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# PROJECT INFORMATION FORM

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| Project Title: | Simulation of Ridesourcing Using Agent-Based Demand and Supply Regional Models: Potential Market Demand for First-Mile Transit Travel and Reduction in Vehicle Miles Traveled in the San Francisco Bay Area |
| University: | University of California, Davis |
| Principal Investigator: | Caroline Rodier |
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| Funding Source(s) and Amounts Provided (by each agency or organization): | California Dept. of Transportation - $90,621.64 |
| Total Project Cost: | $90,621.64 |
| Agency ID or Contract Number: | UCD-CT-TO-019<br>Caltrans 65A0527 TO 019 |
| Start and End Dates: | 10/20/2015-9/30/2016 |
| Brief Description of Research Project: | In this study, researchers used existing modeling tools and data from the San Francisco Bay Area (California) to understand the potential market demand for a “first” mile transit access service and possible reductions in vehicle miles traveled (VMT) (and thus greenhouse gases (GHGs)) at both the regional and station level. They developed a project scenario that targets commuters who drive alone but could take rail (Bay Area Rapid Transit, or BART) to work. The researchers used travel time, cost, and distance data from San Francisco Bay Area travel models, Google and BART APIs, and TNC fares to explore the magnitude of change in overall travel time and cost for travelers who switch from driving alone to using TNC and BART to travel to work. The analysis indicates that 31% of the identified drive-alone trips could reduce generalized costs (travel time and monetary costs) by switching to TNC and BART. If all travelers who could benefit from traveling by TNC and BART, did in fact switch from drive-alone travel, about 40 thousand new BART trips could be generated and over a half a million miles of VMT avoided during the morning commute period. Most of these trips experienced relatively high levels of cost and VMT savings, which may be more likely to motivate behavioral change. Examination of cost savings by income level and vehicle availability suggests that the new service is more likely to benefit lower income households with fewer vehicles. Analysis of benefits by station indicate locations with relatively |

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| | high market potential (i.e., trips and cost saving) and environmental benefits (VMT reduction) for early pilot implementation. These results can be used to estimate potential TNC fare subsidies to increase performance by station to achieve project objectives, such as equitable access, increased BART ridership, and reduced VMT. |
| Describe Implementation of Research Outcomes (or why not implemented):<br><br>Place any photos here | |
| Impacts/Benefits of Implementation (actual, not anticipated): | |
| Web Links<br>• Reports<br><br>Project website | https://ncst.ucdavis.edu/project/simulation-of-ridesourcing-using-agent-based-demand-and-supply-regional-models/ |