

## Self-Selection versus Contextual Effects: The Land Use-Travel Connection Revisited

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### Abstract

The connection between land use and travel has been studied extensively. Yet evidence on the role of land use in modifying mobility remains conflicting. This paper proposes a new framework to revisit the mobility role of land use. Under this new framework, land use attributes are not only factors that directly affects daily travel behaviors, but also represent a neighborhood context that modifies the impacts of residential/travel preference on travel behaviors. Using data from the 2005-2006 Austin Household Travel Survey, we build hierarchical linear models (HLMs) to capture the contextual effects of land use and examine the cross-interaction between the mobility role of land use and the self-selection behavior. The results indicate that land use policies are more effective for those self-selecting current residences to fit their travel preference than those selecting residences without considering their travel preference. A one percent increase in land-use mixture leads to 0.92% decline of vehicle mile traveled (VMT) for the group with self-selection processes, compared to 0.21% for the group without self-selection processes. The self-selection effects on travel outcomes may vary across diverse neighborhoods with different land use contexts. Strategies to promote positive attitudes on non-driving travel should be connected with land use initiatives such as mixed use development.

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