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Info Challenge 2022
Veo E-Scooter Sidewalk Usage

Abstract

The VeoRide e-scooters became available on UMD campus in Fall 2019, and gained popularity among students since it launched. The affordable service fees and availability in many locations on campus are likely main drivers for the Veoride e-scooter service popularity. However, the UMD Department of Transportation Services raised concerns lately for pedestrian safety risks associated with the use of sidewalks by VeoRide e-scooter riders. This alludes to a growing issue of competition for space intended for pedestrians such as sidewalks given the rise of micro-mobility like VeoRide in recent years. With VeoRide going dockless in 2020, a problem of scooter cluttering also emerged, hindering pedestrian movement in areas highly frequented by them. It also made the process of charging and rebalancing the scooter supply more challenging for DOTS. In this project, we examined the dataset provided by DOTS that contains Veoride scooter trips aggregated per street segment in September and November 2021. Using ArcGIS and Python packages like geopandas, we identified the campus areas with the highest scooter traffic levels in two months. Our findings suggest the sidewalk with the most infractions on campus runs along the "Turtle" Smith Stadium connecting the Stamp and the North Campus. We also found Veo scooter riders tend to use the trip short-cuts likely to minimize the time it takes for them to reach their destination. Our findings may assist the DOTS in improving pedestrian safety with spatial clues for optimizing scooter-hub locations and where regulations for e-scooter usage on campus should be prioritized.