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User Evaluations of Intermodal Travel to Work: Exploratory Studies

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The general importance of intermodal travel (i.e., travel in which there is a combination of vehicular modes to a destination, for example, train or light rail and a bus connection) has been emphasized in congressional hearings and in state and regional sponsored

transportation studies. Available empirical studies of the use of intermodal travel have predominantly been in cases where travel is across cities or regions. These studies have most often related use of intermodal travel options to distance, time of day and user demographics and user-identified factors and ratings that evaluate these factors. The principal objective of this exploratory study is to identify candidate factors that users relate to the public transit options when intermodal work travel is within a local corridor.



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Study Methods

Two four-person focus groups were conducted in each of two travel corridors in Northern California's Bay Area. This design allows for replication of identified factors within and across

travel corridors. The focus group format style was facilitator-guided open discussion. The discussion was organized into topics of what is "most burdensome" and "least burdensome" in using intermodal public transport for work travel and recommendations for improvements in service offerings that would contribute most to continued use of intermodal work travel.

Transcripts of the focus group sessions were analyzed with software for coding and categorizing qualitative data. The analysis used number of words in discussions of a factor and the position of the factor in the discussion flows to hierarchically decompose an exhaustive list of the factors in the transcripts. Within each of the discussion topics of "most burdensome," "least burdensome," and "recommend/use more," a list of factors were identified and further categorized into the tree organization of sub-factors.

Findings

Results identify four factors that predominated as major considerations in user evaluation of intermodal travel to work. The importance of these factors is indicated by their independent identification in each group and the amount of discussion of the factors. The imputed lack of coordination in connections between modes and uncertainty in waiting time were among the predominant factors in the discussions of all groups. Issues that related to connections between modes clearly predominated in the discussion on most burdensome and recommend/use more.

The absence of immediate information on scheduled arrival and departure times are among the factors that influence work commuters to use their own car instead of public transportation.



Within discussions of connections between modes, the second order sub-factors related to wait time and to distance between modes. The second order sub-factor of wait time was further divided into length of time for a connection and

uncertainty. Uncertainty in wait time was clearly discussed as distinct from how long the wait time was in their experience.

A pilot study compared intermodal users of public transportation with own vehicle travelers to work. The objective of the pilot study is to establish that factors identified by focus groups can be reliably scaled in closed-end questionnaires and that differences in rated importance by users and non-users of public transportation are interpretable. The increased importance of total travel time, waiting time and uncertainty in intermodal travel differentiated own vehicle users from public transport users.

Policy Recommendations

A policy goal in public transportation services is to maintain and increase the usage of public transit when mode of transportation is an active choice among alternatives. When the public transport option for work travel is intermodal, this goal is more challenging. Initial identification of the factors that enter this choice can be examined through focus groups.

Results of the focus group and pilot studies provide a basis to understand factors that differentiate public transport users from own vehicle users and to address the most emphasized factors in both groups. It does appear that uncertainty in travel time, the noxiousness of wait time and absence of immediate information on scheduled arrivals and departures are among these factors. Inferences from observations of group discussions that are reported from these focus groups merit being investigated and elaborated upon in closed-end questionnaire results. If confirmed in larger sample studies, the next step would be to examine the exact tradeoffs that travelers in both groups would respond most to when the alternatives are within feasible combinations available to planners. The methodology to efficiently do this is available and can be implemented to further policy design.

About the Author

Steven Silver is a professor in the Lucas Graduate School of Business and College of Business at San José State University. He has earned an MA and MBA from the University of Chicago, a Ph.D. from the Haas School of Business, University of California, Berkeley and has been a visiting scholar and post-doctoral fellow at the London School of Economics and at Stanford University.

To Learn More

For more details about the study, download the full report at transweb.sjsu.edu/project/1025.html

