

## UMD DC21 Team 29 Project Abstract

**Hypotheses:** E-scooters are a novel transportation modality whose use cases and trends have not been fully mapped out. Team 29 seeks to uncover some of these trends in the VeoRide campus pilot to inform possible infrastructure improvements and regulatory changes to maximize e-scooter utility and safety. While analyzing the extent to which VeoRide e-scooters supplement the campus transportation network, we hypothesize that (1) the majority of scooter rides occur on campus; (2) e-scooter riders avoid traveling in car or bus traffic, and (3) e-scooters are also utilized for recreation.

**Methods:** Frequency distribution analysis of unique customers shows the community's riding habits. Spatial distribution analysis shows the prevalent locations of starting, ending, and on-route locations. Boundary analysis determines whether rides visited commercial, residential, or the Metro. We compare trip lengths to walking times from Google Maps and bus times from online schedules. Location data analysis using the campus boundary subdivides rides into relevant classes depending on the start/endpoints.

**Preliminary Results:** Initial findings indicate that the fewest rides occurred from 2-6 AM and most rides occur in the afternoon and early evening. Most of the rides were under one mile; the most frequent length was 6 minutes, and the average speed was under 10 mph. Scooting frequently saved 5-10 minutes compared to walking; most rides cost under \$5.

**Anticipated Outcomes:** This research seeks to evaluate to what extent scooters conform to DOTS' vision of campus transportation. Our results suggest scooters may be more challenging to locate off-campus, perhaps due to the relaxed parking rules. We anticipate the results yielding recommendations to DOTS, including possibly where to add bike/scooter lanes; where to add/subtract scooter parking spots; evaluation of adherence to campus e-scooter regulations; and identifying intersections and times for dismount/walk-only rules.