

Promoting Sustainable Transportation: Exploring Electric Scooters vs. Electric Bikes for Campus.

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Introduction

The escalating concern surrounding carbon emissions and the pressing need for sustainable transportation solutions within university settings have prompted a surge in the adoption of scooter or bike-share programs. This project delves into the examination of electric scooters (e-scooters) and electric bikes (e-bikes) as viable alternatives for transportation at Central Washington University. Through meticulous research involving data collection from various universities, and scooter and bike share companies, the project assesses the potential merits and demerits of both e-scooters and e-bikes. Engaging stakeholders including campus administration, transportation services, and sustainability groups have facilitated critical discussions and decision-making processes regarding the implementation of sustainable transportation options.

Pros and Cons of E-Bikes and E-Scooters

E-Bikes:

Pros:

- Range: Longer battery life allows for extended trips, making them suitable for longer commutes.
- Comfort: E-bikes often have more ergonomic designs and features like suspension systems for a smoother ride.

Cons:

- Weight: They are heavier and bulkier than e-scooters, making them less convenient to carry or store.
- Maintenance: E-bikes may require more maintenance, especially for their electric components.
- Safety Concerns: E-bikes can reach higher speeds, potentially increasing the risk of accidents, especially for inexperienced riders.

E-Scooters:

Pros:

- Portability: E-scooters are lightweight and foldable, making them easy to carry onto public transportation or store in small spaces.
- Ease of Use: E-scooters require minimal effort to operate and are suitable for riders of all skill levels.
- Quick Commutes: E-scooters are ideal for short-distance commutes in urban areas, where traffic congestion and parking can be major issues.

Cons:

- Limited Range: E-scooters typically have shorter battery life and range compared to e-bikes, restricting their usefulness for longer trips.
- Safety Concerns: E-scooters have been associated with accidents and injuries, especially when used on busy city streets or sidewalks.

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Q & A Interview with Jeffrey Bruchez, Active Modality Manager, and Bicycle Program Coordinator at UC Davis Transportation Services.

What was the acquisition process like?

- “Out of the five responses, companies were competitive and invited for the final review, ultimately selecting Spin as the awardee. As part of the RFP, there’s no cost to the university or city. Rather, the contract stipulates some revenue share and operational costs levied by the city for contract execution. The Devices out-right belong to the vendor”.

What were some of the key challenges and lessons learned during the implementation of the electric scooter program?

- “Perhaps the most significant challenge was navigating the hallmark problems of early shared micro-mobility (namely parking problems), but this became a part of our campaign as we noted that oversight of the program’s contract would allow us control of the policy and we could prescribe very precise parking policy. So far this has been notably better than what we encountered with the prior system.”
- “The other major benefit we were able to leverage was the control of their speed and operation in pedestrian areas, as there is growing concern about the poorly regulated personal devices we see coming to our campus. These were the two main concerns that were part of our approval prior to the RFP launch, and we’re pretty satisfied in how it’s worked so far.”
- “Spin is being very proactive and collaborative with our partners at the City and we’ve seen improvements over the last few months. Parking too is a slight problem on campus but reporting it to the operator leads to a warning, escalating to fines, and we’ve not seen recurring user issues.”

How did your university gather data on the sustainability impact of the electric scooter program?

- “One major perk of having the vendor under our own contract was that we could prescribe exactly what data we wanted to be able to quantify the impact of the system’s operation. We have access to the data via a GBFS feed, which is available to us via Populus Example of the data is available via a screenshot from a presentation I gave last week. We are only in our first year of this program being on campus, and know we’re looking to sample some of this data in our annual campus travel survey.

UC Davis estimates 21 metric tons of CO₂ have been mitigated since the start of their partnership with Spin.



Photo 1: Electric E-Bike, Spin.

Summary

Central Washington University is exploring electric scooters (e-scooters) and electric bikes (e-bikes) for campus transport, emphasizing the need for sustainable mobility. E-bikes offer versatility and fitness benefits but have higher costs and maintenance, while e-scooters are more affordable and portable but have limited range and stability. To address these concerns, the university should use usage tracking technology, gather user feedback, conduct environmental assessments, monitor infrastructure, and consider financial analysis. Consulting research from other universities is crucial for informed decision-making. Adopting electric micro-mobility can reduce carbon emissions and promote a greener campus.

Support of the United Nations Sustainable Development Goals

This project primarily supports Sustainable Development Goal 11: Sustainable Cities and Communities, by promoting sustainable transportation options and improving accessibility within the campus environment. Additionally, it contributes to Goal 13: Climate Action by reducing carbon emissions associated with traditional modes of transportation.



Photo 2: Electric E-Scooter, Spin.

References:

Photos 1, 2: <https://www.spin.app>