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Life Cycle and Environmental Factors in Selecting Residential and Job Locations

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Abstract

Home and workplace location choices are closely related. The determinants of these choices operate differently based on an individual's life cycle, particularly with regard to the presence or absence of children. Individuals with children often place value on greenspace and recreational opportunities, while those without children often prefer smaller residential lots and locations with access to services. Existing studies have found that if residential location desires are satisfied, people are less likely to emphasize the importance of job location irrespective of their life stage. Taking a different approach, this study examines home-workplace decisions from a commuting standpoint. Commute durations and personal characteristics are used to analyse individual behavior. The contributions of this work include the finding that environmental characteristics and amenities may explain the connection between commuting behavior and residential location choices. Existing studies have not

connected environmental characteristics and commuting behavior. This study also uses various GIS modeling techniques to explore the effects of previously unanalysed variables on residential location decisions.

Keywords:

Job accessibility | residential location | environmental factors | neighborhood characteristics | GIS | Detroit Area Study (DAS)

Notes

1 Some measured GIS variables such as open areas, parks, major retail facilities and health care facilities could not be included in the final model due to high correlation with some of the included variables such as natural scenic areas and neighborhood preferences, and a lack of significance.

2 The ‘Type of Place’ variable used in the 2001 DAS is made of four components and is defined by the minor civil divisions (MCDs) in which respondents live. The four components are: population size, whether or not the MCD is contiguous to the urban core (Detroit), whether or not the MCD is incorporated (cities, villages, towns—incorporated as opposed to townships—unincorporated), and density. ‘Population Size & Incorporation’: incorporated MCDs are classified in three size groups: 50 000–149 999 (large), 15 000–49 999 (mid-sized), and under 15 000 (small). Unincorporated MCDs (townships) are classified into two size groups: large townships of 20 000 or more and small townships of under 20 000. ‘Contiguous or Non-contiguous’: incorporated MCDs that are contiguous to the urban core are defined as MCDs adjacent to the Detroit city limits (first ring MCDs) and MCDs adjacent to the first ring MCDs where development is continuous (second and ring MCDs). Incorporated MCDs that are non-contiguous to the urban core are defined as MCDs that are separated from contiguous MCDs by undeveloped or sparsely developed land. ‘Density’: the unincorporated MCDs (townships) are subdivided into two density classes reflecting whether or not respondents live in a subdivision or other type of residential development. ‘High density’ is places where the census block density is 0.5 housing units per acre or more (or where lot sizes are 2 acres or less). ‘Low density’ is places where the census block

density is less than 0.5 housing units per acre (or where lot sizes are more than 2 acres).

3 A statistical test of significance of difference is applied for this descriptive statistics (chi-square is 75.1, {\rm < 0.0001).}

4 As a result of a statistical test of significance of difference (t-tests or chi-square tests), all show significance except for commuting time variable (t-value is 0.820 (0.412))

5 The 2001 Detroit Area Study (DAS) survey was collected through two different types of survey methods: mail and face-to-face interview.

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