

AN ABSTRACT OF A THESIS

**INVESTIGATING THE ROLE OF TRANSIT PASS OWNERSHIP ON TRANSIT
TRIP MAKING**

Murali Krishna Yendeti

Master of Science in Civil Engineering

The primary objective of this study was to investigate the role of transit pass ownership or non-ownership on mode choice behavior of urban residents and, consequently, on aggregate transit patronage. A secondary objective was to formulate an appropriate decision structure for modeling transit trip frequency in an urban region. The results of the study demonstrate that owning or not owning a transit pass by an individual is the single most important variable associated with the number of trips undertaken by the individual using urban transit. However, it should be noted that the decision to own a pass is influenced by car ownership and residential location decisions.

The estimated transit trip generation models showed also that urban transit usage is significantly influenced by socio-economic and demographic attributes of the individual and the individual's household. Urban transit usage was found to be affected to a lesser extent by spatial variables, such as the planning district an individual's household is located in, once socioeconomic characteristics were accounted for. The estimated coefficient of accessibility to activities by transit, although statistically insignificant, had a counter-intuitive sign, a problem that has been highlighted in other urban trip generation studies.
