Urban Spatial Structure
and
Household Travel Time

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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

TITLE ........................................................................................................................................... i

ABSTRACT ................................................................................................................................... ii

TABLE OF CONTENTS ............................................................................................................... iii

LIST OF TABLES ...................................................................................................................... viii

LIST OF FIGURES .................................................................................................................... ix

Chapter 1 – Introduction ........................................................................................................... 1-1

Statement of the Problem ....................................................................................................... 1-1
  The Creation of Sprawling Urban Forms .............................................................................. 1-3
  Travel Time, Travel Costs and Settlement Forms ............................................................... 1-3
  Auto Use and Joined Trips .................................................................................................... 1-4
  Household Travel Times and the Rent Gradient ................................................................. 1-5
  Conclusion ............................................................................................................................. 1-5

Objectives .................................................................................................................................. 1-6

Methods ..................................................................................................................................... 1-6

Chapter 2 – Conceptual Framework ....................................................................................... 2-1

Urban Form and Central Place Theory .................................................................................. 2-1
  The Monocentric Urban Form ............................................................................................... 2-1
  Transportation and the Monocentric Urban Form ............................................................... 2-2
  The Breakdown of Monocentricity ....................................................................................... 2-3
  The Limited Polycentric Form ............................................................................................... 2-4

Household Travel Time and the New Sprawling Urban Form .............................................. 2-5

An Empirical Study of Household Travel Time under Central Place Theory ................. 2-7
  Previous Studies of Travel under Central Place Theory .................................................. 2-7
  A Broader Study of Household Travel ................................................................................ 2-8
<table>
<thead>
<tr>
<th>Models with Neighborhood Characteristics</th>
<th>6-24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conclusion</td>
<td>6-28</td>
</tr>
<tr>
<td>Chapter 7 – Joined Trips</td>
<td>7-1</td>
</tr>
<tr>
<td>The Theory</td>
<td>7-2</td>
</tr>
<tr>
<td>The Data</td>
<td>7-3</td>
</tr>
<tr>
<td>The Empirical Model</td>
<td>7-4</td>
</tr>
<tr>
<td>The Results</td>
<td>7-5</td>
</tr>
<tr>
<td>Chapter 8 – The Rent Gradient</td>
<td>8-1</td>
</tr>
<tr>
<td>The Theory</td>
<td>8-1</td>
</tr>
<tr>
<td>The Data</td>
<td>8-2</td>
</tr>
<tr>
<td>The Empirical Model</td>
<td>8-2</td>
</tr>
<tr>
<td>The Results</td>
<td>8-3</td>
</tr>
<tr>
<td>The Rent Gradient and Household Travel Times</td>
<td>8-9</td>
</tr>
<tr>
<td>Chapter 9 – Implications</td>
<td>9-1</td>
</tr>
<tr>
<td>Introduction</td>
<td>9-1</td>
</tr>
<tr>
<td>The Effects of Centers on Household Travel Time</td>
<td>9-4</td>
</tr>
<tr>
<td>The Dispersion of Activity Beyond Subcenters and Household Travel Time</td>
<td>9-7</td>
</tr>
<tr>
<td>The Relationship Between Joined Trips and Travel Time to Centers</td>
<td>9-8</td>
</tr>
<tr>
<td>The Relationship Between the Rent Gradient and Household Travel Times</td>
<td>9-8</td>
</tr>
<tr>
<td>The Use of Automobiles and Household Travel Time</td>
<td>9-11</td>
</tr>
<tr>
<td>Demographics, the Distribution of Subcenters and Travel Times</td>
<td>9-12</td>
</tr>
<tr>
<td>Conclusion</td>
<td>9-13</td>
</tr>
</tbody>
</table>
Chapter 10 – Conclusion Policy Recommendations and Future Research Needs..... 10-1

The Sprawl of Economic Activity, Housing Prices and the Household Travel Times ... 10-1

Auto Use and Household Travel Time ............................................................................. 10-2

Need for Further Research ................................................................................................. 10-4

Summary of the Conclusions ............................................................................................... 10-5

REFERENCES .................................................................................................................... R-1

Appendix 5A - Tests of Misspecification of the Household Travel Time Model ................... 5A-1

Appendix 5B - Tests of Neighborhood Effects Models ..................................................... 5B-1

Appendix 5C - Summary Statistics for Models of Household Travel Time .......................... 5C-1

Appendix 7A - Frequency Tables for Stops on the Way to Work and the Way Home from Work ......................................................................................................................... 7A-1

Appendix 7B - Tests of Overdispersion .............................................................................. 7B-1

Appendix 8A – Summary Statistics for the Rent Gradient Model ........................................ 8A-1

Appendix 8B – Tests of Misspecification for the Rent Gradient Model ............................... 8B-1
LIST OF TABLES

Table 3.1 Economic Centers ................................................................. 3-8

Table 3.2 Metropolitan Washington Centers
and their Locations Relative to the Central Business District .......... 3-14

Table 5.1 Center Accessibility Data .................................................. 4-2

Table 5.2 Household Characteristics Data ...................................... 5-3

Table 4.3 Neighborhood Characteristics Data ............................. 5-4

Table 6.1 Models without neighborhood effects .......................... 6-2

Table 6.2 Location of Metropolitan Washington Subcenters
Relative to the Central Business District ........................................ 6-11

Table 6.3 Models with neighborhood effects ................................. 6-25

Table 7.1 Data Sources and a Description of Data
for the Joined Trips Models .......................................................... 7-3

Table 7.2 Models of stops on the way to and from work .............. 7-5

Table 8.1 Data Sources and a Description of the Data
Used to Estimate the Rent Gradient ........................................... 8-2

Table 8.2 The Estimated Rent Gradient ......................................... 8-4

Table 5A.1 Tests of Normality of the Household Travel Model .... 5A-1

Table 5A.2 Tests of Misspecification of the Household Travel Model 5A-3

Table 7B.1 Results of Tests of Overdispersion ............................... 7B-1

Table 8B.1 Tests of Normality for the Rent Gradient Model ....... 8B-1

Table 8B.2 Tests of Misspecification for the Rent Gradient Model .... 8B2
LIST OF FIGURES

Figure 3A. Washington D.C. Metropolitan Area Census Tracts by State Jurisdiction ................................................................. 3-3

Figure 3B. Subcenters Identified Using Thresholds of 7 Employees per Acre in Each Zone and Total Employment of 10,000 ................................................................. 3-9

Figure 3C. Subcenters Identified Using Thresholds of 20 Employees per Acre in Each Zone and Total Employment of 20,000 ................. 3-10

Figure 3D. Subcenters Identified Using Thresholds of 17 Employees per Acre in Each Zone and Total Employment of 17,500 ................. 3-11

Figure 3E. Median Household Income by Transportation Analysis Zone .............. 3-17

Figure 3F. Percent Nonwhite Minority by Transportation Analysis Zone ............. 3-18

Figure 3G. The Washington, D.C. Metro Rail System ............................................. 3-20

Figure 3H. Major Roads in the Washington, D.C. Metropolitan Area .................... 3-21

Figure 6A. Household travel time as a function of access to the central business district for the city model without neighborhood characteristics................................................................. 6-5

Figure 6B. Household travel time as a function of access to the central business ............................................................................. 6-8

Figures 6C. Household travel time as a function of access to the nearest subcenter for the suburban model without neighborhood characteristics........................................................................... 6-9

Figure 6D. Subcenters and Transportation Analysis Zones in the Metropolitan Washington, D.C. Area ................................................................. 6-11

Figure 6E. Predicted household travel times from the suburban model (View 1).................................................................................... 6-13
Figure 6F. Predicted household travel times from the suburban model (View 2) ................................................................. 6-14

Figure 6G. Predicted household travel times from the suburban model (View 3) ................................................................. 6-15

Figure 6H. Predicted household travel times from the outlying areas model .......... 6-19

Figure 8A. Predicted House Prices (View 1) .................................................................................................................. 8-6

Figure 8B. Predicted House Prices (View 2) .................................................................................................................. 8-7

Figure 8C. Predicted House Prices (View 3) .................................................................................................................. 8-8

Figure 8D. Predicted Household Travel Times and Housing Prices as a Function of Travel Time (in hours) to the Central Business District and a Subcenter .......................................................... 8-10