



Northwestern University Transportation Center presents:

Effects of the Light Rail Transit Development and Neighborhood Design on Travel Behavior

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ABSTRACT:

Rail transits are often implemented in the corridors already with high transit demand. When evaluating their travel impacts, previous studies often choose the city/county/region as control groups, rather than comparable corridors without rail, and hence overstate their impacts. Further, few studies have controlled for residential self-selection effect and disentangled the effect of rail transit from built environment effects. Using both cross-sectional and quasi-longitudinal data, we employ propensity score matching, statistical control, and structural equations modeling to explore the impacts of Hiawatha light rail transit (LRT) in Minneapolis on transit behavior. We find that the LRT increases transit use and reduces driving, and that both neighborhood design and residential self-selection affect travel behavior. Further, no matter how sophisticated a cross-sectional analysis is, it is still less robust than a longitudinal analysis.

SPEAKER BIO:

Jason Cao is an associate professor at the Humphrey School of Public Affairs. His research interests include land use and transportation interactions, the effects of ICT on travel behavior, and planning for quality of life. He is known for his work on residential self-selection in the relationships between the built environment and travel behavior. Jason has published about 60 articles in peer-reviewed journals, with more than 4,300 citations (Google Scholar). Jason is very active among urban planners who are interested in planning issues in China and is the Chair of International Association for China Planning. He is an associate editor of Transportation Research Part D. During the past three years, he, with his colleagues, has guest-edited special issues in six journals.

Jason received his bachelor and master degrees from Tsinghua University, China. He obtained his PhD in Civil and Environmental Engineering from University of California Davis in 2006.