

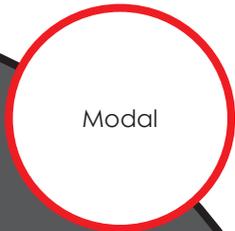


Caltrans Division of Research,
Innovation and System Information

Research



Notes



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Project Title:
Public Transit and Bikesharing/
Scooter Sharing Interactions

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Task Manager:
Nathan Loeb
Transportation Engineer, Electrical
nathan.loeb@dot.ca.gov

Public Transit and Bikesharing/ Scooter Sharing Interactions

This research will evaluate what performance measures can be used to evaluate bikesharing/scooter sharing programs that interact with public transit.

WHAT IS THE NEED?

Public transit agencies across California are experiencing increased costs, diminished ridership, and decreased revenue. These trends are driving public transit agencies to be more efficient with their service, changing from routes that emphasize geographic coverage to routes that maximize ridership. These changes have led many public transit agencies to focus on high traffic corridors at the expense of spatial coverage. The public sector has since been challenged to find better ways to cover the first mile-last mile of mass transportation trips.

Several agencies have tried bikesharing/scooter sharing programs to increase public transit ridership. Key questions remain as to how effective these programs are, particularly in a California context, in encouraging ridership and supporting public transit. Furthermore, bikesharing/scooter sharing programs have evolved into dockless and electric service. The evolution to dockless and electric service models is not well understood. Thus, the question remains as to how to measure the effectiveness and performance of these programs over time. Do station-based and dockless bikesharing/scooter sharing models complement or compete with public transit and one another? Can measures be developed to integrate bikesharing/scooter sharing with public transit?

WHAT ARE WE DOING?

To advance our understanding of bikesharing/scooter sharing and its interactions with public transit, this research will, first, assess what performance measures can be used to evaluate bikesharing/scooter sharing programs that interact with public transit. Researchers will then use the measures to evaluate how



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well various bikesharing/scooter sharing systems support current public transit use, both directly and indirectly. Below are the steps the study will follow:

1. Obtain approval from Committee for Protection of Human Subjects (CPHS) to conduct research with human subjects
2. Conduct literature and internet search review
3. Develop preliminary evaluation metrics
4. Conduct expert interviews with bikesharing/scooter sharing industry leaders in California
5. Finalize evaluation metrics
6. Conduct activity data analysis
7. Perform survey deployment and analysis
8. Write final report and information brief(s)

The final report will:

- Summarize current public transit bikesharing/scooter sharing programs for best practices, lessons learned, and their influence on California policies.
- Provide recommended performance measures to be used in future evaluations as well as policies that will improve bikeshare programs.
- Present key results and proposed metrics which can be applied and built upon in future studies.

WHAT IS OUR GOAL?

The research project has two goals. First, to assess the effectiveness of bikesharing/scooter sharing programs that interact with public transit. Second, to recommend performance measures and policies that can be used to evaluate and improve the programs.

WHAT IS THE BENEFIT?

This research project is highly deployable. The research results can be used when designing future transit-run bikesharing/scooter sharing programs. It can also be used to establish performance measures for transit agencies.

WHAT IS THE PROGRESS TO DATE?

The literature review is ongoing and will continue to be supplemented throughout the project's duration.

During the timeframe of January 1 - March 31, 2020 the project team completed expert interviews. Interviewees were asked what metrics they felt could be used to measure the interaction between bikesharing/scooter sharing and public transportation. Based on the expert interviews, the project team finalized the evaluation metrics. Additional updates to the evaluation metrics may be made in response to changes in travel behavior associated with COVID-19.

The project team is currently reviewing activity data provided by the San Francisco Municipal Transportation Agency (SFMTA).