Transportation Research Part A 69 (2014) 45–57

Contents lists available at ScienceDirect

Transportation Research Part A

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

The role of household members in transporting adults with disabilities in the United States

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ARTICLE INFO

Article history:
Received 18 October 2013
Received in revised form 24 January 2014
Accepted 17 August 2014

Keywords:
Disability
Disabilities
Mobility
Automobile passenger
Household transportation

ABSTRACT

Because of certain requirements under US federal law, many studies have been published in recent years on the role of fixed-route transit and paratransit in meeting the travel needs of persons with disabilities. Although persons with disabilities are several times more likely to take rides from household members than to take public transit, little research has been conducted to explore the circumstances under which such rides are given or taken. To address this gap in literature, this study examines the role of household members in transporting persons with disabilities in contemporary America. It explores how the circumstances for the ride takers may change in the future, identifies future challenges in providing mobility to persons with disabilities, and examines ways to meet those challenges. Using nationwide data from the 2009 National Household Travel Survey, the study compares the rides taken by persons with disabilities from household members with trips made by other travel modes, the persons who take rides with those who do not take rides, and the drivers who provide rides with those who do not provide rides. Probit models are used for the comparisons. Implications of the findings are discussed in light of potential demographic changes in the future, especially the growth of single-person households and the consequent loss of household support for transportation. Due to similarities in circumstances in other developed countries, an international context to the study is also provided.

1. Introduction

Since the enactment of the Americans with Disabilities Act (ADA) of 1990, transportation for persons with disabilities has been the subject matter of many studies in the United States. Because of the requirements of the law regarding federally-funded fixed-route transit and complementary paratransit service, a large proportion of these studies have addressed the role of public transit in meeting the travel needs of this disadvantaged population group. Although, as shown in this study, adults with disabilities in this country are at least three times more likely to take a ride from a household member than to take public transit, little has been written about the persons who take rides from household members or the persons who give rides to household members with disabilities. By providing rides, household members reduce the burden on public transit, but at the same time make sacrifices in terms of time and other resources. Thus, understanding the characteristics of persons with disabilities who get and take rides from household members and the characteristics of the persons who provide the rides is important not only for transportation researchers, but also for researchers in other disciplines.

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http://dx.doi.org/10.1016/j.tra.2014.08.010
0965-8564/

By using US national data from the 2009 National Household Travel Survey (NHTS) conducted by the Federal Highway Administration of the US Department of Transportation (USDOT, 2011), this paper provides insights about the American adults with disabilities who receive rides from household members, the persons who provide such rides, the households where such rides are provided, and the characteristics of the areas where such rides are likely to be provided. It examines the differences in demographic and socioeconomic characteristics as well as the duration of medical condition between the persons who take rides from household members and the persons who use other travel modes. It further compares the rides given by household members with the trips made by other modes, including public transit, to examine if travel modes are complementary when trip purposes are taken into account.

In view of current realities such as society's attachment to the automobile and potential demographic changes such as the growth of the very old, the ageing of a large number of persons in suburban areas, and the growth of single-person households, the paper identifies future challenges in providing mobility to persons with disabilities. It identifies potential solutions and discusses their limitations. Although the study uses data solely for the US, because of similarities in circumstances in other developed countries, the paper provides an international context to the issues studied.

Examining the characteristics of the rides taken by persons with disabilities from household members is particularly important for public transit researchers and practitioners in order to determine whether or how transit service would have to change in order to attract those persons. Furthermore, transportation researchers might be interested in knowing whether more rides are provided by household members in places where the level of public transit service is low, whether the rides provided by household members have similar destinations as public transit trips, whether fewer rides are provided in transit's conventional peak periods, and whether the rides provided by household members are longer or shorter than public transit trips. Researchers and practitioners could also be interested in learning whether the persons getting rides from household members have similar characteristics as the current transit riders. This paper helps to answer some of these questions.

A number of studies in sociology, psychology, and gerontology mentioned that transporting household members with disabilities is one of the common chores for other members, but instead of delving into matters that are of interest to transportation researchers and planners, these studies mostly focused on the economic and psychological impacts of taking care of household members with disabilities. By focusing on the role of household members in transporting persons with disabilities, this paper seeks to bridge a gap between transportation research and research in other disciplines.

2. Relevant literature

As previously mentioned, since 1990, the focus of studies on transportation for persons with disabilities has been almost exclusively on public transit. These studies are too numerous to be cited in a single paper. Over the years, the Transportation Research Board of the National Academies alone has sponsored a number of studies to improve public transit service for persons with disabilities, including studies by EG and G Dynatrend and Crain and Associates (1995), Burkhardt et al. (2002), Koffman et al. (2007), Chia (2008), Weiner (2008), Gerty et al. (2011), and Bradley and Koffman (2012).

Although the efforts sponsored by the Transportation Research Board and the works of many researchers investigating ways to meet the travel needs of persons with disabilities by public transit are commendable, transit has certain serious limitations when serving this specific population. First of all, as noted by Marx et al. (2010), 33% of the persons with disabilities in this country consider public transit to be limited or non-existent in the areas where they live and many others consider it to be unavailable when needed. Moreover, evidence suggests that persons with disabilities often find it difficult to use public transit even when it is available. Many studies from the US and other countries have mentioned difficulties faced by persons with disabilities in using fixed-route transit. Some studies have mentioned difficulties faced by persons with disabilities and elderly persons in accessing stations and stops because of distance, topography, and other environmental barriers (Burkhardt et al., 2002; Wu et al., 2011; Broome et al., 2012). Other studies have mentioned that the design of vehicles and stations as well as personal physical or cognitive limitations often prevent persons with disabilities from using public transit (Koppa et al., 1998; Hine and Mitchell, 2001; Carmien et al., 2005; Rosenkvist et al., 2009; Lubin and Deka, 2012).

By picking up and dropping off passengers near origins and destinations, ADA-complementary paratransit can overcome many limitations of fixed-route transit. However, to be eligible for such service, a person has to be certified as disabled, and to use the service he or she has to book a trip at least 24 h in advance and cope with a long pick-up window (Koffman et al., 2007; Chia 2008). Furthermore, the service is available only within three-quarters of a mile from fixed-route transit in most places. The greatest limitation of ADA-paratransit service from an agency's perspective is its high cost. According to the United States Government Accounting Office (GAO, 2012), the average cost of an ADA paratransit trip is $29.30, whereas the average cost for a fixed-route transit trip is $8.15. The operating cost for a paratransit trip could be more than eight times higher than a trip fixed-route transit in some instances (Chia, 2008).

Many persons with disabilities are deterred from using public transit because they are not accustomed to using this mode before the onset of disability. According to Rosenbloom (2003), it is a fallacy that as soon as a person becomes disabled, he or she will begin to use public transit. Due to the absence or poor quality of public transit in large parts of the country, people are highly dependent on the automobile throughout their lives. As a result, when persons become disabled because of age or other reasons, the automobile continues to be their preferred mode of travel. It is therefore not surprising that the automobile is the most commonly used mode for persons with disabilities in this country, where more than a quarter of such persons consider lack of access to an automobile as a mobility problem (Marx et al., 2010).