

Developing Data Collection Systems to Support Community-Driven Integrated Mobility Services

Purpose: To support community-driven design and deployment of mobility systems that are more accessible, sustainable, and equitable. The team developed and tested methods for municipalities to evaluate transportation, mobility systems and building systems by collecting community data on the use and impacts of such transportation and mobility services.

Approach: The team began by reviewing existing and then developing new tools to allow the collection and analysis of public reactions to understand perceptions and experiences with Personal Delivery Devices (PDDs) and micro-mobility solutions introduced in neighborhoods within the City of Pittsburgh. Feedback systems and data collection devices were developed for use on and around delivery robots and micro-mobility transit hubs. Some of the collection techniques developed and tested included:

- ✓ Emoji poster for gathering feedback on different scenarios with PDDs
- ✓ Community feedback kiosks at mobility hubs
- ✓ “Tinder” for community feedback
- ✓ Physical survey on perceptions of PDDs
- ✓ On robot flag as a means to capture data

Key Findings:

- ✓ Consider the locations of collecting feedback mechanism - public areas with foot traffic where people may not be in a hurry may be better (i.e. parks)
- ✓ Complete data collection in neighborhoods where testing occurs - people are more likely to have seen or interacted with a deployment
- ✓ Take weather and environment into account when designing engagement mechanism - cold weather may make physical data collection preferable
- ✓ Using metaphors of games the people know can allow people to pick up on an idea quickly

Conclusion: The key findings produced from this project can inform future improvements to and testing of data collection methods. In addition, the data collected through this project on the micromobility and PDD pilots was shared by the team with the City of Pittsburgh’s Department of Mobility and Infrastructure.



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Project Record:

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