Cities xxx (xxxx) xxx–xxx

Contents lists available at ScienceDirect

Cities

journal homepage: www.elsevier.com/locate/cities

Building reverse commute typologies through urban and suburban socioeconomic characteristics

Joshua H. Davidson[a], Megan S. Ryerson[b,*]

[a] Department of City and Regional Planning, University of Pennsylvania, 210 S. 34th Street, Philadelphia, PA 19104, USA
[b] Department of City and Regional Planning, Department of Electrical and Systems Engineering, University of Pennsylvania, 210 S. 34th Street, Philadelphia, PA 19104, USA

ARTICLE INFO

Keywords:
Reverse commute
Spatial mismatch
Metropolitan fragmentation
Cluster analysis
Equity

ABSTRACT

The problem of employment access for the urban poor is often articulated across the urban-suburban divide in metropolitan areas, such that job opportunities concentrate in suburban areas, at a distance from areas of concentrated, racialized poverty in the inner city. The lack of public transit options that reasonably connect urban workers to suburban job opportunities only furthers this problem. However, transportation scholars have noted that a substantial population of the urban poor take this "reverse" commute. While these studies have grown knowledge on the characteristics of the reverse commuting population and their journey to work, they do not address, to the same extent, the demographic characteristics where reverse commuters live in the city and where they work in the suburbs. To learn more about the equity issues in the reverse commuting problem, this paper uses cluster analysis to develop typologies of commutes based on differences in key socio-demographic indicators between home (origin) and work (destination) geographies. This paper analyzes how commute patterns (intra-urban, suburb-city, etc.) and the number of jobs nested within these commute patterns, concentrate across socio-demographically defined commute typologies. Focus is given to how reverse commutes are distributed across these typologies. Reverse commutes constitute approximately 10% of all commutes in our sample and 10% of all primary jobs (the job that provides a worker the most income of all of their jobs) in the sample are accessed via reverse commute. The paper concludes with a number of transportation and social policy interventions that address issues facing particularly low-income, minority, reverse commuting workers. In light of the literature on metropolitan fragmentation, we recommend redistributive policies that build suburban, municipal accountability to urban, low-income reverse commuters.

1. Introduction

The problem of how to build employment opportunity and access for low-skill, urban residents is particularly an issue facing northern post-industrial cities (McKee, 2008; Sugrue, 2014). This problem is often articulated across the urban-suburban divide in these metropolitan areas (Young & Keil, 2010), such that employment opportunities concentrate in suburban areas (Phelps, 2010), at a physical distance from areas of concentrated, racialized poverty in the inner city (Antipova, 2015; Kraus, 2004; Wilson, 2012). Adding to this "spatial mismatch" (Kain, 1968; Kain, 2004) is a lack of public transit options that reasonably connect urban workers to suburban job opportunities (Cervero, 2004; Cervero & Landis, 1992).

Though transit-based, "reverse" commutes from the city to the suburbs are often arduous, transportation scholars have noted that a substantial number of the urban poor take this commute (Cervero, 2004) and have described their commuting practices (Blumenberg & Manville, 2004; Blumenberg & Schweitzer, 2006). While these studies have grown knowledge on the characteristics of the reverse commuting population and their journey to work, they do not address to the same extent the demographic characteristics of the areas in which reverse commuters live in the city and in which they work in the suburbs. To learn more about the equity issues in the reverse commuting problem, this paper seeks to develop typologies of commutes based on socio-demographic characteristics at home and work geographies, and in particular focuses on how the reverse commuting population is distributed across these typologies.

We begin by discussing the scholarship on the "spatial mismatch" hypothesis, then turn to a discussion of the transportation planning literature on reverse commuting. We then describe the Longitudinal Employer Households Dynamics (LEHD) and American Community Survey (ACS) datasets, both from the United States Census, as these

* Corresponding author.
E-mail address: mryerson@design.upenn.edu (M.S. Ryerson).

https://doi.org/10.1016/j.cities.2018.04.007
Received 27 November 2017; Received in revised form 4 April 2018; Accepted 19 April 2018
0264-2751/ © 2018 Elsevier Ltd. All rights reserved.

data both underpin our analysis and are consistent with much of the transportation scholarship upon which we build our study. We use these data to understand the types of commutes that exist in a metropolitan area – in this research, a subsection of the Philadelphia Metropolitan Statistical Area (MSA) – based on certain socio-demographic characteristics at home and workplace areas. In this paper, we define commutes in an equity framework based on the presence or lack of socio-demographic difference between the census tract of a worker's home location (origin) and work location (destination).

To do so, we use cluster analysis to build groups of "like" commutes based on census-tract level, race and socio-economic indicators. This paper analyzes how commute patterns (intra-urban, suburb-city, etc.), and the number of jobs nested within these commute patterns, concentrate across socio-demographically defined commute typologies. We also analyze how differentials between origin and destination for socio-demographic and economic indicators are distributed across cluster groups and commute patterns.

We conclude with a discussion of the implications of these results in light of metropolitan fragmentation (Tiebout, 1956) and how they can inform metropolitan-level policy. We find that many of the intra-urban and intra-suburban commutes fall into typologies where origin and destination socio-demographics are similar. However, the characteristics of this socio-demographic similarity differ greatly between socio-typologies. We also find substantial socio-demographic difference between home and work geographies in the groups that contain many suburb-city and reverse commutes. Similarly, the characteristics of this difference vary across typologies and commute patterns. We make particular recommendations on how this socio-demographic difference can inform more equitable transportation and social policies for low-income, reverse commuters. We recommend a range of policy interventions that center on building suburban, municipal accountability to the urban, low-income population that work in the commercial or industrial centers in the suburbs.

2. Literature review

2.1. Spatial mismatch

The "spatial mismatch" hypothesis is one of the seminal theories that probes the equity issues in the suburbanization of employment. Kain (1968) argues that the lack of transit options connecting the urban poor to entry-level employment in the suburbs have had a significant role in the persistent, substantial unemployment among urban African Americans. The "mismatch" Kain highlights is between the spatial location of job growth in the suburbs, and the location where low-income African Americans live in the inner city. Wilson (2012) expands on Kain's model by highlighting how the migration of industrial jobs to the suburbs – those same jobs which first drew southern African Americans to the urban northern United States – disproportionately affects African American males.

More recent scholarship conducted under the spatial mismatch umbrella has applied advanced statistical methods to further illuminate this problem. Wagmiller (2007) introduces spatial statistical methods to measure male unemployment over time, and concludes that as jobs disperse, both the clustering and concentration of unemployment increase. Covington (2009) uses regression models to signal that recent increases in residential integration in the suburbs may be credited with decreasing job isolation.

2.2. Equity oriented reverse commute studies

Recent federal policy measures have attempted to remedy the "spatial mismatch" problem by focusing on transportation initiatives that can connect urban populations to jobs in suburban or outlying areas. Initially, as the problems of entrenched, urban unemployment grew in the 1960s and '70s, transportation planners and policy makers developed a series of projects based on standard, transit-oriented output metrics (ridership, farebox recovery, cost-benefit ratios, etc.), rather than developing programs and testing equity-based outcomes (Sanchez & Schweitzer, 2008).

The passage of the Jobs Access and Reverse Commute (JARC) program in 1998 reflected a shift in how policy could approach the spatial mismatch problem. Under JARC, the federal government began providing grants to programs that specifically worked to connect low-income residents to employment opportunities (Blumenberg & Schweitzer, 2006). As part of the evaluation literature on the JARC program, a number of scholars have assessed the efficacy of such initiatives on two, often divergent, programs goals: transit expansion and job access/generation. Cervero and Tsai (2003) highlight five major options for increasing transit connectivity for reverse commuters: expanded schedules, new and targeted routes, shuttles, increased user knowledge, and car loans. The body of evaluation literature on JARC programs do not provide a clear path forward for policy intervention, but do make clear the need for substantial government intervention given the scope of this problem from both a transportation and workforce policy perspective.

Adding to this evaluation literature, Blumenberg has spearheaded a body research that has developed various dimensions of the equity problems in commuting generally, and reverse commuting in particular. Her research on transportation policy for welfare recipients (Blumenberg & Manville, 2004) and working families (Blumenberg & Waller, 2003) explores and emphasizes the needs of commuters from marginalized populations in metropolitan areas. She argues that recent changes in the urban geography challenge the normative claim of the spatial mismatch literature, and that many low-income workers may now reside in proximity to job rich areas (Blumenberg & Hess, 2003). Her research approach takes into account neighborhood-level characteristics, and calls for nuanced policy that recognizes diverse commuting characteristics among the low-income population. This paper follows this local approach to transportation research and adds to the equity conversation by considering differences between socio-demographic characteristics at the home and work geographies that constitute a worker's commute.

2.3. LEHD use in transportation research

One of the challenges facing commute studies generally, and equity-oriented research on commuting in particular, is that the data collection can be cost prohibitive and time intensive. The survey-based research designs often employed in transportation studies necessitate substantial labor time for researchers, often with limited generalizability in the research findings due to small sample sizes. Transportation scholars, like those in many of the social science and policy fields (Pirog, 2014), have recently attempted to use administratively collected data to remedy these issues. Though these datasets do not provide the researcher with control over the variables collected, administrative datasets can provide a substantially larger geographic scope and sample size, at a fraction of the cost of a survey-based design. This study joins a growing body of recent transportation research that employs LEHD data, one of the newly available administrative datasets released by the U.S. Census. This dataset provides workforce data at local geographies for nearly the entire United States (Lane et al., 2003).

Horner and Schleith have led the effort to use LEHD data in transportation scholarship, largely through analyses of excess commutes across different groups including: income levels (Horner & Schleith, 2012), job clusters (Schleith & Horner, 2014), and ages (Horner, Schleith, & Widener, 2015), and across different metropolitan areas (Schleith, Widener, & Kim, 2016). Zhang and Wang (2015) use LEHD data to employ seemingly unrelated regression models, with spatial correction, to investigate whether there are differences in average commute distances across job sectors. Others use LEHD data for social network (Tilahun & Levinson, 2011) and market demand transportation

Download English Version:

https://daneshyari.com/en/article/8954667

Download Persian Version:

https://daneshyari.com/article/8954667

Daneshyari.com