Urban Spatial Structure
and
Household Travel Time

By

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Abstract

The sprawl of U.S. cities has attracted criticism from many sources in recent years. Among the greatest of the cited harms of sprawl is the alleged travel time burden that it imposes on its residents. Previous research has tested the relationship between the sprawl of business activity and travel times by examining only its effects on commuting times and has concluded that people do not choosing housing and work locations to minimize commutes. This research takes a more comprehensive approach by analyzing the relationship between household travel times and sprawl by testing the relationship between access to economic centers and daily household travel time. The relatively minor increase in household travel times with decrease in access to economic centers found by the analysis shows that people logically reduce trips to centers when choosing housing locations with less access to centers. The ability of people to make these reductions in travel is clearly increased by the dispersal of activity from the central business district and other centers. Comparison of predicted household travel times with an estimated rent gradient show that the increase in housing prices with improved access to subcenters is far less than would be expected given the predicted household travel times, contradicting the relationship between household travel time and housing prices embodied in central place theory and its limited polycentric extensions. An analysis of joined trips suggests that households with less access to economic centers used joined trips, in which multiple destinations are visited on a single trip from the home, to reduce household travel. All of the results suggest that auto use enables households throughout the metropolitan area to reduce travel time. The car has greater flexibility and speed than other modes, particularly in areas of lower density. The travel time savings and flexibility that are provided by the dispersal of economic activity have allowed people to choosing housing that they prefer at lower prices with little added transportation cost. Given these benefits we should carefully consider the manner and method we choose to reduce any negative externalities of sprawl and auto use.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES