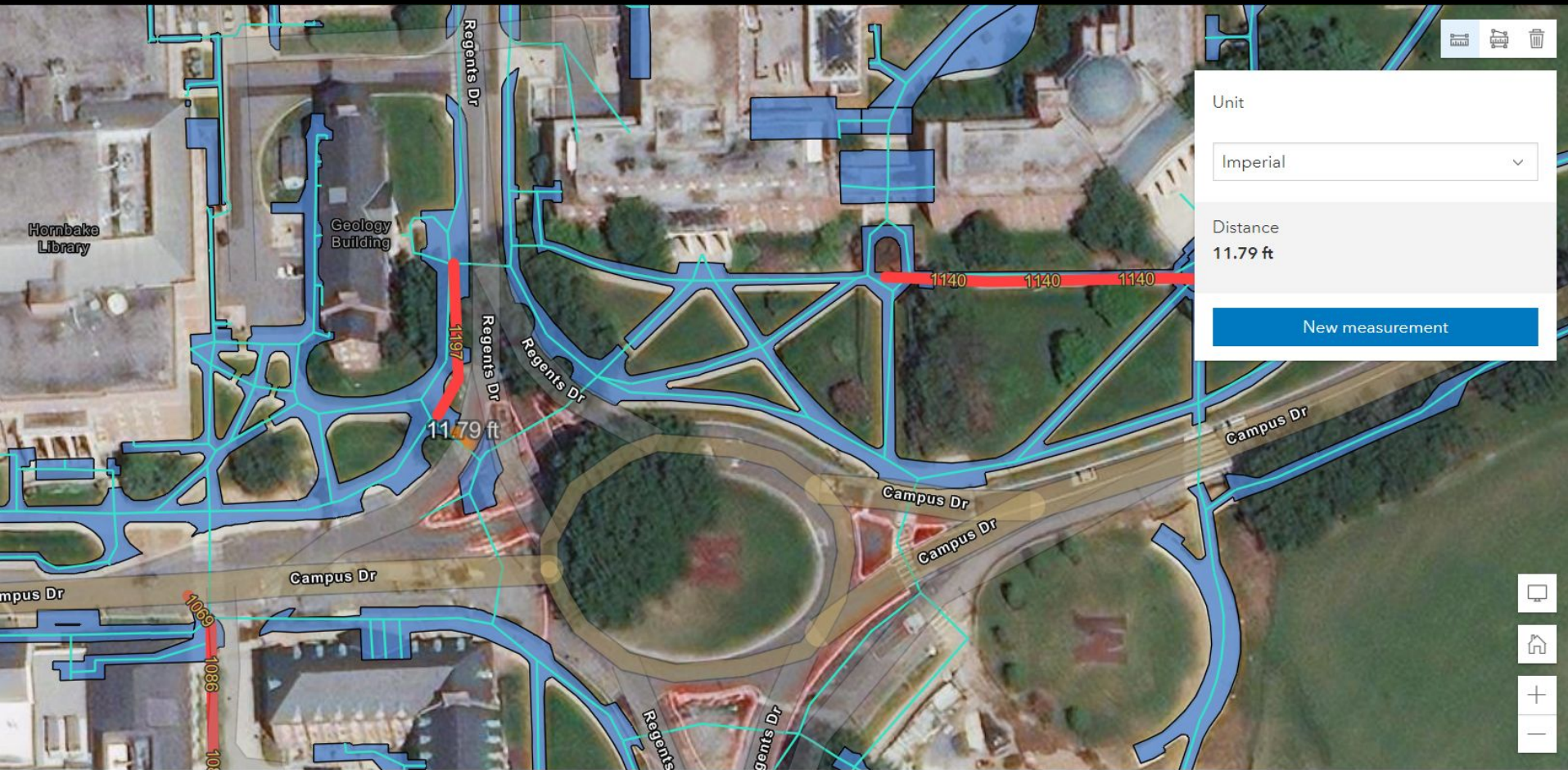
3 of 3

November VeoRide Data - November VeoRide Data 0:

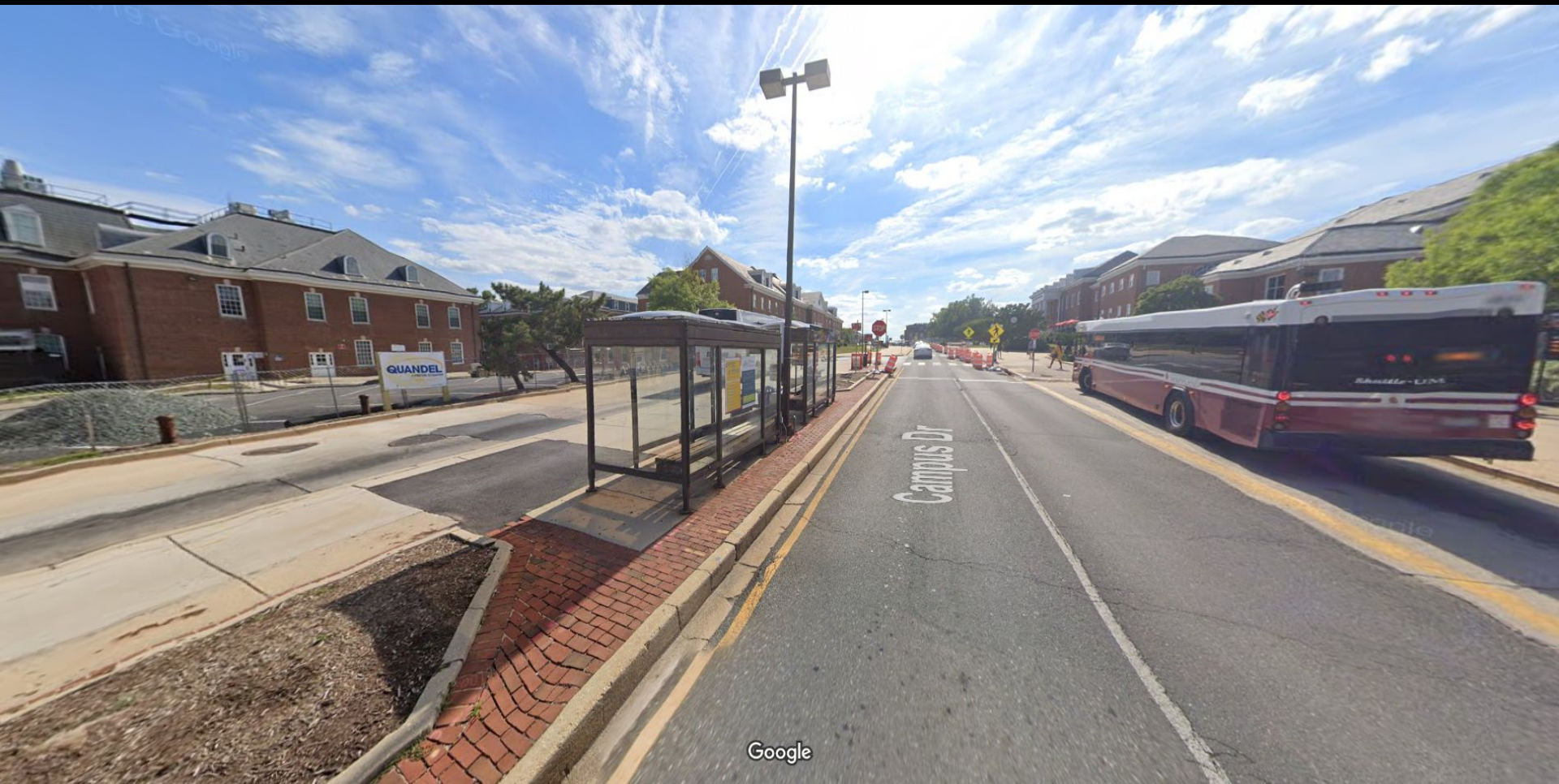
name	
count	1,149
geometryId	83e9d856366a0cc1843bbd420fe debc9
id	83e9d856366a0cc1843bbd420fe debc9
percentage	5



Narrow Roads due to Construction Work



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



Solutions

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- No-ride zones' sidewalks should be prohibited to travel through geofencing
- Riding:
 - Bike lanes should be made wherever the road-width is above 14ft.
 - 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.
- Bike Racks:
 - Increase the number of bike racks around campus buildings and bus stops to avoid parking the e-scooter on streets/sidewalks.
- 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

References

- Google Street View
 - Weather by www.weatherspark.com
 - <https://bikehoward.com/sharrows/#:~:text=The%20minimum%20lane%20width%20for,the%20center%20of%20the%20lane.>
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Open for questions!!!