

Scooter Chaos: Addressing SPIN Scooter Misuse and Its Impact on Campus Mobility

Project Objective

This research aims to investigate the issue of improperly parked SPIN electric scooters on campus, which often obstruct sidewalks, crosswalks, and other pedestrian pathways. The study will explore how this affects accessibility, pedestrian safety, and overall campus transportation efficiency. Key research questions include:

1. What factors contribute to SPIN scooters being left outside designated parking zones?
2. How do students and faculty perceive the problem, and what solutions do they propose?
3. What strategies have other universities implemented to manage shared e-scooters, and how effective have they been?

Through observations, surveys, and policy analysis, this research will provide recommendations for improving scooter parking compliance and reducing obstructions on campus.

Project Background and Significance

In recent years, electric scooters have rapidly emerged as a popular mode of transportation on college campuses across the country. Their affordability, convenience, and low environmental impact make them especially attractive to students navigating large campus environments (Dias & Arsenio, 2023). At the University of Central Florida, SPIN scooters offer an accessible micro-mobility option that helps reduce reliance on cars and supports sustainability goals. However, the widespread adoption of shared e-scooters has introduced new challenges, most notably, the issue of improper parking. When scooters are left outside of designated zones, they often obstruct sidewalks, crosswalks, building entrances, and other high-traffic areas. This not only disrupts pedestrian flow but also creates significant safety risks for students, faculty, and staff, particularly those with mobility impairments. In fact, improperly parked scooters can violate provisions of the Americans with Disabilities Act (ADA), potentially resulting in legal and ethical concerns for institutions (Asgari et al., 2023; Fearnley et al., 2022). This is not a problem unique to UCF. Universities and urban centers around the world have struggled with similar consequences of rapid e-scooter adoption, especially where infrastructure and regulation have

not kept pace with usage (Marsden & Docherty, 2024). Research highlights several contributing factors, including inconsistent enforcement, limited designated parking areas, and a lack of user education or accountability (McIntyre et al., 2023). To frame this issue, the study draws from urban mobility theory, which examines how people move through shared environments and how transportation systems interact with public space. It also applies principles from sustainable transportation planning, emphasizing accessibility, safety, and environmental impact. By incorporating policy analysis methods, this project will assess how interventions like geofencing, incentive programs, and infrastructure redesigns have been implemented elsewhere—and how they could be adapted for UCF (California Department of Transportation, 2019).

Ultimately, this research aims to identify root causes of improper parking, evaluate effective responses from peer institutions, and provide practical, data-driven recommendations for creating a safer, more navigable campus for all users.

Research Methods

This research will use a mixed-methods approach to assess the scope of improper scooter parking and develop actionable recommendations. The steps are organized as follows:

1. Comparative Policy Analysis (Weeks 1–3):

- Review scooter management policies at other universities.
- Evaluate enforcement tools such as geofencing, user fines, or incentives.
- Assess the impact of these strategies using prior research and case studies.

2. Observational Study (Weeks 2–4):

- Systematically document locations of improperly parked scooters on campus.
- Track patterns in compliance across different times and locations.
- Identify high-traffic or high-violation zones.

3. Surveys & Interviews (Weeks 3–6):

- Survey students, faculty, and staff on their experiences and perceptions.
- Conduct interviews with campus transportation officials and SPIN representatives to understand current policies and enforcement.

4. Data Analysis & Recommendations (Weeks 7–8):

- Analyze observational and survey data to find recurring trends.
 - Use thematic analysis on qualitative interview data.
 - Compile a final report with data-driven recommendations for university stakeholders and SPIN.
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Expected Outcome

The primary outcome of this research will be a comprehensive report outlining key findings and proposing evidence-based solutions to improve SPIN scooter parking compliance at UCF. This report will be shared with the university's transportation office, accessibility services, and SPIN representatives to support informed decision-making and potential policy changes. The findings will help guide future campus infrastructure investments, inform policy revisions, and support educational initiatives around responsible scooter use.

The study will also contribute to broader academic and administrative discussions on campus micro-mobility management. By identifying common problem areas and analyzing successful strategies from peer institutions, this research will offer a comparative framework for universities facing similar issues nationwide.

Potential solutions may include:

- Geofencing technology that restricts parking to designated areas.
- Incentive-based programs that reward users for compliant parking.
- Improved signage and designated scooter parking zones.
- Increased enforcement, such as warnings or fines for noncompliance.

In addition to physical and policy improvements, this research may influence awareness campaigns targeting scooter users and encouraging responsible behavior. For the UCF community, implementing these recommendations could enhance accessibility, safety, and transportation flow across campus, directly benefiting pedestrians, cyclists, and scooter riders. The findings may also be submitted for presentation at an undergraduate research conference.

or published in a student research journal, contributing to the academic conversation on sustainable campus transportation solutions.

Literature Review

- Asgari, M., Afandizadeh Zargari, S., & Sobhani, A. (2023). Sustainable e-scooter parking operation in urban areas using fuzzy multi-criteria decision-making. *Sustainable Cities and Society*, 95, 103798. <https://doi.org/10.1016/j.scs.2023.103798>
 - California Department of Transportation. (2019). *Analyzing the potential of geofencing for electric bicycles and scooters* (Preliminary Investigation). <https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/preliminary-investigations/pi-0246v2-a11y.pdf>
 - Dias, G., & Arsenio, E. (2023). The future role of shared e-scooters in urban mobility. *Sustainability*, 15(23), 16467. <https://doi.org/10.3390/su152316467>
 - Fearnley, L., Rognstad, H. S., & Fearnley, N. (2022). New micro mobility means of transport: An analysis of e-scooter users' behaviors and perceptions. *International Journal of Environmental Research and Public Health*, 19(11), 13420. <https://doi.org/10.3390/ijerph191113420>
 - Marsden, G., & Docherty, I. (2024). Learning from the evidence: Insights for regulating e-scooters. *Transport Policy*, 138, 100982. <https://doi.org/10.1016/j.tranpol.2024.100982>
 - McIntyre, S., Han, J., & Fuller, D. (2023). Are e-scooters a threat to active travel? *International Journal of Environmental Research and Public Health*, 20(6), 54957. <https://doi.org/10.3390/ijerph200654957>
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Preliminary Work and Experience

As someone who primarily gets around UCF via bike, I have experienced first hand the danger and disruption of transportation due to the improper parking and management of SPIN scooters. Oftentimes, scooters will be piled up on walkways, leaving no room for pedestrians or bikers to get through without stepping off into the road. Not to mention getting around these obstacles is not possible for disabled or wheelchair bound students/staff without putting themselves at risk of danger. It is evident that measures need to be taken to address this misuse of SPIN scooters. I have also found several threads on the UCF Reddit of countless other students and staff noticing this ongoing issue and sharing their concerns as well as demanding change. That is why I decided to investigate this issue and explore possible solutions to minimize the disruption that SPIN scooters can have on transportation when not properly managed.

IRB/IACUC Statement

This research will involve human subjects through surveys and interviews. Therefore, IRB approval will be required before data collection begins. I will submit the necessary IRB application and follow all ethical guidelines for participant consent and data privacy.

Budget

- **Survey incentives:** Gift cards for survey participants (\$5 x 50 respondents = \$250)
- **Printing costs:** Flyers for recruitment, data collection sheets (\$50)
- **Software:** SurveyMonkey Pro subscription for survey distribution and analysis (\$200)
- **Transportation & Miscellaneous:** Travel for field observations (\$50)
- **Conference Registration:** Undergraduate research conference (\$500)
- **Total: \$1,050**

Figures:



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