



Willingness to pay for public transportation options for improving the quality of life of the rural elderly



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ABSTRACT

Transportation for the rural elderly is an increasing concern as baby boomers age and young people continue to exit rural communities. When the elderly are no longer able to drive, they rely on alternative forms of transportation, including public transportation systems. Currently, such systems are usually not good substitutes for driving a private car, especially in rural areas. Because expanded rural transportation systems would likely be funded by taxpayers, an understanding of their preferences and willingness to pay (WTP) for non-medical transportation options is essential. To help understand WTP and preferences, a choice experiment survey was administered to taxpayers in three counties (Atascosa, Polk, and Parker) in Texas. Results indicate taxpayers' value transportation services for the elderly and are willing to support them. They value more flexible options over base levels of the attributes presented, but they may not always prefer the most flexible options. Respondents' WTP for the same transportation attribute was similar across counties, but differences in socio-demographic coefficients suggest that transportation systems may need to be customized to meet local needs. Furthermore, county residents' WTP may not cover the cost of desired improvements to the transportation systems.

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1. Introduction

Mobility, a person's ability to travel (Robson, 1982) or the freedom, independence, and convenience of movement (Burns, 1999), is one of numerous factors that contribute to our quality of life. Most people, however, take mobility for granted. As one ages, the impact of limited mobility becomes increasingly obvious both by one's own limitations and by interacting with the limitations of one's older friends and relatives. With an aging baby boomer population, elderly mobility is becoming an increasingly important social issue. Besides baby boomers aging, the elderly are living longer, healthier lives (He et al., 2005; Rosenbloom, 2004), contributing to an aging population. In 2009, 39.6 million Americans, or 12.9% of the total population, were over age 65, with approximately 5.6 million (1.8%) over age 85 (U.S. Census Bureau, 2009). The U.S. Census Bureau (2008) projects people over age 65 will increase to approximately 55 million by 2020.

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Rural America is experiencing similar growth in its elderly population. [Cromartie and Nelson \(2009\)](#) note the number of people age 55–75 in rural and small-town areas is expected to increase from 8.6 million in 2000 to 14 million people in 2020. Processes contributing to the aging of rural areas include: (1) migration of older Americans to rural areas, (2) aging-in-place phenomenon, and (3) outmigration of younger Americans to urban areas ([Rosenbloom, 2004](#); [U.S. Department of Agriculture, 2007](#)). [Rosenbloom \(2004, p. 4\)](#) states, “Regardless of where they live, most older people are extremely dependent on the private car.” Pre-retirement and during retirement the car remains the most efficient manner to fulfill most every day mobility needs ([Alsnih and Hensher, 2003](#)). Automobile ownership is more prevalent among rural households than among urban households because of the relatively longer distances to travel to services and the lack of alternative transportation options ([Gombeski and Smolensky, 1980](#); [McGhee, 1983](#); [Brown, 2008](#)). Although driving a private vehicle well into retirement is popular, studies have shown that this is not always the most feasible or safest option for elderly individuals ([Burns, 1999](#); [Glasgow and Blakely, 2000](#); [Rosenbloom, 2004, 2009](#)). As age increases, the elderly may be forced to seek other transportation options; there is a tendency to become more dependent on others for transportation ([Gombeski and Smolensky, 1980](#)). [Choi et al. \(2012\)](#) find that support from peers, organizations, and hired assistants contribute to the likelihood of driving cessation. Some elderly, however, do not ask for rides because they do not want to burden their friends or family with driving them to do personal errands. As such, their mobility needs are not always fulfilled; this is especially true for non-emergency trips ([Glasgow and Blakely, 2000](#)). The loss of the use of the automobile may be more problematic to rural elderly than urban elderly because of the relatively limited public transportation options available in rural areas. The options that do exist, generally, do not promote an independent lifestyle if used as a primary form of transportation for daily activities ([Foster et al., 1996](#); [Glasgow and Blakely, 2000](#); [Rosenbloom, 2004, 2009](#); [Mattson, 2011](#)). An elderly individual living in the country or a rural community who loses the ability to drive, therefore, might suffer from a lower quality of life.

Public transportation that supports elderly individuals is becoming an increasingly important issue in rural areas. In 2011, the baby boomer generation (people born between 1946 and 1964) started turning 65, the traditional retirement age. The full effect of this generation on retirement and mobility issues, however, will not be felt for many years, as the youngest baby boomers are only 49 in 2013. [Coughlin and D’Abrosio \(2012, p. 4\)](#) note the impact of this generation on mobility issues is just being realized:

“In 2021, the oldest of this baby boomer generation will turn 75, an age at which agility issues will begin to affect them in larger and larger numbers. Many will still demand a high degree of mobility, however – most likely higher than their parents demanded at the same age. Mobility – the ability to go where they want, when they want to – will be prized among this generation so that they can continue to engage in their active work and social lives and maintain the activities that gave their lives meaning.”

The projected number of people over the age of 65 will grow to over 90 million by 2060 with the fastest growth occurring between now and 2025 ([U.S. Census Bureau, 2010b](#)). The percentage of the population over 65 is expected to grow to more than 20% of the U.S. population with individuals over 85 comprising more than 5%.

The objective of this study is to examine the willingness to pay (WTP) for transportation attributes that support the rural elderly. The goal is not to value changes to current transportation options, but rather to place a value on the different transportation attributes regardless if the attribute is currently in place or not. Because expanded rural transportation systems likely will be funded by taxpayers, an understanding of their preferences and WTP for transportation options is essential. To fulfill this objective, a choice experiment survey was administered to taxpayers in three counties: Atascosa, Polk, and Parker Counties in Texas. Mixed logit models are employed to analyze the survey data. To our knowledge, no study has addressed the problem of improving elderly transportation from the perspective of the general public’s WTP for services that enhance the non-emergency mobility of the elderly.

2. Literature review

Research pertaining to elderly issues has a long track record. Of this voluminous literature, research of importance to this study pertains to non-emergency transportation for the elderly. For a discussion of the issues related to medical transportation see [Arcury et al. \(2005\)](#), [Wallace et al. \(2005, 2006\)](#), and [Mattson \(2010\)](#).

The majority of previous studies have addressed elderly mobility from a sociological perspective using surveys and focus groups that are usually limited to responses from elderly individuals ([Grant and Rice, 1983](#); [Foster et al., 1996](#); [Glasgow and Blakely, 2000](#); [Mattson, 2011](#)). [Eby et al. \(2011, p. 9\)](#) include the recommendation “Paratransit and specialized transportation services should explore cost effective ways to provide more than just trips for medical purposes. As part of this effort, trip-making flexibility should be expanded by increasing opportunities for multipurpose trips.” Along these lines, TRIP, a national transportation research group, recommends improving the mobility and safety of older Americans by implementing non-traditional and public sector approaches that are tailored to the needs of the elderly ([TRIP, 2012](#)). [Burns \(1999\)](#) states that well-being is dependent upon the fulfillment of one’s needs. Mobility and the availability of transportation contribute to this fulfillment by helping one meet medical, social, and personal needs. In general, because the rural elderly are more isolated and usually live at a greater distance from medical and other services than their urban counterparts, transportation options are central to meeting their requirements ([Revis, 1971](#); [Glasgow and Blakely, 2000](#)). [Grant and Rice \(1983\)](#) state that 18.5% of the rural elderly have a serious problem with transportation to almost all destinations.

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